[MS-ODRAWXML]:

Office Drawing Extensions to Office Open XML Structure

Revision Summary

Date	Revision History	Revision Class	Comments
7/13/2009	0.1	Major	Initial Availability
8/28/2009	0.2	Major	Updated and revised the technical content
11/6/2009	0.3	Editorial	Revised and edited the technical content
2/19/2010	1.0	Major	Updated and revised the technical content
3/31/2010	1.01	Editorial	Revised and edited the technical content
4/30/2010	1.02	Editorial	Revised and edited the technical content
6/7/2010	1.03	Editorial	Revised and edited the technical content
6/29/2010	1.04	Editorial	Changed language and formatting in the technical content.
7/23/2010	1.04	None	No changes to the meaning, language, or formatting of the technical content.
9/27/2010	1.04	None	No changes to the meaning, language, or formatting of the technical content.
11/15/2010	1.04	None	No changes to the meaning, language, or formatting of the technical content.
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6/10/2011	1.04	None	No changes to the meaning, language, or formatting of the technical content.
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7/30/2013	3.0	None	No changes to the meaning, language, or formatting of the technical content.
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2/10/2014	3.1	Minor	Clarified the meaning of the technical content.
4/30/2014	3.2	Minor	Clarified the meaning of the technical content.
7/31/2014	3.3	Minor	Clarified the meaning of the technical content.
10/30/2014	3.4	Minor	Clarified the meaning of the technical content.

Date	Revision History	Revision Class	Comments
2/10/2015	4.0	Major	Significantly changed the technical content.
3/16/2015	5.0	Major	Significantly changed the technical content.
9/4/2015	6.0	Major	Significantly changed the technical content.
7/15/2016	7.0	Major	Significantly changed the technical content.
9/14/2016	7.0	None	No changes to the meaning, language, or formatting of the technical content.
9/22/2016	8.0	Major	Significantly changed the technical content.
9/29/2016	8.0	None	No changes to the meaning, language, or formatting of the technical content.
11/14/2016	9.0	Major	Significantly changed the technical content.
12/15/2016	10.0	Major	Significantly changed the technical content.
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4/27/2017	13.0	Major	Significantly changed the technical content.
6/2/2017	14.0	Major	Significantly changed the technical content.

Table of Contents

1 Introduction

This document specifies extensions to the DrawingML ([ISO/IEC29500:2012]) Office Open XML File Formats structure, which is used in WordprocessingML, SpreadsheetML, and PresentationML ([ISO/IEC29500:2012]) documents.

Sections 1.7 and 2 of this specification are normative. All other sections and examples in this specification are informative.

1.1 Glossary

This document uses the following terms:

3D Model: A mathematical representation of a 3-Dimentional surface of an object. This includes geometry, applied textures, and lighting.

ActiveX control: A reusable software control, such as a check box or button, that uses ActiveX technology and provides options to users or runs macros or scripts that automate a task. See also ActiveX object.

binary large image or picture (BLIP): A binary data structure that stores information about a metafile image or bitmap picture.

cell reference: A set of coordinates that a cell occupies on a worksheet. For example, "B3" is the reference of a cell that appears at the intersection of column "B" and row "3".

comment: An annotation that is associated with a cell, text, or other object to provide context-specific information or reviewer feedback.

control: A graphical user interface object that users interact with when working with applications, forms, documents, webpages, and other types of files.

drawing canvas: See canvas and drawing space.

English Metric Unit (EMU): A measurement in computer typography. There are 635 EMUs per twip, 6,350 EMUs per half-point, 12,700 EMUs per point, and 914,400 EMUs per inch. These units are used to translate on-screen layouts to printed layouts for specified printer hardware.

globally unique identifier (GUID): A term used interchangeably with universally unique identifier (UUID) in Microsoft protocol technical documents (TDs). Interchanging the usage of these terms does not imply or require a specific algorithm or mechanism to generate the value. Specifically, the use of this term does not imply or require that the algorithms described in [RFC4122] or [C706] must be used for generating the **GUID**. See also universally unique identifier (UUID).

group shape: A shape that contains a group of shapes.

hue-saturation-luminance (HSL): A color model that defines a color by using three dimensions: hue, the color itself; saturation, the purity of the color; and luminance, the amount of light that is either reflected or absorbed by the color. See also color scheme and color space.

hyperlink: A relationship between two anchors, as described in [RFC1866].

ink: A process of entering text in handwritten form. Instead of converting handwritten text to typed text, ink is converted to an object and displayed exactly as it was written.

Object Linking and Embedding (OLE): A technology for transferring and sharing information between applications by inserting a file or part of a file into a compound document. The inserted file can be either embedded or linked. See also embedded object and linked object.

red-green-blue (RGB): A color model that describes color information in terms of the red (R), green (G), and blue (B) intensities in a color.

shape: A collection of qualifiers, such as names, and quantifiers, such as coordinates, that is used to represent a geometric object. A shape can be contained in a document, file structure, run-time structure, or other medium.

style: A set of formatting options that is applied to text, tables, charts, and other objects in a document.

text box story: An element that contains a set of text that is associated with one or more shapes.

worksheet: A single logical container for a set of tabular data and other objects in a workbook.

XML: The Extensible Markup Language, as described in [XML1.0].

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

1.2 References

Links to a document in the Microsoft Open Specifications library point to the correct section in the most recently published version of the referenced document. However, because individual documents in the library are not updated at the same time, the section numbers in the documents may not match. You can confirm the correct section numbering by checking the Errata.

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. We will assist you in finding the relevant information.

[EMMA] Baggia, P. et al., "EMMA: Extensible MultiModal Annotation markup language", February 2009, http://www.w3.org/TR/2009/REC-emma-20090210/

[InkML] Chee, Y. et al., "Ink Markup Language (InkML)", Working Draft, October 2006, http://www.w3.org/TR/2006/WD-InkML-20061023/

[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

[ISO/IEC29500-1:2011] ISO/IEC, "Information Technology -- Document description and processing languages -- Office Open XML File Formats -- Part 1: Fundamentals and Markup Language Reference", ISO/IEC 29500-1:2011, 2011, http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=59575

[ISO/IEC29500-1:2012] ISO/IEC, "Information Technology -- Document description and processing languages -- Office Open XML File Formats -- Part 1: Fundamentals and Markup Language Reference", ISO/IEC 29500-1:2012, http://www.iso.org/iso/home/store/catalogue_ics/catalogue_detail_ics.htm?csnumber=61750

[ISO/IEC29500-3:2012] ISO/IEC, "Information technology -- Document description and processing languages -- Office Open XML File Formats -- Part 3: Markup Compatibility and Extensibility", ISO/IEC 29500-3:2012, http://www.iso.org/iso/home/store/catalogue_ics/catalogue_detail_ics.htm?csnumber=61797

[ISO/IEC29500-4:2012] ISO/IEC, "Information technology -- Document description and processing languages -- Office Open XML File Formats -- Part 4: Transitional Migration Features", ISO/IEC 29500-4:2012, http://www.iso.org/iso/home/store/catalogue_ics/catalogue_detail_ics.htm?csnumber=61798

[ISO/IEC29500:2012] ISO/IEC, "Information Technology -- Document description and processing languages -- Office Open XML File Formats -- Parts 1-4", ISO/IEC 29500-1:2012, http://www.iso.org/iso/home/store/catalogue_ics/catalogue_detail_ics.htm?csnumber=61750

[MathML2.0] Ausbrooks, R., et al., "Mathematical Markup Language (MathML) Version 2.0 (Second Edition)", W3C Recommendation, October 2003, http://www.w3.org/TR/2003/REC-MathML2-20031021/

[MS-DOCX] Microsoft Corporation, "Word Extensions to the Office Open XML (.docx) File Format".

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

[MS-ODRAW] Microsoft Corporation, "Office Drawing Binary File Format".

[MS-PPTX] Microsoft Corporation, "PowerPoint (.pptx) Extensions to the Office Open XML File Format".

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

[MS-XLSX] Microsoft Corporation, "Excel (.xlsx) Extensions to the Office Open XML SpreadsheetML File Format".

[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

[RFC4122] Leach, P., Mealling, M., and Salz, R., "A Universally Unique Identifier (UUID) URN Namespace", RFC 4122, July 2005, http://www.rfc-editor.org/rfc/rfc4122.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., Beech, D., Maloney, M., and Mendelsohn, N., Eds., "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

[ISO/IEC29500-2:2012] ISO/IEC, "Information technology -- Document description and processing languages -- Office Open XML File Formats -- Part 2: Open Packaging Conventions", ISO/IEC 29500-2:2012, http://www.iso.org/iso/home/store/catalogue_ics/catalogue_detail_ics.htm?csnumber=61796

1.3 Structure Overview (Synopsis)

The structures specified in this format provide an extended XML vocabulary for the DrawingML file format structure. The extended elements and attributes enable the format to indicate further information about a document, or content and formatting of parts of the document beyond the elements and attributes of the Office Open XML File Formats as described in [ISO/IEC29500:2012]. Because these elements and attributes are meant as extensions, their intent and usage varies.

The extensions specified in this format are integrated into Office Open XML file formats by means of the Markup Compatibility and Extensibility features described in [ISO/IEC29500-3:2012]. Specifically, the **Ignorable** attribute, the **AlternateContent** element, and application-defined extension elements

maintain compatibility with Office Open XML File Formats implementations when integrating the extensions from this format. Using these extensions as specified in this document results in Office Open XML file formats conformance.

The following sections provide an overview of the functionality supported by these extensions.

1.3.1 Charts

Chart extensions add a number of features to charts ([ISO/IEC29500-1:2012] section 21.2). Following are the new extensions:

- The **invertSolidFillFmt** extension for the **ser** element described in [ISO/IEC29500-1:2012] section 21.2.2.170 and the **ser** element described in [ISO/IEC29500-1:2012] section 21.2.2.174 specify the color of the negative data points of the chart series ([ISO/IEC29500-1:2012] section 21.2).

- The **pivotOptions** extension for the **chartspace** element ([ISO/IEC29500-1:2012] section 21.2.2.29) specifies which pivot controls appear on the chart ([ISO/IEC29500-1:2012] section 21.2).

- The **style** extension for the **chartspace** element ([ISO/IEC29500-1:2012] section 21.2.2.29) specifies the new styles of the chart ([ISO/IEC29500-1:2012] section 21.2).

- The **filteredLineSeries** extension for the **lineChart** element ([ISO/IEC29500-1:2012] section 21.2.2.97) and the **line3DChart** ([ISO/IEC29500-1:2012] section 21.2.2.96) specifies a series that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2).

- The **filteredScatterSeries** extension for the **scatterChart** element ([ISO/IEC29500-1:2012] section 21.2.2.161) specifies a series that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2).

- The **filteredRadarSeries** extension for the **radarChart** element ([ISO/IEC29500-1:2012] section 21.2.2.153) specifies a series that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2).

- The **filteredBarSeries** extension for the **barChart** element ([ISO/IEC29500-1:2012] section 21.2.2.16) and the **bar3DChart** ([ISO/IEC29500-1:2012] section 21.2.2.15) specifies a series that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2).

- The **filteredAreaSeries** extension for the **areaChart** element ([ISO/IEC29500-1:2012] section 21.2.2.5) and the **area3DChart** ([ISO/IEC29500-1:2012] section 21.2.2.4) specifies a series that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2).

- The **filteredBubbleSeries** extension for the **bubbleChart** element ([ISO/IEC29500-1:2012] section 21.2.2.20) specifies a series that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2).

- The **filteredSurfaceSeries** extension for the **surfaceChart** element ([ISO/IEC29500-1:2012] section 21.2.2.204) and the **surface3DChart** ([ISO/IEC29500-1:2012] section 21.2.2.203) specifies a series that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2).

- The **fullRef** extension for the **strRef** element ([ISO/IEC29500-1:2012] section 21.2.2.201) and the **numRef** ([ISO/IEC29500-1:2012] section 21.2.2.123) and the **multiLvlStrRef** ([ISO/IEC29500-1:2012] section 21.2.2.115) specifies the non-filtered data source reference for filtered out chart ([ISO/IEC29500-1:2012] section 21.2) series data.

- The **levelRef** extension for the **strRef** element ([ISO/IEC29500-1:2012] section 21.2.2.201) and the **numRef** ([ISO/IEC29500-1:2012] section 21.2.2.123) and the **multiLvlStrRef** ([ISO/IEC29500-1:2012] section 21.2.2.115) specifies the data source reference for the currently

selected label level for a chart ([ISO/IEC29500-1:2012] section 21.2) category axis or a chart ([ISO/IEC29500-1:2012] section 21.2) series title.

▪ The **formulaRef** extension for the **strRef** element ([ISO/IEC29500-1:2012] section 21.2.2.201) and the **numRef** ([ISO/IEC29500-1:2012] section 21.2.2.123) and the **multiLvlStrRef** ([ISO/IEC29500-1:2012] section 21.2.2.115) specifies the data source reference of the parent element when the parent is part of an extension list.

▪ The **filteredSeriesTitle** extension for the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.168) and the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.170) and the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.174) and the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.171) and the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.172) and the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.169) and the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.167) and the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.173) specifies a chart ([ISO/IEC29500-1:2012] section 21.2) series title that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2).

▪ The **filteredCategoryTitle** extension for the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.168) and the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.170) and the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.174) and the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.171) and the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.172) and the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.169) and the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.167) and the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.173) specifies a chart ([ISO/IEC29500-1:2012] section 21.2) category title that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2).

▪ The **pivotSource** extension for the **chartspace** element ([ISO/IEC29500-1:2012] section 21.2.2.29) specifies the source Non-Worksheet PivotTable ([MS-XLSX] section 2.3.3 and [MS-XLSB] section 2.2.5.5 for the chart ([ISO/IEC29500-1:2012] section 21.2).

▪ The **numFmt** extension for the **catAx** element ([ISO/IEC29500-1:2012] section 21.2.2.25), **dateAx** element ([ISO/IEC29500-1:2012] section 21.2.2.39), **serAx** element ([ISO/IEC29500-1:2012] section 21.2.2.175) and **valAx** element ([ISO/IEC29500-1:2012] section 21.2.2.226) that specifies the number formatting for the chart category axis, date axis, series axis and value axis ([ISO/IEC29500-1:2012] section 21.2) whose **pivotSource** element specifies a Non-Worksheet PivotTable ([MS-XLSX] section 2.3.3 and [MS-XLSB] section 2.2.5.5).

The **showLeaderLines** extension for the **dLbls** element ([ISO/IEC29500-1:2012] section 21.2.2.49) specifies whether leader lines will be rendered for **Datalabels** (section 2.2.1.2) in a chart of any type.

▪ The **leaderLines** extension for the **dLbls** element ([ISO/IEC29500-1:2012] section 21.2.2.49) specifies the formatting of leader lines for **Datalabels** in a chart of any type.

▪ The **datalabelsRange** extension for the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.168) and the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.170) and the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.174) and the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.171) and the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.172) and the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.169) and the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.167) and the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.173) specifies the reference to the formula from which the values of **dLbls** element on a chart series ([ISO/IEC29500-1:2012] section 21.2) are obtained.

▪ The **categoryFilterExceptions** extension for the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.168) and the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.170) and the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.174) and the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.171) and the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.172) and the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.169) and the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.167) and the **ser** element ([ISO/IEC29500-1:2012]

section 21.2.2.173) specifies special formatting properties of data points that have been filtered out from the chart series ([ISO/IEC29500-1:2012] section 21.2).

- The **dlblFieldTable** extension for the **dLbls** element ([ISO/IEC29500-1:2012] section 21.2.2.49) or the **dLbl** element ([ISO/IEC29500-1:2012] section 21.2.2.47) specifies the list of formulas from which the value of individual data fields in the **Datalabel** (section 2.2.1.3) is obtained.

- The **xForSave** extension for the **dLbl** element ([ISO/IEC29500-1:2012] section 21.2.2.47) specifies if this **Datalabel** was created as an exception entry only for saving, but is treated the same as the prototype **Datalabel** in the collection.

- The **showDataLabelsRange** extension for the **dLbls** element ([ISO/IEC29500-1:2012] section 21.2.2.49) or the **dLbl** element ([ISO/IEC29500-1:2012] section 21.2.2.47) specifies if the value of the **Datalabel** contains the range field which allows values to be specified from a formula for multiple **Datalabels**.

- The **tx** extension for the **dLbls** element ([ISO/IEC29500-1:2012] section 21.2.2.49) specifies the custom text associated with the **Datalabels** collection, which determines the value of each **Datalabel** in that collection.

- The **spPr** extension for the **dLbls** element ([ISO/IEC29500-1:2012] section 21.2.2.49) or the **dLbl** element ([ISO/IEC29500-1:2012] section 21.2.2.47) specifies the shape geometry for the **Datalabel**.

- The **layout** extension for the **dLbls** element ([ISO/IEC29500-1:2012] section 21.2.2.49) or the **dLbl** element ([ISO/IEC29500-1:2012] section 21.2.2.47) specifies the custom size of the **Datalabel**.

- The **autoCat** extension for the **strLit** element ([ISO/IEC29500-1:2012] section 21.2.2.200) specifies if the category captions for the chart series were automatically generated and saved out as literal data.

- The **pivotOptions16** extension for the **chartspace** element ([ISO/IEC29500-1:2012] section 21.2.2.29) specifies additional pivot controls that may appear on the chart ([ISO/IEC29500-1:2012] section 21.2).

1.3.2 Content Parts and Ink

Ink is stored in documents as an extension by using a part referenced by the relationship **id** attribute of a content part element. Some content part elements are described in [ISO/IEC29500-1:2012] section 17.3.3.2, 19.3.1.14, and 20.5.2.12. Other content part elements are themselves extensions (2.2.2). The content of the part contains XML that conforms to a subset of the syntax and semantics for the Ink Markup Language as described in [InkML], the W3C EMMA recommendation specification [EMMA], and other extended elements (2.1.4).

1.3.3 Pictures

Embedded raster images (bitmaps) can be edited and replaced by the processed results. Unless the document author disables storing image editing data, the original bitmap and the processing parameters applied are stored in the **imgProps** extension (2.3.1.9) to enable non-destructive editing of the bitmap. For backward compatibility and performance, applications do not display changes made to the image-editing data for the embedded bitmaps unless the user edits them with the application UI or through the Object Model.

Bitmap pictures are resampled and compressed when inserted and saved based on document DPI. Individual bitmaps can be set to override the default document compression setting by using the **useLocalDpi** extension (2.3.1.13).

A user can insert embedded html, including online videos, into Word by storing the embedded html and related data into the **webVideoPr** extension (section 2.18.1.1).

A user can insert a Scalable Vector Graphics (SVG) illustration into Office documents by storing the relationship id(s) of the embedded and/or linked SVG data in the **svgBlip** extension (section 2.26.1.1). Embedded data is to be stored within an image part ([ISO/IEC29500-1:2012] section 15.2.14). For backward compatibility, Office applications embed a rasterized version of the SVG image (whether linked or embedded) in Portable Network Graphics (PNG) format and refer to the rasterized version from within the main blip.

1.3.4 Diagrams

The last successful layout for a diagram is stored in documents as an extension by using a Diagram Layout part. The part is referenced by the relationship id attribute of a **DataModelExt** extension to the Data Model. For more information, see [ISO/IEC29500-1:2012] section 21.4.2.10. The content of the part contains XML as defined by Diagram Layout (section 2.1.3).

The DataModelExt contains a version URI that represents the minimum version required to run the layout. If an application version is insufficient to perform layout, the Diagram Layout can be used to display the diagram.

The **recolorImg** extension specifies recoloring images in the diagram according to the color style currently applied. This gives images a more integrated look.

The **cNvPr** extension adds non-visual drawing properties to points in the diagram. This enables adding **hyperlinks** and alternative text for use by assistive technologies or applications that do not display the diagram shapes.

The Diagram Layout captures the correct layout and shape properties of the last successful diagram rendering but does not capture all the text formatting for the individual shapes in the diagram. When a shape contains text, its style is determined by combining the information from the semantic elements in data.xml with the layout definition in layout.xml. Each semantic element can have zero or more presentation elements, which are defined in layout.xml. For any shape in drawing.xml, the corresponding **presAssocID** attribute ([ISO/IEC29500-1:2012] section L.4.15.2.1) can be found in data.xml. For a **presAssocID** attribute, all the corresponding **presName** ([ISO/IEC29500-1:2012] section 21.4.3.4) attributes are searched for the one which has a text algorithm <dgm:alg type="tx"> associated with it. The **StyleLbl** element ([ISO/IEC29500-1:2012] section 21.4.4.10) for this text node determines the final text format of this shape node.

1.3.5 Math

Math extensions represent mathematical expressions in DrawingML content. Mathematical equations in objects represented in DrawingML are stored in **AlternateContent** elements. These **AlternateContent** elements contain DrawingML and the math-specific element, **m**. The expression of mathematical content in DrawingML objects is similar to the representation of math in WordprocessingML ([ISO/IEC29500-1:2012] section 22.1) with the distinction that the math content in DrawingML is modified by properties specified in the DrawingML namespace, rather than in WordprocessingML.

1.3.6 SpreadsheetML Drawing

ActiveX control objects, Embedded **OLE** and form **control** embedded objects in SpreadsheetML are each associated with a **shape** in DrawingML. The shape in DrawingML is a placeholder that specifies the position of the embedded object in the worksheet drawing tree that in turn specifies the embedded object z-order and grouping information in relation to other drawing objects.

Visible text and visible text-related properties of form control embedded objects are specified by the **txBody** element of the placeholder shape. For more information, see [ISO/IEC29500-1:2012] section 20.5.2.34.

An implementing application can replace this shape with any other placeholder shape when saving.

1.3.7 WordprocessingML Drawing

WordprocessingML drawing extensions integrate graphical objects into WordprocessingML documents. See 2.2.7 for a discussion of how these objects are integrated and how interoperation with clients that conform to the Office Open XML file formats, as described in [ISO/IEC29500:2012], is achieved.

The primary graphical objects introduced are the following:

- **Shapes** are represented by the **wsp** element of type **CT_WordprocessingShape (**section 2.13.3.3).

- Groups of graphical objects are represented by the **wgp** element of type **CT_WordprocessingGroup (**section 2.16.3.2).

- Canvases are represented by the **wpc** element of type **CT_WordprocessingCanvas (**section 2.17.3.1).

- **Ink** objects are represented by the **contentPart** element of type **CT_WordContentPart (**section 2.15.3.1).

Groups and canvases are similar in structure, but have different behavior. Both groups and canvases can contain any graphical object as a **graphic** element as described in [ISO/IEC29500-1:2012] section 20.1.2.2.16 in addition to other shapes, pictures, groups, and ink.

Additionally, the picture type defined for WordprocessingML as described in [ISO/IEC29500-1:2012] section 20.2.2.5 has been extended to enable styling information to be applied.

Moreover, the picture non-visual picture properties represented by the element **cNvPicPr** of type **CT_NonVisualPictureProperties** (as specified in [ISO/IEC29500-1:2012] section 19.3.1.11) was extended to represent properties for a control or object using a **CT_ObjectPr** element defined as **objectPr**.

1.3.8 Legacy Objects

The picture non visual picture properties represented by the element **cNvPicPr** of type **CT_NonVisualPictureProperties** (as specified in [ISO/IEC29500-1:2012] section 19.3.1.11) was extended to represent properties for a legacy signature line object using a CT_SignatureLine element defined as signatureLine.

Additionally, the non-visual group drawing shape properties represented by the element **cNvGrpSpPr** of type **CT_NonVisualGroupDrawingShapeProps** (as specified in [ISO/IEC29500-1:2012] section 19.3.1.10) was extended to specify if a group was originally a legacy group object using a CT_NonVisualGroupProps element defined as nonVisualGroupProps.

1.4 Relationship to Protocols and Other Structures

The Office Drawing extensions to Office Open XML file formats as described in [ISO/IEC29500:2012] are a specified set of extensions to Office Open XML DrawingML, as described in [ISO/IEC29500-1:2012]. This specification is dependent on the structures and concepts defined in the following references:

- [ISO/IEC29500-1:2012] for baseline DrawingML persistence format

- [ISO/IEC29500-2:2012] for open packaging conventions

- [ISO/IEC29500-3:2012] for markup compatibility and extensibility

- [ISO/IEC29500-4:2012] for backward-compatibility considerations

- [MS-DOCX] for WordprocessingML extensions

- [MS-XLSX] for SpreadsheetML extensions

- [MS-PPTX] for PresentationML extensions

1.5   Applicability Statement

This document specifies a persistence format for extensions, as described in [ISO/IEC29500-1:2012], to the Office Open XML file formats for DrawingML ([ISO/IEC29500:2012]) content in WordprocessingML, SpreadsheetML, and PresentationML ([ISO/IEC29500:2012]) documents. The extensions specified in this document enable expressing additional content and properties, and are not applicable as a stand-alone file format. Each structure specified in this document is integrated with the Office Open XML file formats as described in [ISO/IEC29500-1:2012] for DrawingML content as specified in the section for that structure. All structures are integrated into DrawingML content to maintain compatibility with implementations of the Office Open XML file formats as described in [ISO/IEC29500-1:2012].

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 document.

1.6   Versioning and Localization

None.

1.7   Vendor-Extensible Fields

None.

2 Structures

2.1 Part Enumerations

The following subsections enumerate the parts, content types, source relationships, and part contents used by extensions specified in this document.

2.1.1 Chart Colors

The following table shows the content type and source relationship of a Chart Colors part.<1>

Part components	Value
Content Type	application/vnd.ms-office.chartcolorstyle+xml
Source Relationship	http://schemas.microsoft.com/office/2012/relationships/chartColorStyle

An instance of this part specifies the colors that are used to resolve placeholder colors in an instance of a Chart Style part.

A Chart Colors part MUST be a sibling to a Chart Part ([ISO/IEC29500-1:2012] section 14.2.1).

2.1.2 Chart Style

The following table shows the content type and source relationship of a Chart Style part.<2>

Part components	Value
Content Type	application/vnd.ms-office.chartstyle+xml
Source Relationship	http://schemas.microsoft.com/office/2012/relationships/chartStyle

An instance of this part specifies the formatting properties for all elements on a chart.

A Chart Style part MUST be a sibling to a Chart Part ([ISO/IEC29500-1:2012] section 14.2.1).

2.1.3 Diagram Layout

The following table shows the content type and source relationship of a Diagram Layout part.

Part components	Value
Content Type	application/vnd.ms-office.drawingml.diagramDrawing+xml
Source Relationship	http://schemas.microsoft.com/office/2007/relationships/diagramDrawing

An instance of this part specifies the last successful layout of a diagram.

A Diagram Layout part MUST be the target of an relationship from a WordprocessingML Main Document ([ISO/IEC29500-1:2012] section 11.3.10); a SpreadsheetML Drawings part

([ISO/IEC29500-1:2012] section 12.3.8), PresentationML Handout Master ([ISO/IEC29500-1:2012] section 13.3.3), Notes Master ([ISO/IEC29500-1:2012] section 13.3.4), Notes Slide ([ISO/IEC29500-1:2012] section 13.3.5), Slide ([ISO/IEC29500-1:2012] section 13.3.8), Slide Layout ([ISO/IEC29500-1:2012] section 13.3.9), or Slide Master ([ISO/IEC29500-1:2012] section 13.3.10) part.

A Diagram Data part is permitted to have explicit relationships to an Image Part ([ISO/IEC29500-1:2012] section 15.2.14) and a Hyperlink ([ISO/IEC29500-1:2012] section 15.3).

The content of the Diagram Layout<3> part is **XML**. The root element of this part is drawing.

2.1.4 Ink Content Part

The following table shows the content type and source relationship of an Ink Content part.

Part components	Value
Content Type	application/inkml+xml
Source Relationship	http://schemas.openxmlformats.org/officeDocument/2006/relationships/customXml

An instance of this part specifies an **Ink** object.

An Ink Content part MUST be the target of an explicit relationship with a Document part containing a **contentPart** element ([ISO/IEC29500-1:2012] section 17.3.3.2), WordprocessingML Drawing **contentPart** (2.3.1.3) or **lockedCanvas** element ([ISO/IEC29500-1:2012] section 20.3.2.1) with **contentPart** element (2.3.1.3), a Slide part containing a **contentPart** element ([ISO/IEC29500-1:2012] section 19.3.1.14), a Worksheet Drawing part containing a **contentPart** element ([ISO/IEC29500-1:2012] section 20.5.2.12) or SpreadsheetML group **contentPart** element (2.20.1.1), or a Chart Drawing part containing a **contentPart** element (2.3.1.4).

The content of the Ink part is **XML** as specified by a subset of syntax and semantics for the Ink Markup Language as specified in [InkML]. The following table defines the subset of constructs supported as specified in [InkML]. The sections in the first column are references to the sections of [InkML]. The second column indicates the level of support for the construct.

InkML Structural Element	Description
ink	The root element of this part MUST be **ink**, and it MUST be in the http://www.w3.org/2003/InkML namespace.
traceFormat	MUST be a child of an **inkSource** to be recognized. It can be a child of other elements specified in [InkML], but its presence in elements other than **inkSource** is ignored and not persisted.
intermittentChannels	Can appear as a child element of **traceFormat** elements, but is ignored and not persisted.
channel	One or more **channel** elements MUST appear as child elements of a **traceFormat** element. The **name** attribute can be any string, but strings other than the following strings are ignored: X, Y, Z, S, T, SN, F, TP, BP, OTx, OTy, OA, OE, OR, RP, RR, RY, TW, TH, and TC. If the channel type "T" is used, the channel values MUST be integers that represent milliseconds. The **orientation** attribute can be present, but is ignored.

InkML Structural Element	Description
	The **respectTo** attribute can be present, but is ignored.
	The **units** attribute can be any string, but any value other than the following value is ignored: dev, in, cm, deg, rad, s, lb, and g.
trace	There can be one or more **trace** elements at the root level of the part, or as child elements of **traceGroup** elements.
	The **type** attribute can be present, but is ignored and not persisted.
	The **continuation** attribute can be present, but is ignored and not persisted.
	The **priorRef** attribute can be present, but is ignored and not persisted.
	The **contextRef** attribute MUST be present and MUST reference the **id** of a **context** element defined in this part.
	The **brushRef** attribute MUST be present and MUST reference the **id** of a **brush** element defined in this part.
	The **duration** attribute can be present, but is ignored and not persisted.
	The **timeOffset** attribute can be present, but is ignored and not persisted.
	The contents of a **trace** element MUST be a string that conforms to the syntax and semantics for the Ink Markup Language as specified in [InkML] section 3.2.1.
traceGroup	There can be one or more **traceGroup** elements at the root level of the part, or as child elements of other **traceGroup** elements.
	The **contextRef** attribute can be present, but is ignored and not persisted.
	The **brushRef** attribute can be present, but is ignored and not persisted.
	The **annotation** element can be present as a child element, but is ignored and not persisted.
	The **annotationXML** element can be present as a child element. If present, it MUST contain an **emma:emma** element conforming to the format described in the following section on the Extensible MultiModal Annotation markup language (EMMA) as specified in the [EMMA] specification. Any other content is ignored and not persisted.
traceView	The **traceView** element can be present, but is ignored and not persisted.
context	MUST be a child of a **definitions** element to be recognized. It can be a child of other elements, but its presence in elements other than **definitions** is ignored and not persisted.
	The **contextRef** attribute can be present, but is ignored and not persisted.
	The **canvasRef** attribute can be present, but is ignored and not persisted.
	The **canvasTransformRef** attribute can be present, but is ignored and not persisted.

InkML Structural Element	Description
	The **traceFormatRef** attribute can be present, but is ignored and not persisted.
	The **inkSourceRef** attribute can be present, but is ignored and not persisted.
	The **brushRef** attribute can be present, but is ignored and not persisted.
	The **timestampRef** attribute can be present, but is ignored and not persisted.
	The **canvas** element can be present as a child element, but is ignored and not persisted.
	The **canvasTransform** element can be present as a child element, but is ignored and not persisted.
	The **timestamp** element can be present as a child element, but is ignored and not persisted.
inkSource	The **xml:id** attribute MUST be present.
sampleRate	Can be present as a child element, but is ignored and not persisted.
latency	Can be present as a child element, but is ignored and not persisted.
activeArea	Can be present as a child element, but is ignored and not persisted.
srcProperty	Can be present as a child element, but is ignored and not persisted.
channelProperties	The **channelProperties** element is optional and can contain zero or more **channelProperty** elements. If absent, default properties are used that vary depending on the operating system and device drivers present. Can be present as a child element.
channelProperty	The **channelProperty** element is optional and specifies properties of a given channel. If absent, default properties are used that vary depending on the operating system and device drivers present. Can appear as a child of **channelProperties** elements.
	The **channel** attribute MUST specify a channel previously defined in a **traceFormat**.
	The **name** attribute can contain any name, but only the value "resolution" is regarded and persisted. All other values are ignored and not persisted.
brush	Can have a **brushRef** attribute, but it is ignored and not persisted.
brushProperty	The **brushProperty** element MUST have a **name** attribute. The value of name can be any string, but only the values width, height, color, transparency, tip, rasterOp, antiAliased, fitToCurve, and ignorePressure are used. Any other value causes the **brushProperty** element to be ignored.
	The optional **value** and **units** attributes MUST conform to certain parameters depending on the **name** attribute value. If the **value** or **units** values do not conform to the following list, then a default value/unit is used.

InkML Structural Element	Description
	width Width of the brush. The **value** attribute MUST be an xsd:decimal, and the **units** attribute MUST be a length unit as specified in [InkML] section 6.4. Default is .053 cm. **height** Height of the brush. The **value** attribute MUST be an xsd:decimal, and the **units** attribute MUST be a length unit as specified in [InkML] section 6.4. Default is .001 cm. **color** Color of brush in RGB. The **value** attribute MUST be a string that begins with a '#' character followed by six hexadecimal digits. The **units** attribute MUST NOT be present. Default is #000000. **transparency** Transparency of brush. The **value** attribute MUST be an xsd:int in the range of 0-255. The **units** attribute MUST NOT be present. Default is 0. **tip** The type of pen tip. The **value** attribute MUST be either ellipse or rectangle. The **units** attribute MUST NOT be present. Default is **ellipse**. **rasterOp** A value that defines how the colors of the pen and background interact. The **value** attribute MUST be noOperation, copyPen, maskPen, black, maskNotPen, maskPenNot, mergeNotPen, mergePen, mergePenNot, not, notCopyPen, notMaskPen, notMergePen, notXOrPen, white, or xOrPen. The **units** attribute MUST NOT be present. The default value is copyPen.

InkML Structural Element	Description
	antiAliased A value that indicates if the drawn ink is anti-aliased. The **value** attribute MUST be a xsd:boolean. The **units** attribute MUST NOT be present. Default is true. **fitToCurve** A value that indicates if the ink is rendered as a series of curves versus as lines between pen sample points. The **value** attribute MUST be a xsd:boolean. The **units** attribute MUST NOT be present. Default is false. **ignorePressure** A value that indicates if pressure from the pen tip is ignored. The **value** attribute MUST be a xsd:boolean. The **units** attribute MUST NOT be present. Default is false.
timestamp	Can be present, but is ignored and not persisted.
canvas	Can be present, but is ignored and not persisted.
canvasTransform	Can be present, but is ignored and not persisted.
mapping	Can be present, but is ignored and not persisted.
bind	Can be present, but is ignored and not persisted.
table	Can be present, but is ignored and not persisted.
matrix	Can be present, but is ignored and not persisted.
definitions	Can contain child **trace** elements, but they are ignored and not persisted. The **trace** element is regarded as a child element of only **ink** or **traceGroup** parent elements. Can contain child **traceGroup** elements, but they are ignored and not persisted. The **traceGroup** element is regarded as a child element of only **ink** or other **traceGroup** parent elements. Can contain child **inkSource** elements, but they are ignored and not persisted. The **inkSource** element is regarded as a child element of only **context** parent elements. Can contain child **traceFormat** elements, but they are ignored and not persisted. The **traceFormat** element is regarded as a child element of only **inkSource** parent elements.

InkML Structural Element	Description
annotation	Can be present, but is ignored and not persisted.
annotationXML	If present as a child element of a **traceGroup** element, it MUST contain an **emma:emma** element that conforms to the subset of the EMMA as specified in [EMMA]. Otherwise, it is ignored and not persisted.

The **annotationXML** elements of a **traceGroup** element if present MUST contain XML that conforms to a subset of the EMMA as specified in [EMMA]. The following table defines the subset of constructs that are supported as specified in [EMMA]. The sections in the first column are references to the sections of [EMMA]. The second column indicates the level of support for the construct.

EMMA structural element	Description
Root element: **emma:emma**	The root element of the part MUST be **emma**, and it MUST be in the http://www.w3.org/2003/04/emma namespace.
Interpretation element: **emma:interpretation**	The first child element MUST be an **emma:interpretation** element, and it MUST contain a **context** element. The **id** attribute of the **emma:interpretation** element can be present. If present, this attribute MUST be a **GUID**<4>. The **emma:mode** attribute MUST be present and MUST be set to "ink".
emma:one-of element	The second child element of **emma:emma** is an **emma:one-of** element, it MUST contain one or more **emma:interpretation** elements, and the child elements MUST be **emma:literal** elements that contain plain text. The series of literal interpretations specifies the recognized text of the ink object. The order of the **emma:interpretation** elements MUST be sorted in order of confidence, from highest to lowest. The **disjunction-type** attribute MUST be present and MUST be set to "recognition".
emma:group element	The **emma:emma** element can contain an **emma:group** element, but its contents are ignored and not persisted.
emma:sequence element	The **emma:emma** element can contain an **emma:sequence** element, but its contents are ignored and not persisted.
Lattice markup: **emma:lattice**, **emma:arc**, and **emma:node** elements	The **emma:interpretation** element can contain an **emma:lattice** element, but its contents are ignored and not persisted.

2.1.5 ChartEx

An instance of a ChartEx part that specifies all layout properties for all elements on that chart. The following table shows the content type and source relationship of a Chart part.

Part components	Value
Content Type	application/vnd.ms-office.chartex+xml
Source Relationship	http://schemas.microsoft.com/office/2014/relationships/chartEx

2.2 Extensions

This section specifies the elements from the Office Open XML file formats as specified in [ISO/IEC29500-1:2012] that are extended by this format. Either the **Ignorable** attribute ([ISO/IEC29500-3:2012] section 10.1.1), the **Alternate-Content** elements ([ISO/IEC29500-3:2012] section 10.2), or the **extLst** element ([ISO/IEC29500-1:2012] section 20.1.2.2.15, [ISO/IEC29500-1:2012] section 21.2.2.64, or [ISO/IEC29500-1:2012] section 21.4.2.13) MUST be used to maintain compatibility with Office Open XML file formats as specified in [ISO/IEC29500:2012].

2.2.1 Charts

The **chartspace** element ([ISO/IEC29500-1:2012] section 21.2.2.29) is extended by the addition of an **AlternateContent** child element ([ISO/IEC29500-3:2012] section 10.2.1), for which the structure is specified in the following table.

AlternateContent components	Child element
Choice: http://schemas.microsoft.com/office/drawing/2007/8/2/chart	**style**
Fallback	**style** ([ISO/IEC29500-1:2012] section 21.2.2.202)

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.170) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.

Extension URI	Child element
{6F2FDCE9-48DA-4B69-8628-5D25D57E5C99}	**invertSolidFillFmt**

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.174) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.

Extension URI	Child element
{6F2FDCE9-48DA-4B69-8628-5D25D57E5C99}	**invertSolidFillFmt**

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **chartspace** element ([ISO/IEC29500-1:2012] section 21.2.2.29) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.

Extension URI	Child element
{781A3756-C4B2-4CAC-9D66-4F8BD8637D16}	**pivotOptions**

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **chartspace** element ([ISO/IEC29500-1:2012] section 21.2.2.29) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.<5>

Extension URI	Child element
{723BEF56-08C2-4564-9609-F4CBC75E7E54}	**pivotSource**

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **dateAx** element ([ISO/IEC29500-1:2012] section 21.2.2.39) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.<6>

Extension URI	Child element
{F40574EE-89B7-4290-83BB-5DA773EAF853}	**numFmt**

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **catAx** element ([ISO/IEC29500-1:2012] section 21.2.2.25) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.<7>

Extension URI	Child element
{F40574EE-89B7-4290-83BB-5DA773EAF853}	**numFmt**

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **serAx** element ([ISO/IEC29500-1:2012] section 21.2.2.175) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.<8>

Extension URI	Child element
{F40574EE-89B7-4290-83BB-5DA773EAF853}	**numFmt**

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **strLit** element ([ISO/IEC29500-1:2012] section 21.2.2.200) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.<9>

Extension URI	Child element
{E218EAE0-A670-482B-9A64-EF95B99D9540}	**autoCat**

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **valAx** element ([ISO/IEC29500-1:2012] section 21.2.2.226) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.<10>

Extension URI	Child element
{F40574EE-89B7-4290-83BB-5DA773EAF853}	**numFmt**

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **chartspace** element ([ISO/IEC29500-1:2012] section 21.2.2.29) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.<11>

Extension URI	Child element
{E28EC0CA-F0BB-4C9C-879D-F8772B89E7AC}	**pivotOptions16**

See [ISO/IEC29500-1:2012] section 10.1.2 for more details about extension lists.

2.2.1.1 Filtering

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.168) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.<12>

Extension URI	Child element
{02D57815-91ED-43cb-92C2-25804820EDAC}	**filteredSeriesTitle**
{02D57815-91ED-43cb-92C2-25804820EDAC}	**filteredCategoryTitle**
{02D57815-91ED-43cb-92C2-25804820EDAC}	**categoryFilterExceptions**
{02D57815-91ED-43cb-92C2-25804820EDAC}	**datalabelsRange**

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.170) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.<13>

Extension URI	Child element
{02D57815-91ED-43cb-92C2-25804820EDAC}	**filteredSeriesTitle**
{02D57815-91ED-43cb-92C2-25804820EDAC}	**filteredCategoryTitle**
{02D57815-91ED-43cb-92C2-25804820EDAC}	**categoryFilterExceptions**
{02D57815-91ED-43cb-92C2-25804820EDAC}	**datalabelsRange**

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.174) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.<14>

Extension URI	Child element
{02D57815-91ED-43cb-92C2-25804820EDAC}	**filteredSeriesTitle**
{02D57815-91ED-43cb-92C2-25804820EDAC}	**filteredCategoryTitle**
{02D57815-91ED-43cb-92C2-25804820EDAC}	**categoryFilterExceptions**
{02D57815-91ED-43cb-92C2-25804820EDAC}	**datalabelsRange**

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.171) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.<15>

Extension URI	Child element
{02D57815-91ED-43cb-92C2-25804820EDAC}	**filteredSeriesTitle**
{02D57815-91ED-43cb-92C2-25804820EDAC}	**filteredCategoryTitle**
{02D57815-91ED-43cb-92C2-25804820EDAC}	**categoryFilterExceptions**
{02D57815-91ED-43cb-92C2-25804820EDAC}	**datalabelsRange**

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.172) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.<16>

Extension URI	Child element
{02D57815-91ED-43cb-92C2-25804820EDAC}	**filteredSeriesTitle**
{02D57815-91ED-43cb-92C2-25804820EDAC}	**filteredCategoryTitle**
{02D57815-91ED-43cb-92C2-25804820EDAC}	**categoryFilterExceptions**
{02D57815-91ED-43cb-92C2-25804820EDAC}	**datalabelsRange**

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.169) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.<17>

Extension URI	Child element
{02D57815-91ED-43cb-92C2-25804820EDAC}	**filteredSeriesTitle**
{02D57815-91ED-43cb-92C2-25804820EDAC}	**filteredCategoryTitle**
{02D57815-91ED-43cb-92C2-25804820EDAC}	**categoryFilterExceptions**
{02D57815-91ED-43cb-92C2-25804820EDAC}	**datalabelsRange**

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.167) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.<18>

Extension URI	Child element
{02D57815-91ED-43cb-92C2-25804820EDAC}	**filteredSeriesTitle**
{02D57815-91ED-43cb-92C2-25804820EDAC}	**filteredCategoryTitle**
{02D57815-91ED-43cb-92C2-25804820EDAC}	**categoryFilterExceptions**
{02D57815-91ED-43cb-92C2-25804820EDAC}	**datalabelsRange**

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **ser** element ([ISO/IEC29500-1:2012] section 21.2.2.173) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.<19>

Extension URI	Child element
{02D57815-91ED-43cb-92C2-25804820EDAC}	**filteredSeriesTitle**
{02D57815-91ED-43cb-92C2-25804820EDAC}	**filteredCategoryTitle**
{02D57815-91ED-43cb-92C2-25804820EDAC}	**categoryFilterExceptions**
{02D57815-91ED-43cb-92C2-25804820EDAC}	**datalabelsRange**

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **lineChart** element ([ISO/IEC29500-1:2012] section 21.2.2.97) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.<20>

Extension URI	Child element
{02D57815-91ED-43cb-92C2-25804820EDAC}	**filteredLineSeries**

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **line3DChart** element ([ISO/IEC29500-1:2012] section 21.2.2.96) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.<21>

Extension URI	Child element
{02D57815-91ED-43cb-92C2-25804820EDAC}	**filteredLineSeries**

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **scatterChart** element ([ISO/IEC29500-1:2012] section 21.2.2.161) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.<22>

Extension URI	Child element
{02D57815-91ED-43cb-92C2-25804820EDAC}	**filteredScatterSeries**

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **radarChart** element ([ISO/IEC29500-1:2012] section 21.2.2.153) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.<23>

Extension URI	Child element
{02D57815-91ED-43cb-92C2-25804820EDAC}	**filteredRadarSeries**

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **barChart** element ([ISO/IEC29500-1:2012] section 21.2.2.16) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.<24>

Extension URI	Child element
{02D57815-91ED-43cb-92C2-25804820EDAC}	**filteredBarSeries**

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **bar3DChart** element ([ISO/IEC29500-1:2012] section 21.2.2.15) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.<25>

Extension URI	Child element
{02D57815-91ED-43cb-92C2-25804820EDAC}	**filteredBarSeries**

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **areaChart** element ([ISO/IEC29500-1:2012] section 21.2.2.5) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.<26>

Extension URI	Child element
{02D57815-91ED-43cb-92C2-25804820EDAC}	**filteredAreaSeries**

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **area3DChart** element ([ISO/IEC29500-1:2012] section 21.2.2.4) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.<27>

Extension URI	Child element
{02D57815-91ED-43cb-92C2-25804820EDAC}	**filteredAreaSeries**

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **bubbleChart** element ([ISO/IEC29500-1:2012] section 21.2.2.20) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.<28>

Extension URI	Child element
{02D57815-91ED-43cb-92C2-25804820EDAC}	**filteredBubbleSeries**

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **surfaceChart** element ([ISO/IEC29500-1:2012] section 21.2.2.204) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.<29>

Extension URI	Child element
{02D57815-91ED-43cb-92C2-25804820EDAC}	**filteredSurfaceSeries**

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **surface3DChart** element ([ISO/IEC29500-1:2012] section 21.2.2.203) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.<30>

Extension URI	Child element
{02D57815-91ED-43cb-92C2-25804820EDAC}	**filteredSurfaceSeries**

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **numRef** element ([ISO/IEC29500-1:2012] section 21.2.2.123) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.<31>

Extension URI	Child element
{02D57815-91ED-43cb-92C2-25804820EDAC}	**fullRef**
{02D57815-91ED-43cb-92C2-25804820EDAC}	**levelRef**
{02D57815-91ED-43cb-92C2-25804820EDAC}	**formulaRef**

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **strRef** element ([ISO/IEC29500-1:2012] section 21.2.2.201) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.<32>

Extension URI	Child element
{02D57815-91ED-43cb-92C2-25804820EDAC}	**fullRef**
{02D57815-91ED-43cb-92C2-25804820EDAC}	**levelRef**
{02D57815-91ED-43cb-92C2-25804820EDAC}	**formulaRef**

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **multiLvlStrRef** element ([ISO/IEC29500-1:2012] section 21.2.2.115) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.<33>

Extension URI	Child element
{02D57815-91ED-43cb-92C2-25804820EDAC}	**fullRef**
{02D57815-91ED-43cb-92C2-25804820EDAC}	**levelRef**
{02D57815-91ED-43cb-92C2-25804820EDAC}	**formulaRef**

2.2.1.2 Datalabels

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **dLbls** element ([ISO/IEC29500-1:2012] section 21.2.2.49) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.<34>

Extension URI	Child element
{CE6537A1-D6FC-4f65-9D91-7224C49458BB}	**showLeaderLines**
{CE6537A1-D6FC-4f65-9D91-7224C49458BB}	**leaderLines**
{CE6537A1-D6FC-4f65-9D91-7224C49458BB}	**tx**
{CE6537A1-D6FC-4f65-9D91-7224C49458BB}	**dlblFieldTable**
{CE6537A1-D6FC-4f65-9D91-7224C49458BB}	**showDataLabelsRange**
{CE6537A1-D6FC-4f65-9D91-7224C49458BB}	**spPr**

Extension URI	Child element
{CE6537A1-D6FC-4f65-9D91-7224C49458BB}	**layout**

2.2.1.3 Datalabel

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **dLbl** element ([ISO/IEC29500-1:2012] section 21.2.2.47) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.<35>

Extension URI	Child element
{CE6537A1-D6FC-4f65-9D91-7224C49458BB}	**dlblFieldTable**
{CE6537A1-D6FC-4f65-9D91-7224C49458BB}	**xForSave**
{CE6537A1-D6FC-4f65-9D91-7224C49458BB}	**showDataLabelsRange**
{CE6537A1-D6FC-4f65-9D91-7224C49458BB}	**spPr**
{CE6537A1-D6FC-4f65-9D91-7224C49458BB}	**layout**

2.2.2 Content Parts and Ink

An **ink** object can exist as a content part referenced by a **contentPart** element. See 2.1.4 for the syntax of the ink content part.

A **contentPart** element is specified in [ISO/IEC29500-1:2012] as an element in a WordprocessingML document ([ISO/IEC29500-1:2012] section 17.3.3.2), an element in a PresentationML slide ([ISO/IEC29500-1:2012] section 19.3.1.14), or an element in a SpreadsheetML drawing ([ISO/IEC29500-1:2012] section 20.5.2.12).

The following extensions define additional **contentPart** elements.

The DrawingML **grpSp** element ([ISO/IEC29500-1:2012] section 20.1.2.2.20) and **lockedCanvas** element ([ISO/IEC29500-1:2012] section 20.3.2.1) are extended by the addition of **AlternateContent** child elements ([ISO/IEC29500-3:2012] section 10.2.1), for which the structure is specified in the following table.

AlternateContent components	Child element
Choice: http://schemas.microsoft.com/office/drawing/2010/main	**contentPart**
Fallback	**sp** ([ISO/IEC29500-1:2012] section 20.1.2.2.33)

The SpreadsheetML **grpSp** element ([ISO/IEC29500-1:2012] section 20.5.2.17) is extended by the addition of an **AlternateContent** child element, for which the structure is specified in the following table:

AlternateContent components	Child element
Choice: http://schemas.microsoft.com/office/excel/2010/spreadsheetDrawing	**contentPart**

AlternateContent components	Child element
Fallback	**sp** ([ISO/IEC29500-1:2012] section 20.5.2.29)

The WordprocessingML **contentPart** is an optional child of **CT_WordprocessingCanvas** (**wpc**), and **CT_WordprocessingGroup** (**grpSp**, **wgp**), or as a child of **graphicData** ([ISO/IEC29500-1:2012] section 20.1.2.2.17) as specified in 2.2.7.6.

The PresentationML **contentPart** ([ISO/IEC29500-1:2012] section 19.3.1.14) is an optional child element of **CT_GroupShape** (**grpSp**, **spTree** ([ISO/IEC29500-1:2012] sections 19.3.1.22 and 19.3.1.45).

2.2.3 Pictures

The **extLst** child element of the **binary large image or picture (BLIP)** element ([ISO/IEC29500-1:2012] section 20.1.8.13) is extended by the addition of **ext** child elements, for which the structure is specified in the following table.

Extension URI	Child element
http://schemas.microsoft.com/office/drawing/2010/main	**imgProps**
http://schemas.microsoft.com/office/drawing/2010/main	**useLocalDpi**

See [ISO/IEC29500-1:2012] section 10.1.2 for more details about extension lists.

2.2.4 Diagrams

2.2.4.1 Diagram Layout

The **extLst** child element of the **dataModel** element ([ISO/IEC29500-1:2012] section 21.4.2.10) is extended by the addition of **ext** child elements, for which the structure is specified in the following table.

Extension URI	Child element
http://schemas.microsoft.com/office/drawing/2008/diagram	**dataModelExt**

See [ISO/IEC29500-1:2012] section 10.1.2 for more details about extension lists.

2.2.4.2 Image Recoloring

The **extLst** child element of the **dataModel** element ([ISO/IEC29500-1:2012] section 21.4.2.10) is extended by the addition of **ext** child elements, for which the structure is specified in the following table.

Extension URI	Child element
{C62137D5-CB1D-491b-B009-E17868A290BF}	**recolorImg**

See [ISO/IEC29500-1:2012] section 10.1.2 for more details about extension lists.

2.2.4.3 Non-Visual Drawing Properties

The **extLst** child element of the **dataModel** element ([ISO/IEC29500-1:2012] section 21.4.2.10) is extended by the addition of **ext** child elements, for which the structure is specified in the following table.<36>

Extension URI	Child element
{E40237B7-FDA0-4F09-8148-C483321AD2D9}	**cNvPr**

See [ISO/IEC29500-1:2012] section 10.1.2 for more details about extension lists.

2.2.5 Math

Each of the objects added to DrawingML documents MUST be contained by other instances of extensions or MUST make use of extensibility mechanisms from Office Open XML file formats as specified in [ISO/IEC29500:2012]. For compatibility with existing Office Open XML file formats implementations, all of the extensions are integrated into DrawingML through the use of **AlternateContent** elements as specified in [ISO/IEC29500-3:2012] section10.2.1.

AlternateContent components	Child elements
Choice: http://schemas.microsoft.com/office/drawing/2010/main	**m**
Fallback	**p:sp**, **p:graphicFrame, xdr:sp**. or **cdr:sp**

The **p:sp** element is specified in [ISO/IEC29500-1:2012] section 19.3.1.43, **p:graphicFrame** is specified in [ISO/IEC29500-1:2012] section 19.3.1.21, **xdr:sp** is specified in [ISO/IEC29500-1:2012] section 20.5.2.29, and **cdr:sp** is specified in [ISO/IEC29500-1:2012] section 21.3.2.22.

Content of the **m** element is specified by DrawingML ([ISO/IEC29500-1:2012] section 20.1) and the mathematics **OMML** ([ISO/IEC29500-1:2012] section 22.1), except as restricted and modified by the following table.

Element	Description
WordprocessingML child elements	MUST NOT appear in this extension.
cGp	MUST NOT appear in this extension.
cGpRule	MUST NOT appear in this extension.
cSp	MUST NOT appear in this extension.
eqArrPr	The child elements **rSp** ([ISO/IEC29500-1:2012] section 22.1.2.92) and **rSpRule** ([ISO/IEC29500-1:2012] section 22.1.2.93) MUST NOT appear as child elements of **eqArrPr**.
mathFont	Font substitution in the context of this extension conforms to the Office Open XML file formats as specified in [ISO/IEC29500-1:2012] section 21.1.2.5.
mathPr	The direct child element of the **m** element in the

Element	Description
	context of presentation properties MUST be **mathPr** ([ISO/IEC29500-1:2012] section 22.1.2.62). Such a **mathPr** MUST only contain **brkBin** ([ISO/IEC29500-1:2012] section 22.1.2.16) and **brkBinSub** ([ISO/IEC29500-1:2012] section 22.1.2.17).
mcJc	MUST NOT appear in this extension.
mcPr	The **mcJc** element ([ISO/IEC29500-1:2012] section 22.1.2.65) is not permitted as a child of this element.
mPr	The following are not permitted as child elements of **mPr** in this extension and MUST NOT appear: **cGp** ([ISO/IEC29500-1:2012] section 22.1.2.18), **cGpRule** ([ISO/IEC29500-1:2012] section 22.1.2.19), **cSp** ([ISO/IEC29500-1:2012] section 22.1.2.22), **rSp** ([ISO/IEC29500-1:2012] section 22.1.2.92), and **rSpRule** ([ISO/IEC29500-1:2012] section 22.1.2.93).
oMath	The direct child element of the **m** element in the context of a paragraph MUST be either **oMath** or **oMathPara**.
oMathPara	The direct child element of the m element in the context of a paragraph MUST be either **oMath** or **oMathPara**. Only one justification style is permitted per containing text paragraph. All but the first **jc** values of each **oMathPara**, are ignored.
r	The **rPr** element ([ISO/IEC29500-1:2012] section 21.1.2.3.9) is not required, and the **t** element ([ISO/IEC29500-1:2012] section 21.1.2.3.11) MUST appear as child elements of **m:r**.
rSp	MUST NOT appear in this extension.
rSpRule	MUST NOT appear in this extension.

2.2.6 SpreadsheetML Drawing

2.2.6.1 Camera Tool

The **extLst** child element of the **nvPicPr** element ([ISO/IEC29500-1:2012] section 20.5.2.22) is extended by the addition of **ext** child elements, for which the structure is specified in the following table.

Extension URI	Child element
{84589F7E-364E-4c9e-8A38-B11213B215E9}	**cameraTool**

See [ISO/IEC29500-1:2012] section 10.1.2 for more details about extension lists.

The **twoCellAnchor** element ([ISO/IEC29500-1:2012] section 20.5.2.33), **oneCellAnchor** element ([ISO/IEC29500-1:2012] section 20.5.2.24), **absoluteAnchor** element ([ISO/IEC29500-1:2012] section 20.5.2.1), **pic** element ([ISO/IEC29500-1:2012] section 20.5.2.25), or **grpSp** element ([ISO/IEC29500-1:2012] section 20.5.2.17) are extended by the addition of an **AlternateContent**

child element ([ISO/IEC29500-3:2012] section 10.2.1), for which the structure is specified in the following table.

AlternateContent components	Child elements
Choice:	**cameraTool**
http://schemas.microsoft.com/office/drawing/2010/main	
Choice structure: ``` <wsDr> <twoCellAnchor> or <oneCellAnchor> or <absoluteAnchor> <grpSp> - if inside a group <pic> <nvPicPr> <cNvPicPr> <extLst> <ext> <cameraTool> ... ```	
Fallback	Empty

The **wsDr** element is specified in [ISO/IEC29500-1:2012] section 20.5.2.35, **nvPicPr** is specified in [ISO/IEC29500-1:2012] section 20.5.2.22, and **cNvPicPr** is specified in [ISO/IEC29500-1:2012] section 20.5.2.7.

2.2.6.2 Legacy Object Wrapper

The **extLst** child element of the **cNvPr** element ([ISO/IEC29500-1:2012] section 20.5.2.8) is extended by the addition of **ext** child elements, for which the structure is specified in the following table.

Extension URI	Child element
{63B3BB69-23CF-44e3-9099-C40C66FF867C}	**compatExt**

See [ISO/IEC29500-1:2012] section 10.1.2 for more details about extension lists.

The **twoCellAnchor** element ([ISO/IEC29500-1:2012] section 20.5.2.33), **oneCellAnchor** element ([ISO/IEC29500-1:2012] section 20.5.2.24), **absoluteAnchor** element ([ISO/IEC29500-1:2012] section 20.5.2.1), **sp** element ([ISO/IEC29500-1:2012] section 20.5.2.29), or **grpSp** element ([ISO/IEC29500-1:2012] section 20.5.2.17) are extended by the addition of an **AlternateContent** child element ([ISO/IEC29500-3:2012] section 10.2.1), for which the structure is specified in the following table.

AlternateContent components	Child elements
Choice:	**compatExt**
http://schemas.microsoft.com/office/drawing/2010/main	
Choice structure: ``` <wsdr> <twoCellAnchor> or <oneCellAnchor> or <absoluteAnchor> <grpSp> - if inside a group <sp> <nvSpPr> <cNvPr> <extLst> <ext> ```	

AlternateContent components	Child elements
`<compatExt>` `...`	
Fallback	Empty

The **wsDr** element is specified in [ISO/IEC29500-1:2012] section 20.5.2.35, **nvSpPr** is specified in [ISO/IEC29500-1:2012] section 20.5.2.23, and **cNvPr** is specified in [ISO/IEC29500-1:2012] section 20.5.2.8.

2.2.7 WordprocessingML Drawing

Each of the objects added to WordprocessingML documents MUST be contained by other instances of extensions or MUST make use of extensibility mechanisms from Office Open XML file formats as specified in [ISO/IEC29500:2012]. For compatibility with existing Office Open XML file format implementations, all extensions are integrated into WordprocessingML through the use of **AlternateContent** elements as specified in [ISO/IEC29500-3:2012] section 10.2.1.

In all cases, the **AlternateContent** element MUST have only a single **Choice** element as specified in [ISO/IEC29500-3:2012] section 10.2.2 and a single **Fallback** element as specified in [ISO/IEC29500-3:2012] section 10.2.3 as child elements.

The parent element of the **AlternateContent** element MUST be an **r** (Text Run) element as specified in [ISO/IEC29500-1:2012] section 17.3.2.25.

The following sections associate the URIs used to indicate each **Choice** element with the URIs used in the descendent **graphicData** element, the contents of the **graphicData** (Graphic Object Data) element and the contents of the **Fallback** element as specified in [ISO/IEC29500-1:2012] section 20.1.2.2.17,. In all cases, the value of the **uri** attribute of the **graphicData** element MUST match the value of the URI of the ancestor **Choice** element.

Although the URI for the **Requires** attributes of the **Choice** element is specified in the following sections, the **Requires** attributes MUST evaluate to a prefix that resolves to the specified URI. The **Requires** attributes MUST NOT evaluate to the URI itself.

2.2.7.1 ActiveX and OLE Objects

This section specifies how the CT_ObjectPr type and objectPr are integrated into the Office Open XML file formats as specified in [ISO/IEC29500:2012].<37>

AlternateContent components	Child elements
Choice: urn:schemas-microsoft-com:vml	**Object** ([ISO/IEC29500-1:2012]) section 17.3.3.19

Choice structure:
 	
    `<w:object>`
      `<v: ... >`
        `...`	

Fallback (no VML)	**Object**

AlternateContent components	Child elements
	([ISO/IEC29500-1:2012]) section 17.3.3.19
Fallback structure: ``` <w:object> <w:drawing> ... <a:graphic xmlns:a="http://purl.oclc.org/ooxml/drawingml/main"> <a:graphicData uri="http://purl.oclc.org/ooxml/drawingml/picture"> <pic:pic xmlns:pic="http://purl.oclc.org/ooxml/drawingml/picture"> <pic:nvPicPr> <pic:cNvPicPr> <a:extLst> <a:ext> <a15:objectPr .../> ``` 	

The **drawing** element is specified in [ISO/IEC29500-1:2012] section 17.3.3.9, **graphic** is specified in [ISO/IEC29500-1:2012] section 20.1.2.2.16, **graphicData** is specified in [ISO/IEC29500-1:2012] section 20.1.2.2.17, **pic** is specified in [ISO/IEC29500-1:2012] section 19.3.1.37, and **nvPicPr** is specified in [ISO/IEC29500-1:2012] section 19.3.1.32.

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **cNvPicPr** element ([ISO/IEC29500-1:2012] section 19.3.1.11) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.

Extension URI	Child element
{837473B0-CC2E-450a-ABE3-18F120FF3D37}	**objectPr**

2.2.7.2 Background Fill

This section specifies how the CT_BackgroundPr type and backgroundPr are integrated into the Office Open XML file formats as specified in [ISO/IEC29500:2012].<38>

AlternateContent components	Child elements
Choice: urn:schemas-microsoft-com:vml	**background** ([ISO/IEC29500-4:2012]) section 14.1.2.2
Choice structure: ``` <v:background ...> <v: ... > ``` 	
Fallback (no VML)	**drawing** ([ISO/IEC29500-1:2012]) section 17.3.3.9

AlternateContent components	Child elements

Fallback structure:
 	
``
    <w:drawing>
      <wp:inline ...>
        ...
        <wp:docPr ...>
          <a:extLst xmlns:a="http://purl.oclc.org/ooxml/drawingml/main">
            <a:ext>
              <a15:backgroundPr
  xmlns:a15="http://schemas.microsoft.com/office/drawing/2012/main" .../>
``	

The **drawing** element is specified in [ISO/IEC29500-1:2012] section 17.3.3.9, **inline** is specified in [ISO/IEC29500-1:2012] section 20.4.2.8.

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **docPr** element ([ISO/IEC29500-1:2012] section 20.4.2.5) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.

Extension URI	Child element
{A998136B-4AC2-44c3-8CCF-79AB77ABDD1D}	**backgroundPr**

2.2.7.3 DrawingML Shapes in WordprocessingML

This section specifies how the **CT_WordprocessingShape** type and **wsp** element are integrated into the Office Open XML file formats as specified in [ISO/IEC29500:2012].

AlternateContent components	Child elements
Choice: http://schemas.microsoft.com/office/word/2010/wordprocessingShape	**wsp**
Choice structure: ``` <drawing> <anchor> or <inline> <graphic> <graphicData uri="http://schemas.microsoft.com/office/word/2010/wordprocessingShape"> <wsp> ... ```	
Fallback	**pict** (VML Object) ([ISO/IEC29500-4:2012])section 9.2.2.2

The **drawing** element is specified in [ISO/IEC29500-1:2012] section 17.3.3.9, **anchor** is specified in [ISO/IEC29500-1:2012] section 20.4.2.3, **inline** is specified in [ISO/IEC29500-1:2012] section 20.4.2.8, **graphic** is specified in [ISO/IEC29500-1:2012] section 20.1.2.2.16, and **graphicData** is specified in [ISO/IEC29500-1:2012] section 20.1.2.2.17.

2.2.7.4 DrawingML Groups in WordprocessingML

This section specifies how the **CT_WordprocessingGroup** type and the **wgp** element are integrated into [ISO/IEC29500:2012].

AlternateContent components	Child elements
Choice: http://schemas.microsoft.com/office/word/2010/wordprocessingGroup	**wgp**
Choice structure: ``` <drawing> <anchor> or <inline> <graphic> <graphicData uri="http://schemas.microsoft.com/office/word/2010/wordprocessingGroup"> <wgp> ... ```	
Fallback	[ISO/IEC29500-4:2012] section9.2.2.2 pict (VML Object)

The **drawing** element is specified in [ISO/IEC29500-1:2012] section 17.3.3.9, **anchor** is specified in [ISO/IEC29500-1:2012] section 20.4.2.3, **inline** is specified in [ISO/IEC29500-1:2012] section 20.4.2.8, **graphic** is specified in [ISO/IEC29500-1:2012] section 20.1.2.2.16, and **graphicData** is specified in [ISO/IEC29500-1:2012] section 20.1.2.2.17.

2.2.7.5 DrawingML Canvases in WordprocessingML

This section specifies how the **CT_WordprocessingCanvas** type and **wpc** element integrate into the Office Open XML file formats as specified in [ISO/IEC29500:2012].

AlternateContent components	Child elements
Choice: http://schemas.microsoft.com/office/word/2010/wordprocessingCanvas	**wpc**
Choice structure: ``` <drawing> <anchor> or <inline> <graphic> <graphicData uri="http://schemas.microsoft.com/office/word/2010/wordprocessingCanvas"> <wpc> ... ```	
Fallback	**pict** (VML Object) ([ISO/IEC29500-4:2012] section 9.2.2.2)

The **drawing** element is specified in [ISO/IEC29500-1:2012] section 17.3.3.9, **anchor** is specified in [ISO/IEC29500-1:2012] section 20.4.2.3, **inline** is specified in [ISO/IEC29500-1:2012] section

20.4.2.8, **graphic** is specified in [ISO/IEC29500-1:2012] section 20.1.2.2.16, and **graphicData** is specified in [ISO/IEC29500-1:2012] section 20.1.2.2.17.

2.2.7.6 DrawingML Content Parts in WordprocessingML

This section specifies how the **CT_WordContentPart** type and **contentPart** element integrate into Office Open XML file formats as specified in [ISO/IEC29500:2012].

AlternateContent components	Child elements
Choice: http://schemas.microsoft.com/office/word/2010/wordprocessingInk	**contentPart**

Choice structure:
 	
<pre><drawing>
  <anchor> or <inline>
    <graphic>
      <graphicData uri="http://schemas.microsoft.com/office/word/2010/wordprocessingInk">
        <contentPart>
          ...</pre>	

Fallback	**pict** (VML Object) ([ISO/IEC29500-4:2012] section 9.2.2.2)

The **drawing** element is specified in [ISO/IEC29500-1:2012] section 17.3.3.9, **anchor** is specified in [ISO/IEC29500-1:2012] section 20.4.2.3, **inline** is specified in [ISO/IEC29500-1:2012] section 20.4.2.8, **graphic** is specified in [ISO/IEC29500-1:2012] section 20.1.2.2.16, and **graphicData** is specified in [ISO/IEC29500-1:2012] section 20.1.2.2.17.

2.2.8 Themes

The **extLst** child element of the theme (**Theme**) element ([ISO/IEC29500-1:2012] section 20.1.6.9) is extended by the addition of **ext** child elements, for which the structure is specified in the following table.

Extension URI	Child element
http://schemas.microsoft.com/office/thememl/2012/main	**themeFamily**

See [ISO/IEC29500-1:2012] section 10.1.2 for more details about extension lists.

2.2.9 Legacy Objects

2.2.9.1 Legacy Groups

This section specifies how the CT_NonVisualGroupProps type and nonVisualGroupProps are integrated into the Office Open XML file formats as specified in [ISO/IEC29500:2012].<39>

AlternateContent components	Child elements
Choice: urn:schemas-microsoft-com:vml	**Object** ([ISO/IEC29500-1:2012]) section 17.3.3.19
Choice structure: ``` <w:object> <v: ... > ... ```	
Fallback (no VML)	**Object** ([ISO/IEC29500-1:2012]) section 17.3.3.19

Fallback structure:
 	
``
<w:object>
  <w:drawing>
      ...
     <a:graphic xmlns:a="http://purl.oclc.org/ooxml/drawingml/main"
       <a:graphicData uri="http://purl.oclc.org/ooxml/drawingml/picture">
         <wpg:wgp>
           <wpg:cNvGrpSpPr>
             ...
            <a:extLst>
              <a:ext>
                <a15:nonVisualGroupProps
xmlns:a15="http://schemas.microsoft.com/office/drawing/2012/main" .../>
``	

The **drawing** element is specified in [ISO/IEC29500-1:2012] section 17.3.3.9, **graphic** is specified in [ISO/IEC29500-1:2012] section 20.1.2.2.16, **graphicData** is specified in [ISO/IEC29500-1:2012] section 20.1.2.2.17, and **wpg:wgp** is an element from CT_WordprocessingCanvas.

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **cNvGrpSpPr** element ([ISO/IEC29500-1:2012] section 20.5.2.6) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.

Extension URI	Child element
{F59B8463-F414-42e2-B3A4-FFEF48DC7170}	**nonVisualGroupProps**

2.2.9.2 Signature Lines

This section specifies how the CT_SignatureLine type and signatureLine are integrated into the Office Open XML file formats as specified in [ISO/IEC29500:2012].<40>

AlternateContent components	Child elements
Choice: urn:schemas-microsoft-com:vml	**pict** ([ISO/IEC29500-

AlternateContent components	Child elements
	4:2012]) section 9.2.2.2
Choice structure: ``` <w:pict> <v: ... > ... ```	
Fallback (no VML)	**drawing** ([ISO/IEC29500-1:2012]) section 17.3.3.9
Fallback structure: ``` <w:object> <w:drawing> ... <a:graphic xmlns:a="http://purl.oclc.org/ooxml/drawingml/main" <a:graphicData uri="http://purl.oclc.org/ooxml/drawingml/picture"> <pic:pic xmlns:pic="http://purl.oclc.org/ooxml/drawingml/picture"> <pic:nvPicPr> <pic:cNvPicPr> <a:extLst> <a:ext> <a15: signatureLine.../> ```	

graphic is specified in [ISO/IEC29500-1:2012] section 20.1.2.2.16, **graphicData** is specified in [ISO/IEC29500-1:2012] section 20.1.2.2.17, **pic** is specified in [ISO/IEC29500-1:2012] section 19.3.1.37, and **nvPicPr** is specified in [ISO/IEC29500-1:2012] section 19.3.1.32.

The **extLst** child element ([ISO/IEC29500-1:2012] section 21.2.2.64) of the **cNvPicPr** element ([ISO/IEC29500-1:2012] section 19.3.1.11) is extended by the addition of an **ext** child element, for which the structure is specified in the following table.

Extension URI	Child element
{F385189D-CB6C-4498-A905-10932F83BE7A}	**signatureLine**

2.2.10 Tables

The **extLst** child element of the **gridCol** element ([ISO/IEC29500-1:2012] section 19.2.1.27) is extended by the addition of a new **ext** child element ([ISO/IEC29500-1:2012] section 19.2.1.11), whose structure is specified in the following table.<41>

Ext uri	Child element
{9D8B030D-6E8A-4147-A177-3AD203B41FA5}	**a16:colId**(section 2.25.1.1)

The **extLst** child element of the **tr** element ([ISO/IEC29500-1:2012] section 19.2.1.27) is extended by the addition of a new **ext** child element ([ISO/IEC29500-1:2012] section 19.2.1.11), whose structure is specified in the following table.<42>

Ext uri	Child element
{0D108BD9-81ED-4DB2-BD59-A6C34878D82A}	**a16:rowId**(section section 2.25.1.5)

2.3   http://schemas.microsoft.com/office/drawing/2010/main

2.3.1   Elements

2.3.1.1 cameraTool

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

A CT_CameraTool element that specifies that a picture, as defined by the **pic** element as specified in [ISO/IEC29500-1:2012] section 20.2.2.5, is a camera object. A camera object is a picture that shows a live view of a cell range in the specified spreadsheet, including any graphic objects contained in the cell range and all formatting applied to the contents of the cell range. Updates to the contents of the cell range are reflected in the camera object. **Shape** properties, such as the position and size of the camera object, are defined by the parent **pic** element. The view of the cell range MUST be a rectangle. The view of the cell range MUST scale vertically and horizontally to fill the rectangle exactly.

See section 2.2.6.1 for information about how this element is integrated with the Open XML file formats as specified in- [ISO/IEC29500:2012].

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

```
<xsd:element name="cameraTool" type="CT_CameraTool"/>
```

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

2.3.1.2 compatExt

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

A CT_CompatExt element that specifies a legacy drawing object. The legacy drawing object MUST be a form **control** or a legacy **OLE** or **ActiveX control** object.

The application MAY delete this legacy **shape** when loading.<43>

See section 2.2.6 for how this element integrates with the Open XML file formats -as specified in [ISO/IEC29500-1:2012].

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

```
<xsd:element name="compatExt" type="CT_CompatExt"/>
```

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

2.3.1.3 contentPart

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

A CT_GvmlContentPart element that specifies a reference to XML content in a format not specified by [ISO/IEC29500-1:2012].

This element serves the same purpose as the **contentPart** element in PresentationML ([ISO/IEC29500-1:2012] section 19.3.1.14), but appears as an element in **CT_GvmlGroupShape** ([ISO/IEC29500-1:2012] section A.4.1).

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

```
    <xsd:element name="contentPart" type="CT_GvmlContentPart"/>
```

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

2.3.1.4 hiddenEffects

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

A **CT_EffectProperties** element ([ISO/IEC29500-1:2012] section A.4.1) that stores the effect information of an object when the effects have been set to invisible. If effects have been set to visible this element is ignored.

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

```
    <xsd:element name="hiddenEffects" type="a:CT_EffectProperties"/>
```

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

2.3.1.5 hiddenFill

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

A **CT_FillProperties** element ([ISO/IEC29500-1:2012] section A.4.1) that stores the fill information of an object when the **shape** fill has been set to invisible. If shape fill has been set to visible this element is ignored.

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

```
    <xsd:element name="hiddenFill" type="a:CT_FillProperties"/>
```

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

2.3.1.6 hiddenLine

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

A **CT_LineProperties** element ([ISO/IEC29500-1:2012] section A.4.1) that stores the line information of an object when the line fill has been set to invisible. If line fill has been set to visible this element is ignored.

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

```
<xsd:element name="hiddenLine" type="a:CT_LineProperties"/>
```

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

2.3.1.7 hiddenScene3d

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

A **CT_Scene3D** element ([ISO/IEC29500-1:2012] section A.4.1) that stores the 3-D scene information of a scene when the 3-D scene effects have been set to invisible. IF the 3-D scene effects have been set to visible this element is ignored.

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

```
<xsd:element name="hiddenScene3d" type="a:CT_Scene3D"/>
```

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

2.3.1.8 hiddenSp3d

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

A **CT_Shape3D** element ([ISO/IEC29500-1:2012] section A.4.1) that stores the 3-D **shape** information of an object when the 3-D shape effects have been set to invisible. If the 3-D shape effects have been set to visible this element is ignored.

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

```
<xsd:element name="hiddenSp3d" type="a:CT_Shape3D"/>
```

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

2.3.1.9 imgProps

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Element type: **CT_Photo**

An extension list child element of: binary large image or picture (BLIP) as specified in [ISO/IEC29500-1:2012] section 20.1.8.13

(For more details, see [ISO/IEC29500-1:2012] section 10.1.2)

Extension list Uri attribute: {BEBA8EAE-BF5A-486c-A8C5-ECC9F3942E4B}

A CT_Photo element that specifies properties that produce the embedded picture in the containing BLIP.

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

```
<xsd:element name="imgProps" type="CT_Photo"/>
```

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

2.3.1.10   isCanvas

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Element type: **CT_IsGvmlCanvas**

An extension list child element of: **grpSp** (**Group shape**) as specified in [ISO/IEC29500-1:2012] section 20.1.2.2.20

(For more details, see [ISO/IEC29500-1:2012] section 10.1.2.)

Extension list URI attribute: {42C33886-CC25-47f2-ACA8-312CCD89CECE}

The **val** attribute of this element MUST be set to TRUE if the containing **grpSp** is a GVML representation of a **drawing canvas** from a word processing application.

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

```
<xsd:element name="isCanvas" type="CT_IsGvmlCanvas"/>
```

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

2.3.1.11   m

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

A CT_TextMath element that specifies either math content in a text paragraph (when such an element is used inside of a text paragraph) or document-level math properties container (when it is used in presentation properties specified by PresentationML). The math content in a text paragraph can be either an inline math zone or a math paragraph.

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

```
<xsd:element name="m" type="CT_TextMath"/>
```

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

2.3.1.12   shadowObscured

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Element type: **CT_ShadowObscured**

An extension list child element of: [ISO/IEC29500-1:2012] section 20.2.2.6

For more details, see [ISO/IEC29500-1:2012] section 10.1.2.

Extension list URI attribute: {53640926-AAD7-44d8-BBD7-CCE9431645EC}

A CT_ShadowObscured element that specifies whether a shadow is obscured by a **shape** with no fill.

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

```
<xsd:element name="shadowObscured" type="CT_ShadowObscured"/>
```

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

2.3.1.13   useLocalDpi

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Element type: **CT_UseLocalDpi**

An extension list child element of: BLIP as specified in [ISO/IEC29500-1:2012] section 20.1.8.13.

For more details, see [ISO/IEC29500-1:2012] section 10.1.2.

Extension list URI attribute: {28A0092B-C50C-407e-A947-70E740481C1C}

A CT_UseLocalDpi element that specifies a flag indicating that the local BLIP compression setting overrides the document default compression setting.

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

```
<xsd:element name="useLocalDpi" type="CT_UseLocalDpi"/>
```

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

2.3.2 Attributes

2.3.2.1 legacySpreadsheetColorIndex

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Attribute type: ST_LegacySpreadsheetColorIndex

Extension attribute on type: **srgbClr** (RGB Color Model - Hex Variant) as specified in [ISO/IEC29500-1:2012] section 20.1.2.3.32

To maintain compatibility with implementations of Office Open XML file formats as specified in [ISO/IEC29500:2012], the namespace prefix of this attribute MUST be specified in an **Ignorable** attribute ([ISO/IEC29500-3:2012] section 10.1.1).

This attribute is an index into a color table specified by the **indexedColors** element ([ISO/IEC29500-1:2012] section 18.8.27) defined in a SpreadsheetML document.

When present in the context of a spreadsheet application, this attribute overrides any other color information present under its parent **CT_SRgbColor** element. This attribute is ignored in all other contexts.

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

```
<xsd:attribute name="legacySpreadsheetColorIndex" type="ST_LegacySpreadsheetColorIndex"/>
```

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

2.3.3 Complex Types

2.3.3.1 CT_CameraTool

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: cameraTool

A complex type that specifies camera tool properties.

Attributes:

cellRange: An **xsd:string** ([XMLSCHEMA2] section 3.2.1) that uses standard cell reference syntax as specified in [ISO/IEC29500-1:2012] section 18.17.2.3. This specifies the cell range of the camera tool. The cell range MUST use the A1 style reference, instead of the R1C1 reference. The cell range MUST be used when defining the camera tool.

spid: An **xsd:string** ([XMLSCHEMA2] section 3.2.1) that specifies the **shape** identifier of a legacy drawing object. If string is "0" there is no legacy shape. However the legacy drawing object MUST be deleted if the current drawing element is to be used. Otherwise, two camera tool objects are present.

This string has the following characteristics:

- If string is not the default value it MUST begin with "_x0000_" followed by one character and a number that specifies the identifier: _x0000_[c]<shape id>

    - The character [c] MUST be set to 's'.

    - Shape identifiers MUST be in the range from 1025 through 268435456.

    - Shape identifiers are clustered, and each cluster has 1024 values. The first cluster ranges from 1025 through 2048.

    - Shape identifiers in the same cluster SHOULD only exist in one worksheet.

- It MUST NOT contain Numeric Character Reference (NCR) characters.

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

```
<xsd:complexType name="CT_CameraTool">
  <xsd:attribute name="cellRange" type="xsd:string"/>
  <xsd:attribute name="spid" use="optional" default="0" type="xsd:string"/>
</xsd:complexType>
```

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

2.3.3.2 CT_CompatExt

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: compatExt

A complex type that specifies a legacy drawing object.

Attributes:

spid: An **xsd:string** attribute ([XMLSCHEMA2] section 3.2.1) that specifies the **shape** identifier of a legacy drawing object.

This string has the following characteristics:

- It begins with "_x0000_" followed by one character and a number that specifies the identifier: _x0000_[c]<shape id>

  - The character [c] MUST be set to 's'.

  - Shape identifiers MUST be in the range from 1025 through 268435456.

  - Shape identifiers are clustered, and each cluster has 1024 values. The first cluster ranges from 1025 through 2048.

  - Shape identifiers in the same cluster exist in only one worksheet.

- It MUST NOT contain NCR characters.

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

```
<xsd:complexType name="CT_CompatExt">
  <xsd:attribute name="spid" type="xsd:string"/>
</xsd:complexType>
```

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

2.3.3.3 CT_ContentPartLocking

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_NonVisualInkContentPartProperties

Contains various locking properties that prevent or restrict certain changes to the content part properties or restrict how a content part can be manipulated by the user. Restrictions are enforced only at the UI and Object Model levels.

Child Elements:

extLst: A **CT_OfficeArtExtensionList** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies the extension list in which all future extensions of element type **ext** is defined. The extension list, along with corresponding future extensions, is used to extend the storage capabilities of the DrawingML framework. This enables various types of data to be stored natively in the framework.

Attributes:

noGrp: A Boolean attribute that specifies that the generating application does not enable shape grouping for the corresponding content part. That is, it cannot be combined with other shapes to form a group of shapes. The default value is FALSE.

noSelect: A Boolean attribute that specifies that the generating application does not enable selecting the corresponding content part. No picture, shapes, or text attached to this content part can be selected if this attribute has been specified. The default value is FALSE.

noRot: A Boolean attribute that specifies that the corresponding content part cannot be rotated. The default value is FALSE.

noChangeAspect: A Boolean attribute that specifies that the generating application does not enable aspect ratio changes for the corresponding content part. The default value is FALSE.

noMove: A Boolean attribute that specifies that the generating application does not enable position changes for the corresponding content part. The default value is FALSE.

noResize: A Boolean attribute that specifies that the generating application does not enable size changes for the corresponding content part. The default value is FALSE.

noEditPoints: A Boolean attribute that specifies that the generating application does not enable shape point changes for the corresponding content part. The default value is FALSE.

noAdjustHandles: A Boolean attribute that specifies that the generating application does not show adjust handles for the corresponding content part. The default value is FALSE.

noChangeArrowheads: A Boolean attribute that specifies that the generating application does not enable arrowhead changes for the corresponding content part. The default value is FALSE.

noChangeShapeType: A Boolean attribute that specifies that the generating application does not enable shape type changes for the corresponding content part. The default value is FALSE.

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

```
<xsd:complexType name="CT_ContentPartLocking">
  <xsd:sequence>
    <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attributeGroup ref="a:AG_Locking"/>
</xsd:complexType>
```

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

2.3.3.4 CT_GvmlContentPart

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: contentPart

A complex type that specifies a reference to XML content in a format not specified in [ISO/IEC29500-1:2012].

The relationship type of the explicit relationship specified by this element MUST be of type http://schemas.openxmlformats.org/officeDocument/2006/customXml and have a **TargetMode** attribute set to "Internal". If an application cannot process the content of the content type specified by the targeted part, the application ignores the content and continues to process the file.

Child Elements:

nvContentPartPr: A CT_GvmlContentPartNonVisual element that specifies non-visual properties of the content part.

xfrm: A **CT_Transform2D** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies the 2-D transform for the content part.

extLst: A **CT_OfficeArtExtensionList** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies the extension list in which all future extensions of element type **ext** are defined. The extension list, along with corresponding future extensions, is used to extend the storage capabilities of the DrawingML framework. This enables various new types of data to be stored natively in the framework.

Attributes:

bwMode: An **ST_BlackWhiteMode** attribute ([ISO/IEC29500-1:2012] section 20.1.10.10) 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.

r:id: An **ST_RelationshipId** attribute ([ISO/IEC29500-1:2012] section 22.8.2.1) that specifies the relationship identifier to a content part.

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

```
<xsd:complexType name="CT_GvmlContentPart">
  <xsd:sequence>
    <xsd:element name="nvContentPartPr" type="CT_GvmlContentPartNonVisual" minOccurs="0"
maxOccurs="1"/>
    <xsd:element name="xfrm" type="a:CT_Transform2D" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="bwMode" type="a:ST_BlackWhiteMode" use="optional"/>
  <xsd:attribute ref="r:id" use="required"/>
</xsd:complexType>
```

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

2.3.3.5 CT_GvmlContentPartNonVisual

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_GvmlContentPart

A complex type which specifies non-visual properties for a **CT_GvmlContentPart**.

Child Elements:

cNvPr: A **CT_NonVisualDrawingProps** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies the non-visual drawing properties for the content part. This element provides additional information that does not affect the appearance of the content part to be stored.

cNvContentPartPr: A CT_NonVisualInkContentPartProperties element that specifies non-visual **ink** properties for the content part. This provides additional information that does not affect the appearance of ink in the content part to be stored.

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

```
<xsd:complexType name="CT_GvmlContentPartNonVisual">
  <xsd:sequence>
    <xsd:element name="cNvPr" type="a:CT_NonVisualDrawingProps" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="cNvContentPartPr" type="CT_NonVisualInkContentPartProperties"
minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

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

2.3.3.6 CT_IsGvmlCanvas

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: isCanvas

Defines a property with a Boolean value. This property determines whether the container of an instance of this complex type is a GVML representation of a **drawing canvas** used in a word processing application**.**

Attributes:

val: A Boolean attribute ([XMLSCHEMA2] section 3.2.2) that specifies whether the container instance of the complex type having this attribute is a GVML representation of a drawing canvas used in a word processing application**.**

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

```
<xsd:complexType name="CT_IsGvmlCanvas">
  <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).

2.3.3.7 CT_NonVisualInkContentPartProperties

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_ContentPartNonVisual, CT_GvmlContentPartNonVisual, CT_WordContentPartNonVisual, CT_ContentPartNonVisual

A complex type that specifies non-visual **ink** properties for a content part. This provides additional information that does not affect the appearance of ink in the content part to be stored.

Child Elements:

cpLocks: A CT_ContentPartLocking element that specifies various locking properties that prevent or restrict changes to the content part properties or restrict how a content part can be manipulated by the user.

extLst: A **CT_OfficeArtExtensionList** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies the extension list in which all future extensions of element type **ext** are defined. The extension list, along with corresponding future extensions, is used to extend the storage capabilities of the DrawingML framework. This enables new types of data to be stored natively within the framework.

Attributes:

isComment: A Boolean attribute ([XMLSCHEMA2] section 3.2.2) that specifies whether the ink shape is a **comment** or an annotation. If true, the ink is a comment; otherwise, it is an annotation.

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

```
<xsd:complexType name="CT_NonVisualInkContentPartProperties">
  <xsd:sequence>
    <xsd:element name="cpLocks" type="CT_ContentPartLocking" minOccurs="0" maxOccurs="1"/>
```

```
      <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
   maxOccurs="1"/>
     </xsd:sequence>
     <xsd:attribute name="isComment" type="xsd:boolean" use="optional" default="true"/>
   </xsd:complexType>
```

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

2.3.3.8 CT_Photo

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: imgProps

A complex type that specifies properties used to produce the embedded picture in the containing binary large image or picture (BLIP).

Child Elements:

imgLayer: A **CT_PictureLayer** element that specifies a relationship to an original picture and contains optional effects applied to the picture in the order applied.

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

```
   <xsd:complexType name="CT_Photo">
     <xsd:sequence>
       <xsd:element name="imgLayer" type="CT_PictureLayer" minOccurs="1" maxOccurs="1"/>
     </xsd:sequence>
   </xsd:complexType>
```

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

2.3.3.9 CT_PictureEffectBackgroundRemoval

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffect

A complex type that specifies a background removal effect applied to a picture. A marquee defines the rectangular region limiting the pixels that are considered to be in the foreground of a picture. Foreground and background marks further specify regions to include and exclude.

Child Elements:

foregroundMark: A **CT_PictureEffectBackgroundRemovalForegroundMark** element that specifies a line segment that marks a region to include in a picture.

backgroundMark: A **CT_PictureEffectBackgroundRemovalBackgroundMark** element that specifies a line segment that marks a region to exclude from a picture.

Attributes:

t: An **ST_PositiveFixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the top position of the marquee, relative to the height of a picture.

b: An **ST_PositiveFixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the bottom position of the marquee, relative to the height of a picture.

l: An **ST_PositiveFixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the left position of the marquee, relative to the width of a picture.

r: An **ST_PositiveFixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the right position of the marquee, relative to the width of a picture.

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

```
<xsd:complexType name="CT_PictureEffectBackgroundRemoval">
  <xsd:sequence>
    <xsd:element name="foregroundMark" type="CT_PictureEffectBackgroundRemovalForegroundMark"
minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element name="backgroundMark" type="CT_PictureEffectBackgroundRemovalBackgroundMark"
minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
  <xsd:attribute name="t" type="a:ST_PositiveFixedPercentage" use="required"/>
  <xsd:attribute name="b" type="a:ST_PositiveFixedPercentage" use="required"/>
  <xsd:attribute name="l" type="a:ST_PositiveFixedPercentage" use="required"/>
  <xsd:attribute name="r" type="a:ST_PositiveFixedPercentage" use="required"/>
</xsd:complexType>
```

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

2.3.3.10   CT_PictureEffectBackgroundRemovalBackgroundMark

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffectBackgroundRemoval

A complex type that specifies a line segment that marks a region to exclude from a picture.

Attributes:

x1: An **ST_PositiveFixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the first x coordinate of the background mark, relative to the width of a picture.

y1: An **ST_PositiveFixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the first y coordinate of the background mark, relative to the height of a picture**.**

x2: An **ST_PositiveFixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the second x coordinate of the background mark, relative to the width of a picture**.**

y2: An **ST_PositiveFixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the second y coordinate of the background mark, relative to the height of a picture.

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

```
<xsd:complexType name="CT PictureEffectBackgroundRemovalBackgroundMark">
  <xsd:attribute name="x1" type="a:ST PositiveFixedPercentage" use="required"/>
  <xsd:attribute name="y1" type="a:ST_PositiveFixedPercentage" use="required"/>
  <xsd:attribute name="x2" type="a:ST_PositiveFixedPercentage" use="required"/>
  <xsd:attribute name="y2" type="a:ST_PositiveFixedPercentage" use="required"/>
</xsd:complexType>
```

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

2.3.3.11   CT_PictureEffectBackgroundRemovalForegroundMark

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffectBackgroundRemoval

A complex type that specifies a line segment that marks a region to include in a picture.

Attributes:

x1: An **ST_PositiveFixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the first x coordinate of the foreground mark, relative to the width of a picture.

y1: An **ST_PositiveFixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the first y coordinate of the foreground mark, relative to the height of a picture.

x2: An **ST_PositiveFixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the second x coordinate of the foreground mark, relative to the width of a picture.

y2: An **ST_PositiveFixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the second y coordinate of the foreground mark, relative to the height of a picture.

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

```
<xsd:complexType name="CT_PictureEffectBackgroundRemovalForegroundMark">
  <xsd:attribute name="x1" type="a:ST_PositiveFixedPercentage" use="required"/>
  <xsd:attribute name="y1" type="a:ST_PositiveFixedPercentage" use="required"/>
  <xsd:attribute name="x2" type="a:ST_PositiveFixedPercentage" use="required"/>
  <xsd:attribute name="y2" type="a:ST_PositiveFixedPercentage" use="required"/>
</xsd:complexType>
```

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

2.3.3.12   CT_PictureEffectBlur

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffect

A complex type that specifies a blur effect applied to a picture.

The following figure demonstrates the effect applied to a picture with radius values of zero, 5, 10, 20, and 40, respectively.

Figure 1: Effect of changes to blur radius

Attributes:

radius: An **ST_ArtisticEffectParam100** attribute that specifies the blur radius.

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

```
<xsd:complexType name="CT_PictureEffectBlur">
  <xsd:attribute name="radius" type="ST_ArtisticEffectParam100" use="optional" default="10"/>
</xsd:complexType>
```

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

2.3.3.13   CT_PictureEffectBrightnessContrast

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffect

A complex type that specifies a brightness and contrast effect applied to a picture.

The following figure demonstrates the effect applied to a picture with brightness values of −40 percent, −20 percent, zero percent, +20 percent, and +40 percent, respectively.

Figure 2: Effect of changes to brightness

The following figure demonstrates the effect applied to a picture with contrast values of −40 percent, −20 percent, zero percent, +20 percent, and +40 percent, respectively.

Figure 3: Effect of changes to contrast

Attributes:

bright: An **ST_FixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the percent to change the brightness**.**

contrast: An **ST_FixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the percent to change the contrast.

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

```
<xsd:complexType name="CT_PictureEffectBrightnessContrast">
  <xsd:attribute name="bright" type="a:ST_FixedPercentage" use="optional" default="0"/>
  <xsd:attribute name="contrast" type="a:ST_FixedPercentage" use="optional" default="0"/>
</xsd:complexType>
```

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

2.3.3.14   CT_PictureEffectCement

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffect

A complex type that specifies a cement effect applied to a picture.

The following figure demonstrates the effect applied to a picture with **crackSpacing** values of zero, 25, 50, 75, and 100, respectively.

Figure 4: Effect of changes to crackSpacing

Attributes:

trans: An **ST_PositiveFixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the transparency of the effect. A value of zero percent specifies that the effect is applied fully. A value of 100 percent specifies that the effect is not applied.

crackSpacing: An **ST_ArtisticEffectParam100** attribute that specifies the appearance of the effect.

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

```
<xsd:complexType name="CT_PictureEffectCement">
  <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="0"/>
  <xsd:attribute name="crackSpacing" type="ST_ArtisticEffectParam100" use="optional"
default="24"/>
</xsd:complexType>
```

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

2.3.3.15   CT_PictureEffectChalkSketch

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffect

A complex type that specifies a chalk sketch effect applied to a picture.

The following figure demonstrates the effect applied to a picture with pressure values of zero, 1, 2, 3, and 4 respectively.

Figure 5: Effect of changes to pressure

Attributes:

trans: An **ST_PositiveFixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the transparency of the effect. A value of zero percent specifies that the effect is applied fully. A value of 100 percent specifies that the effect is not applied.

pressure: An **ST_ArtisticEffectParam4** attribute that specifies the appearance of the effect.

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

```
<xsd:complexType name="CT_PictureEffectChalkSketch">
  <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="0"/>
  <xsd:attribute name="pressure" type="ST_ArtisticEffectParam4" use="optional" default="0"/>
</xsd:complexType>
```

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

2.3.3.16   CT_PictureEffectColorTemperature

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffect

A complex type that specifies a color temperature effect applied to a picture.

The following figure demonstrates the effect applied to a picture with **colorTemperature** values of 3500, 4500, 6500, 8500, and 10500, respectively.

Figure 6: Effect of changes to colorTemperature

Attributes:

colorTemp: An **ST_ColorTemperature** attribute that specifies the color temperature of the light source in a picture.

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

```
<xsd:complexType name="CT_PictureEffectColorTemperature">
  <xsd:attribute name="colorTemp" type="ST_ColorTemperature" use="optional" default="6500"/>
</xsd:complexType>
```

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

2.3.3.17   CT_PictureEffectCrisscrossEtching

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffect

A complex type that specifies a crisscross etching effect applied to a picture.

The following figure demonstrates the effect applied to a picture with pressure values of zero, 25, 50, 75, and 100, respectively.

Figure 7: Effect of changes to pressure

Attributes:

trans: An **ST_PositiveFixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the transparency of the effect. A value of zero percent specifies that the effect is applied fully. A value of 100 percent specifies that the effect is not applied.

pressure: An **ST_ArtisticEffectParam100** attribute that specifies the appearance of the effect.

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

```
<xsd:complexType name="CT_PictureEffectCrisscrossEtching">
  <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="75"/>
  <xsd:attribute name="pressure" type="ST_ArtisticEffectParam100" use="optional"
default="30"/>
</xsd:complexType>
```

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

2.3.3.18   CT_PictureEffectCutout

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffect

A complex type that specifies a cutout effect applied to a picture.

The following figure demonstrates the effect applied to a picture with **numberOfShades** values of zero, 2, 3, 4, and 6, respectively.

Figure 8: Effect of changes to numberOfShades

Attributes:

trans: An **ST_PositiveFixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the transparency of the effect. A value of zero percent specifies that the effect is applied fully. A value of 100 percent specifies that the effect is not applied.

numberOfShades: An **ST_ArtisticEffectParam6** attribute that specifies the appearance of the effect.

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

```
<xsd:complexType name="CT_PictureEffectCutout">
  <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="0"/>
  <xsd:attribute name="numberOfShades" type="ST_ArtisticEffectParam6" use="optional"
default="2"/>
</xsd:complexType>
```

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

2.3.3.19   CT_PictureEffect

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureLayer

A complex type that specifies an effect applied to a picture. Exactly one child element MUST exist to specify the type of effect.

Child Elements:

artisticBlur: A **CT_PictureEffectBlur** element that specifies the blur picture effect.

artisticCement: A **CT_PictureEffectCement** element that specifies the cement picture effect.

artisticChalkSketch: A **CT_PictureEffectChalkSketch** element that specifies the chalk sketch picture effect.

artisticCrisscrossEtching: A **CT_PictureEffectCrisscrossEtching** element that specifies the crisscross etching picture effect.

artisticCutout: A **CT_PictureEffectCutout** element that specifies the cutout picture effect.

artisticFilmGrain: A **CT_PictureEffectFilmGrain** element that specifies the film grain picture effect.

artisticGlass: A **CT_PictureEffectGlass** element that specifies the glass picture effect.

artisticGlowDiffused: A **CT_PictureEffectGlowDiffused** element that specifies the glow diffused picture effect.

artisticGlowEdges: A **CT_PictureEffectGlowEdges** element that specifies the glow edges picture effect.

artisticLightScreen: A **CT_PictureEffectLightScreen** element that specifies the light screen picture effect.

artisticLineDrawing: A **CT_PictureEffectLineDrawing** element that specifies the line-drawing picture effect.

artisticMarker: A **CT_PictureEffectMarker** element that specifies the marker picture effect.

artisticMosiaicBubbles: A **CT_PictureEffectMosiaicBubbles** element that specifies the mosaic bubbles picture effect.

artisticPaintStrokes: A **CT_PictureEffectPaintStrokes** element that specifies the paint strokes picture effect.

artisticPaintBrush: A **CT_PictureEffectPaintBrush** element that specifies the paint-brush picture effect.

artisticPastelsSmooth: A **CT_PictureEffectPastelsSmooth** element that specifies the pastel smooth picture effect.

artisticPencilGrayscale: A **CT_PictureEffectPencilGrayscale** element that specifies the pencil grayscale picture effect.

artisticPencilSketch: A **CT_PictureEffectPencilSketch** element that specifies the pencil-sketch picture effect.

artisticPhotocopy: A **CT_PictureEffectPhotocopy** element that specifies the photocopy picture effect.

artisticPlasticWrap: A **CT_PictureEffectPlasticWrap** element that specifies the plastic wrap picture effect.

artisticTexturizer: A **CT_PictureEffectTexturizer** element that specifies the texture picture effect.

artisticWatercolorSponge: A **CT_PictureEffectWatercolorSponge** element that specifies the watercolor-sponge picture effect.

backgroundRemoval: A **CT_PictureEffectBackgroundRemoval** element that specifies the background-removal picture effect.

brightnessContrast: A **CT_PictureEffectBrightnessContrast** element that specifies the brightness and contrast picture effect.

colorTemperature: A **CT_PictureEffectColorTemperature** element that specifies the color-tone picture effect.

saturation: A **CT_PictureEffectSaturation** element that specifies the color-saturation picture effect.

sharpenSoften: A **CT_PictureEffectSharpenSoften** element that specifies the sharpen and soften picture effect.

Attributes:

visible: A Boolean attribute ([XMLSCHEMA2] section 3.2.2) that specifies whether this picture effect is rendered.

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

```
<xsd:complexType name="CT_PictureEffect">
  <xsd:choice minOccurs="1" maxOccurs="1">
    <xsd:element name="artisticBlur" type="CT_PictureEffectBlur" minOccurs="1"
maxOccurs="1"/>
    <xsd:element name="artisticCement" type="CT_PictureEffectCement" minOccurs="1"
maxOccurs="1"/>
    <xsd:element name="artisticChalkSketch" type="CT PictureEffectChalkSketch" minOccurs="1"
maxOccurs="1"/>
    <xsd:element name="artisticCrisscrossEtching" type="CT_PictureEffectCrisscrossEtching"
minOccurs="1" maxOccurs="1"/>
    <xsd:element name="artisticCutout" type="CT PictureEffectCutout" minOccurs="1"
maxOccurs="1"/>
    <xsd:element name="artisticFilmGrain" type="CT PictureEffectFilmGrain" minOccurs="1"
maxOccurs="1"/>
    <xsd:element name="artisticGlass" type="CT_PictureEffectGlass" minOccurs="1"
maxOccurs="1"/>
    <xsd:element name="artisticGlowDiffused" type="CT_PictureEffectGlowDiffused"
minOccurs="1" maxOccurs="1"/>
    <xsd:element name="artisticGlowEdges" type="CT PictureEffectGlowEdges" minOccurs="1"
maxOccurs="1"/>
    <xsd:element name="artisticLightScreen" type="CT_PictureEffectLightScreen" minOccurs="1"
maxOccurs="1"/>
```

```
    <xsd:element name="artisticLineDrawing" type="CT_PictureEffectLineDrawing" minOccurs="1"
maxOccurs="1"/>
    <xsd:element name="artisticMarker" type="CT_PictureEffectMarker" minOccurs="1"
maxOccurs="1"/>
    <xsd:element name="artisticMosiaicBubbles" type="CT_PictureEffectMosiaicBubbles"
minOccurs="1" maxOccurs="1"/>
    <xsd:element name="artisticPaintStrokes" type="CT_PictureEffectPaintStrokes"
minOccurs="1" maxOccurs="1"/>
    <xsd:element name="artisticPaintBrush" type="CT_PictureEffectPaintBrush" minOccurs="1"
maxOccurs="1"/>
    <xsd:element name="artisticPastelsSmooth" type="CT_PictureEffectPastelsSmooth"
minOccurs="1" maxOccurs="1"/>
    <xsd:element name="artisticPencilGrayscale" type="CT_PictureEffectPencilGrayscale"
minOccurs="1" maxOccurs="1"/>
    <xsd:element name="artisticPencilSketch" type="CT_PictureEffectPencilSketch"
minOccurs="1" maxOccurs="1"/>
    <xsd:element name="artisticPhotocopy" type="CT_PictureEffectPhotocopy" minOccurs="1"
maxOccurs="1"/>
    <xsd:element name="artisticPlasticWrap" type="CT_PictureEffectPlasticWrap" minOccurs="1"
maxOccurs="1"/>
    <xsd:element name="artisticTexturizer" type="CT_PictureEffectTexturizer" minOccurs="1"
maxOccurs="1"/>
    <xsd:element name="artisticWatercolorSponge" type="CT_PictureEffectWatercolorSponge"
minOccurs="1" maxOccurs="1"/>
    <xsd:element name="backgroundRemoval" type="CT_PictureEffectBackgroundRemoval"
minOccurs="1" maxOccurs="1"/>
    <xsd:element name="brightnessContrast" type="CT_PictureEffectBrightnessContrast"
minOccurs="1" maxOccurs="1"/>
    <xsd:element name="colorTemperature" type="CT_PictureEffectColorTemperature"
minOccurs="1" maxOccurs="1"/>
    <xsd:element name="saturation" type="CT_PictureEffectSaturation" minOccurs="1"
maxOccurs="1"/>
    <xsd:element name="sharpenSoften" type="CT_PictureEffectSharpenSoften" minOccurs="1"
maxOccurs="1"/>
  </xsd:choice>
  <xsd:attribute name="visible" type="xsd:boolean" use="optional" default="true"/>
</xsd:complexType>
```

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

2.3.3.20   CT_PictureEffectFilmGrain

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffect

A complex type that specifies a film grain effect applied to a picture.

The following figure demonstrates the effect applied to a picture with **grainSize** values of zero, 25, 50, 75, and 100, respectively.

Figure 9: Effect of changes to grainSize

Attributes:

trans: An **ST_PositiveFixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the transparency of the effect. A value of zero percent specifies that the effect is applied fully. A value of 100 percent specifies that the effect is not applied.

grainSize: An **ST_ArtisticEffectParam100** attribute that specifies the appearance of the effect.

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

```
<xsd:complexType name="CT_PictureEffectFilmGrain">
  <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="0"/>
  <xsd:attribute name="grainSize" type="ST_ArtisticEffectParam100" use="optional"
default="40"/>
</xsd:complexType>
```

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

2.3.3.21 CT_PictureEffectGlass

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffect

A complex type that specifies a glass effect applied to a picture.

The following figure demonstrates the effect applied to a picture with scaling values of zero, 25, 50, 75, and 100, respectively.

Figure 10: Effect of changes to scaling

Attributes:

trans: An **ST_PositiveFixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the transparency of the effect. A value of zero percent specifies that the effect is applied fully. A value of 100 percent specifies that the effect is not applied.

scaling: An **ST_ArtisticEffectParam100** attribute that specifies the appearance of the effect.

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

```
<xsd:complexType name="CT_PictureEffectGlass">
  <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="0"/>
  <xsd:attribute name="scaling" type="ST_ArtisticEffectParam100" use="optional"
default="34"/>
</xsd:complexType>
```

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

2.3.3.22 CT_PictureEffectGlowDiffused

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffect

A complex type that specifies a glow diffused effect applied to a picture.

The following figure demonstrates the effect applied to a picture with intensity values of zero, 2, 5, 7, and 10, respectively.

Figure 11: Effect of changes to intensity

Attributes:

trans: An **ST_PositiveFixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the transparency of the effect. A value of zero percent specifies that the effect is applied fully. A value of 100 percent specifies that the effect is not applied.

intensity: An **ST_ArtisticEffectParam10** attribute that specifies the appearance of the effect.

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

```
<xsd:complexType name="CT_PictureEffectGlowDiffused">
  <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="0"/>
  <xsd:attribute name="intensity" type="ST_ArtisticEffectParam10" use="optional"
default="5"/>
</xsd:complexType>
```

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

2.3.3.23 CT_PictureEffectGlowEdges

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffect

A complex type that specifies a glow edges effect applied to a picture.

The following figure demonstrates the effect applied to a picture with smoothness values of zero, 2, 5, 7, and 10, respectively.

Figure 12: Effect of changes to smoothness

Attributes:

trans: An **ST_PositiveFixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the transparency of the effect. A value of zero percent specifies that the effect is applied fully. A value of 100 percent specifies that the effect is not applied.

smoothness: An **ST_ArtisticEffectParam10** attribute that specifies the appearance of the effect.

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

```
<xsd:complexType name="CT_PictureEffectGlowEdges">
  <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="15"/>
  <xsd:attribute name="smoothness" type="ST_ArtisticEffectParam10" use="optional"
default="3"/>
</xsd:complexType>
```

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

2.3.3.24   CT_PictureEffectLightScreen

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffect

A complex type that specifies a light screen effect applied to a picture.

The following figure demonstrates the effect applied to a picture with **gridSize** values of zero, 2, 5, 7, and 10, respectively.

Figure 13: Effect of changes to gridSize

Attributes:

trans: An **ST_PositiveFixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the transparency of the effect. A value of zero percent specifies that the effect is applied fully. A value of 100 percent specifies that the effect is not applied.

gridSize: An **ST_ArtisticEffectParam10** attribute that specifies the appearance of the effect.

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

```
<xsd:complexType name="CT_PictureEffectLightScreen">
  <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="0"/>
  <xsd:attribute name="gridSize" type="ST_ArtisticEffectParam10" use="optional" default="4"/>
</xsd:complexType>
```

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

2.3.3.25   CT_PictureEffectLineDrawing

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffect

A complex type that specifies a line drawing effect applied to a picture.

The following figure demonstrates the effect applied to a picture with **pencilSize** values of zero, 25, 50, 75, and 100, respectively.

Figure 14: Effect of changes to pencilSize

Attributes:

trans: An **ST_PositiveFixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the transparency of the effect. A value of zero percent specifies that the effect is applied fully. A value of 100 percent specifies that the effect is not applied.

pencilSize: An **ST_ArtisticEffectParam100** attribute that specifies the appearance of the effect.

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

```
<xsd:complexType name="CT_PictureEffectLineDrawing">
  <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="25"/>
  <xsd:attribute name="pencilSize" type="ST_ArtisticEffectParam100" use="optional"
default="0"/>
</xsd:complexType>
```

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

2.3.3.26   CT_PictureEffectMarker

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffect

A complex type that specifies a marker effect applied to a picture.

The following figure demonstrates the effect applied to a picture with size values of zero, 25, 50, 75, and 100, respectively.

Figure 15: Effect of changes to size

Attributes:

trans: An **ST_PositiveFixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the transparency of the effect. A value of zero percent specifies that the effect is applied fully. A value of 100 percent specifies that the effect is not applied.

size: An **ST_ArtisticEffectParam100** attribute that specifies the appearance of the effect.

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

```
<xsd:complexType name="CT_PictureEffectMarker">
  <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="0"/>
  <xsd:attribute name="size" type="ST ArtisticEffectParam100" use="optional" default="97"/>
</xsd:complexType>
```

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

2.3.3.27   CT_PictureEffectMosiaicBubbles

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffect

A complex type that specifies a mosaic bubbles effect applied to a picture.

The following figure demonstrates the effect applied to a picture with pressure values of zero, 25, 50, 75, and 100, respectively.

Figure 16: Effect of changes to pressure

Attributes:

trans: An **ST_PositiveFixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the transparency of the effect. A value of zero percent specifies that the effect is applied fully. A value of 100 percent specifies that the effect is not applied.

pressure: An **ST_ArtisticEffectParam100** attribute that specifies the appearance of the effect.

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

```
<xsd:complexType name="CT PictureEffectMosiaicBubbles">
  <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="0"/>
  <xsd:attribute name="pressure" type="ST_ArtisticEffectParam100" use="optional"
default="14"/>
</xsd:complexType>
```

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

2.3.3.28   CT_PictureEffectPaintBrush

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffect

A complex type that specifies a paint brush effect applied to a picture.

The following figure demonstrates the effect applied to a picture with **brushSize** values of zero, 2, 5, 7, and 10, respectively.

Figure 17: Effect of changes to brushSize

Attributes:

trans: An **ST_PositiveFixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the transparency of the effect. A value of zero percent specifies that the effect is applied fully. A value of 100 percent specifies that the effect is not applied.

brushSize: An **ST_ArtisticEffectParam10** attribute that specifies the appearance of the effect.

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

```
<xsd:complexType name="CT_PictureEffectPaintBrush">
  <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="0"/>
  <xsd:attribute name="brushSize" type="ST_ArtisticEffectParam10" use="optional"
default="2"/>
</xsd:complexType>
```

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

2.3.3.29   CT_PictureEffectPaintStrokes

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffect

A complex type that specifies a paint strokes effect applied to a picture.

The following figure demonstrates the effect applied to a picture with intensity values of zero, 2, 5, 7, and 10, respectively.

Figure 18: Effect of changes to intensity

Attributes:

trans: An **ST_PositiveFixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the transparency of the effect. A value of zero percent specifies that the effect is applied fully. A value of 100 percent specifies that the effect is not applied.

intensity: An **ST_ArtisticEffectParam10** attribute that specifies the appearance of the effect.

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

```
<xsd:complexType name="CT_PictureEffectPaintStrokes">
  <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="0"/>
  <xsd:attribute name="intensity" type="ST_ArtisticEffectParam10" use="optional"
default="5"/>
</xsd:complexType>
```

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

2.3.3.30   CT_PictureEffectPastelsSmooth

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffect

A complex type that specifies a pastel smooth effect applied to a picture.

The following figure demonstrates the effect applied to a picture with scaling values of zero, 25, 50, 75, and 100, respectively.

Figure 19: Effect of changes to scaling

Attributes:

trans: An **ST_PositiveFixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the transparency of the effect. A value of zero percent specifies that the effect is applied fully. A value of 100 percent specifies that the effect is not applied.

scaling: An **ST_ArtisticEffectParam100** attribute that specifies the appearance of the effect.

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

```
<xsd:complexType name="CT_PictureEffectPastelsSmooth">
  <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="0"/>
  <xsd:attribute name="scaling" type="ST_ArtisticEffectParam100" use="optional"
default="34"/>
</xsd:complexType>
```

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

2.3.3.31 CT_PictureEffectPencilGrayscale

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffect

A complex type that specifies a pencil grayscale effect applied to a picture.

The following figure demonstrates the effect applied to a picture with **pencilSize** values of zero, 25, 50, 75, and 100, respectively.
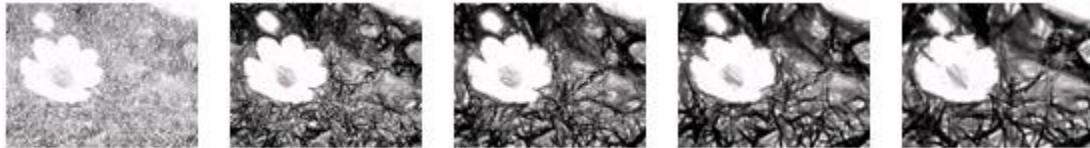
Figure 20: Effect of changes to pencilSize

Attributes:

trans: An **ST_PositiveFixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the transparency of the effect. A value of zero percent specifies that the effect is applied fully. A value of 100 percent specifies that the effect is not applied.

pencilSize: An **ST_ArtisticEffectParam100** attribute that specifies the appearance of the effect.

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

```
<xsd:complexType name="CT_PictureEffectPencilGrayscale">
  <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="0"/>
  <xsd:attribute name="pencilSize" type="ST_ArtisticEffectParam100" use="optional"
default="27"/>
</xsd:complexType>
```

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

2.3.3.32 CT_PictureEffectPencilSketch

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffect

A complex type that specifies a pencil sketch effect applied to a picture.

The following figure demonstrates the effect applied to a picture with pressure values of zero, 25, 50, 75, and 100, respectively.

Figure 21: Effect of changes to pressure

Attributes:

trans: An **ST_PositiveFixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the transparency of the effect. A value of zero percent specifies that the effect is applied fully. A value of 100 percent specifies that the effect is not applied.

pressure: An **ST_ArtisticEffectParam100** attribute that specifies the appearance of the effect.

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

```
<xsd:complexType name="CT_PictureEffectPencilSketch">
  <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="0"/>
  <xsd:attribute name="pressure" type="ST ArtisticEffectParam100" use="optional"
default="22"/>
</xsd:complexType>
```

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

2.3.3.33 CT_PictureEffectPhotocopy

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffect

A complex type that specifies a photocopy effect applied to a picture.

The following figure demonstrates the effect applied to a picture with **detail** values of zero, 2, 5, 7, and 10, respectively.

Figure 22: Effect of changes to detail

Attributes:

trans: An **ST_PositiveFixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the transparency of the effect. A value of zero percent specifies that the effect is applied fully. A value of 100 percent specifies that the effect is not applied.

detail: An **ST_ArtisticEffectParam10** attribute that specifies the appearance of the effect.

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

```
<xsd:complexType name="CT_PictureEffectPhotocopy">
  <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="30"/>
  <xsd:attribute name="detail" type="ST ArtisticEffectParam10" use="optional" default="3"/>
</xsd:complexType>
```

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

2.3.3.34 CT_PictureEffectPlasticWrap

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffect

A complex type that specifies a plastic wrap effect applied to a picture.

The following figure demonstrates the effect applied to a picture with smoothness values of zero, 2, 5, 7, and 10, respectively.

Figure 23: Effect of changes to smoothness

Attributes:

trans: An **ST_PositiveFixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the transparency of the effect. A value of zero percent specifies that the effect is applied fully. A value of 100 percent specifies that the effect is not applied.

smoothness: An **ST_ArtisticEffectParam10** attribute that specifies the appearance of the effect.

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

```
<xsd:complexType name="CT_PictureEffectPlasticWrap">
  <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="0"/>
  <xsd:attribute name="smoothness" type="ST_ArtisticEffectParam10" use="optional"
default="5"/>
</xsd:complexType>
```

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

2.3.3.35 CT_PictureEffectSaturation

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffect

A complex type that specifies a saturation effect applied to a picture.

The following figure demonstrates the effect applied to a picture with saturation values of zero percent, 50 percent, 100 percent, 200 percent, and 400 percent, respectively.

Figure 24: Effect of changes to saturation

Attributes:

sat: An **ST_SaturationAmount** attribute that specifies the amount of saturation applied to a picture.

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

```
<xsd:complexType name="CT_PictureEffectSaturation">
  <xsd:attribute name="sat" type="ST SaturationAmount" use="optional" default="100"/>
</xsd:complexType>
```

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

2.3.3.36   CT_PictureEffectSharpenSoften

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffect

A complex type that specifies a sharpen and soften effect applied to a picture.

The following figure demonstrates the effect applied to a picture with **sharpenSoften** values of –100 percent, –50 percent, zero percent, +50 percent, and +100 percent, respectively.

Figure 25: Effect of changes to sharpenSoften

Attributes:

amount: An **ST_FixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the amount to sharpen (if positive) or the amount to blur (if negative).

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

```
<xsd:complexType name="CT_PictureEffectSharpenSoften">
  <xsd:attribute name="amount" type="a:ST_FixedPercentage" use="optional" default="0"/>
</xsd:complexType>
```

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

2.3.3.37   CT_PictureEffectTexturizer

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffect

A complex type that specifies a texture effect applied to a picture.

The following figure demonstrates the effect applied to a picture with scaling values of zero, 25, 50, 75, and 100, respectively.

Figure 26: Effect of changes to scaling

Attributes:

trans: An **ST_PositiveFixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the transparency of the effect. A value of zero percent specifies that the effect is applied fully. A value of 100 percent specifies that the effect is not applied.

scaling: An **ST_ArtisticEffectParam100** attribute that specifies the appearance of the effect.

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

```
<xsd:complexType name="CT_PictureEffectTexturizer">
  <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="0"/>
  <xsd:attribute name="scaling" type="ST_ArtisticEffectParam100" use="optional"
default="34"/>
</xsd:complexType>
```

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

2.3.3.38   CT_PictureEffectWatercolorSponge

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffect

A complex type that specifies a watercolor sponge effect applied to a picture.

The following figure demonstrates the effect applied to a picture with **brushSize** values of zero, 2, 5, 7, and 10, respectively.

Figure 27: Effect of changes to brushSize

Attributes:

trans: An **ST_PositiveFixedPercentage** attribute ([ISO/IEC29500-1:2012] section A.4.1) that specifies the transparency of the effect. A value of zero percent specifies that the effect is applied fully. A value of 100 percent specifies that the effect is not applied.

brushSize: An **ST_ArtisticEffectParam10** attribute that specifies the appearance of the effect.

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

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

```
      <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
   default="0"/>
      <xsd:attribute name="brushSize" type="ST_ArtisticEffectParam10" use="optional"
   default="2"/>
   </xsd:complexType>
```

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

2.3.3.39   CT_PictureLayer

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_Photo

A complex type that specifies a relationship to an original picture and contains optional effects applied to the picture in the order applied.

Child Elements:

imgEffect: A **CT_PictureEffect** element that specifies an effect applied to the picture.

Attributes:

r:embed: An **ST_RelationshipId** attribute ([ISO/IEC29500-1:2012] section 22.8.2.1) that specifies the relationship identifier that is used to determine the location of the picture.

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

```
   <xsd:complexType name="CT_PictureLayer">
     <xsd:sequence>
       <xsd:element name="imgEffect" type="CT_PictureEffect" minOccurs="0"
   maxOccurs="unbounded"/>
     </xsd:sequence>
     <xsd:attribute ref="r:embed" use="optional" default=""/>
   </xsd:complexType>
```

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

2.3.3.40   CT_ShadowObscured

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: shadowObscured

A complex type that specifies whether the shadow is obscured by a **shape** with no fill.

Attributes:

val: A Boolean attribute ([XMLSCHEMA2] section 3.2.2) that specifies whether the shadow is fully obscured by the shape when the containing shape has no fill. For more details, see [MS-ODRAW] section 2.3.13.22 and [ISO/IEC29500-1:2012] section 19.3.1.44.

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

```
   <xsd:complexType name="CT_ShadowObscured">
     <xsd:attribute name="val" type="xsd:boolean" use="optional" default="false"/>
```

```
            </xsd:complexType>
```

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

2.3.3.41 CT_TextMath

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: m

This type contains either a math zone or document-level math properties. Math zone content can be either an inline math zone or a math paragraph.

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

```
    <xsd:complexType name="CT_TextMath"/>
```

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

2.3.3.42 CT_UseLocalDpi

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: useLocalDpi

A complex type that specifies a flag indicating that the local BLIP compression setting overrides the document default compression setting.

Attributes:

val: A Boolean attribute ([XMLSCHEMA2] section 3.2.2) that specifies whether the **cstate** attribute ([ISO/IEC29500-1:2012] section 20.1.10.12) of the containing BLIP overrides the document default compression setting as specified in [MS-PPTX] section 2.3.1.5, [MS-DOCX] section 2.6.1.12, and [MS-XLSX] section 2.6.10.

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

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

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

2.3.4 Simple Types

2.3.4.1 ST_ArtisticEffectParam10

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffectGlowDiffused, CT_PictureEffectGlowEdges, CT_PictureEffectLightScreen, CT_PictureEffectPaintBrush, CT_PictureEffectPaintStrokes, CT_PictureEffectPhotocopy, CT_PictureEffectPlasticWrap, CT_PictureEffectWatercolorSponge

A simple type that specifies a parameter value for an artistic picture effect in the range from zero through 10.

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

```
<xsd:simpleType name="ST_ArtisticEffectParam10">
  <xsd:restriction base="xsd:int">
    <xsd:minInclusive value="0"/>
    <xsd:maxInclusive value="10"/>
  </xsd:restriction>
</xsd:simpleType>
```

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

2.3.4.2 ST_ArtisticEffectParam100

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffectBlur, CT_PictureEffectCement, CT_PictureEffectCrisscrossEtching, CT_PictureEffectFilmGrain, CT_PictureEffectGlass, CT_PictureEffectLineDrawing, CT_PictureEffectMarker, CT_PictureEffectMosaicBubbles, CT_PictureEffectPastelsSmooth, CT_PictureEffectPencilGrayscale, CT_PictureEffectPencilSketch, CT_PictureEffectTexturizer

A simple type that specifies a parameter value for an artistic picture effect in the range from zero through 100.

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

```
<xsd:simpleType name="ST_ArtisticEffectParam100">
  <xsd:restriction base="xsd:int">
    <xsd:minInclusive value="0"/>
    <xsd:maxInclusive value="100"/>
  </xsd:restriction>
</xsd:simpleType>
```

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

2.3.4.3 ST_ArtisticEffectParam4

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffectChalkSketch

A simple type that specifies a parameter value for an artistic picture effect in the range from zero through 4.

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

```
<xsd:simpleType name="ST_ArtisticEffectParam4">
  <xsd:restriction base="xsd:int">
    <xsd:minInclusive value="0"/>
    <xsd:maxInclusive value="4"/>
  </xsd:restriction>
</xsd:simpleType>
```

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

2.3.4.4 ST_ArtisticEffectParam6

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffectCutout

A simple type that specifies a parameter value for an artistic picture effect in the range from zero through 6.

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

```
<xsd:simpleType name="ST_ArtisticEffectParam6">
  <xsd:restriction base="xsd:int">
    <xsd:minInclusive value="0"/>
    <xsd:maxInclusive value="6"/>
  </xsd:restriction>
</xsd:simpleType>
```

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

2.3.4.5 ST_ColorTemperature

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffectColorTemperature

A simple type that specifies a color temperature value in the range from 1500 through 11500.

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

```
<xsd:simpleType name="ST_ColorTemperature">
  <xsd:restriction base="xsd:int">
    <xsd:minInclusive value="1500"/>
    <xsd:maxInclusive value="11500"/>
  </xsd:restriction>
</xsd:simpleType>
```

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

2.3.4.6 ST_LegacySpreadsheetColorIndex

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: legacySpreadsheetColorIndex

This type MUST be used only to define a **legacySpreadsheetColorIndex**.

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

```
<xsd:simpleType name="ST_LegacySpreadsheetColorIndex">
  <xsd:restriction base="xsd:int">
    <xsd:minInclusive value="0"/>
    <xsd:maxInclusive value="80"/>
```

```
    </xsd:restriction>
  </xsd:simpleType>
```

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

2.3.4.7 ST_SaturationAmount

Target namespace: http://schemas.microsoft.com/office/drawing/2010/main

Referenced by: CT_PictureEffectSaturation

A simple type that specifies the amount of saturation in the range from zero percent through 400 percent, in one-thousandths of a percent. For more details, see [ISO/IEC29500-1:2012] section 20.1.10.40.

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

```
    <xsd:simpleType name="ST_SaturationAmount">
      <xsd:restriction base="a:ST_Percentage">
        <xsd:minInclusive value="0"/>
        <xsd:maxInclusive value="400000"/>
      </xsd:restriction>
    </xsd:simpleType>
```

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

2.4   http://schemas.microsoft.com/office/thememl/2012/main

2.4.1   Elements

2.4.1.1   themeFamily

Target namespace: http://schemas.microsoft.com/office/thememl/2012/main

A CT_ThemeFamily element that specifies the data about the applied theme.

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

```
    <xsd:element name="themeFamily" type="CT_ThemeFamily"/>
```

See section 5.17 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.4.2   Attributes

2.4.2.1   id

Target namespace: http://schemas.microsoft.com/office/thememl/2012/main

An **ST_Guid** ([ISO/IEC29500-1:2012] section 22.9.2.4) attribute that specifies the **GUID** of the signature line object. This attribute is deprecated and it SHOULD NOT be used.

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

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

See section 5.17 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.4.3 Complex Types

2.4.3.1 CT_ThemeFamily

Target namespace: http://schemas.microsoft.com/office/thememl/2012/main

Referenced by: themeFamily

CT_ThemeFamily contains information about the currently applied theme.

Child Elements:

extLst: A **CT_OfficeArtExtensionList** [ISO/IEC29500-1:2012] element that specifies the extension list in which all future extensions of element type **ext** is defined.

Attributes:

name: A string attribute that specifies the name of applied theme.

id: An **ST_Guid** ([ISO/IEC29500-1:2012] section 22.9.2.4) attribute that specifies the **GUID** of the applied theme.

vid: An **ST_Guid** attribute that specifies the GUID of the applied variant.

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

```
<xsd:complexType name="CT_ThemeFamily">
  <xsd:sequence>
    <xsd:element name="extLst" type="a:CT OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="name" type="xsd:string" use="required"/>
  <xsd:attribute name="id" type="a:ST_Guid" use="required"/>
  <xsd:attribute name="vid" type="a:ST_Guid" use="required"/>
</xsd:complexType>
```

See section 5.17 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.4.4 Simple Types

None.

2.5   http://schemas.microsoft.com/office/drawing/2010/chartDrawing

2.5.1   Elements

2.5.1.1   contentPart

Target namespace: http://schemas.microsoft.com/office/drawing/2010/chartDrawing

A CT_ContentPart element that specifies a reference to XML content in a format not specified in [ISO/IEC29500-1:2012].

This element serves the same purpose as the **contentPart** element in SpreadsheetML Drawing ([ISO/IEC29500-1:2012] section 20.5.2.12), but appears under **CT_GroupShape** and **EG_ObjectChoices** ([ISO/IEC29500-1:2012] section A.5.1) to enable content parts in charts.

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

```
    <xsd:element name="contentPart" type="CT_ContentPart"/>
```

See section 5.8 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.5.2   Attributes

None.

2.5.3   Complex Types

2.5.3.1   CT_ApplicationNonVisualDrawingProps

Target namespace: http://schemas.microsoft.com/office/drawing/2010/chartDrawing

Referenced by: CT_ContentPart

A complex type that specifies Chart DrawingML-specific non-visual properties of a content part.

Attributes:

macro: A string ([XMLSCHEMA2] section 3.2.1) that specifies the name of the custom function associated with the content part.
The format of this string is application-defined and SHOULD be ignored if not understood.<44>

fPublished: A Boolean attribute ([XMLSCHEMA2] section 3.2.2) that specifies whether the content part is published with the chart when sent to the server.

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

```
    <xsd:complexType name="CT_ApplicationNonVisualDrawingProps">
      <xsd:attribute name="macro" type="xsd:string" use="optional"/>
      <xsd:attribute name="fPublished" type="xsd:boolean" use="optional" default="false"/>
    </xsd:complexType>
```

See section 5.8 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.5.3.2 CT_ContentPart

Target namespace: http://schemas.microsoft.com/office/drawing/2010/chartDrawing

Referenced by: contentPart

A complex type that specifies a reference to XML content in a format not specified in [ISO/IEC29500-1:2012].

This element serves the same purpose as the **contentPart** element in SpreadsheetML Drawing ([ISO/IEC29500-1:2012] section 20.5.2.12), but appears under **CT_GroupShape** and **EG_ObjectChoices** ([ISO/IEC29500-1:2012] section A.5.1) to enable content parts in charts.

Child Elements:

nvContentPartPr: A CT_ContentPartNonVisual element that specifies non-visual properties of the content part.

nvPr: A CT_ApplicationNonVisualDrawingProps element that specifies non-visual Chart DrawingML-specific properties.

xfrm: A CT_Transform2D element ([ISO/IEC29500-1:2012] section A.4.1) that specifies the 2-D transform for the content part.

extLst: A CT_OfficeArtExtensionList element ([ISO/IEC29500-1:2012] section A.4.1) that specifies the extension list in which all future extensions of element type **ext** are defined. The extension list, along with corresponding future extensions, is used to extend the storage capabilities of the DrawingML framework. This enables various new types of data to be stored natively in the framework.

Attributes:

r:id: An ST_RelationshipId attribute ([ISO/IEC29500-1:2012] section 22.8.2.1) that specifies the relationship identifier to a content part.

bwMode: An ST_BlackWhiteMode attribute ([ISO/IEC29500-1:2012] section 20.1.10.10) 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

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

```
<xsd:complexType name="CT_ContentPart">
  <xsd:sequence>
    <xsd:element name="nvContentPartPr" type="CT_ContentPartNonVisual" minOccurs="0"
maxOccurs="1"/>
    <xsd:element name="nvPr" type="CT ApplicationNonVisualDrawingProps" minOccurs="0"
maxOccurs="1"/>
    <xsd:element name="xfrm" type="a:CT_Transform2D" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute ref="r:id" use="required"/>
  <xsd:attribute name="bwMode" type="a:ST_BlackWhiteMode" use="optional" default="auto"/>
</xsd:complexType>
```

See section 5.8 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.5.3.3 CT_ContentPartNonVisual

Target namespace: http://schemas.microsoft.com/office/drawing/2010/chartDrawing

Referenced by: CT_ContentPart

A complex type that specifies non-visual properties of a CT_ContentPart element.

Child Elements:

cNvPr: A **CT_NonVisualDrawingProps** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the non-visual drawing properties for the content part. This allows for additional information that does not affect the appearance of the content part to be stored.

cNvContentPartPr: A CT_NonVisualInkContentPartProperties element that specifies non-visual **ink** properties of the content part. This enables additional information that does not affect the appearance of ink in the content part to be stored.

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:sequence>
</xsd:complexType>
```

See section 5.8 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.5.4 Simple Types

None.

2.6 http://schemas.microsoft.com/office/drawing/2012/chart

2.6.1 Elements

2.6.1.1 autoCat

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

autoCat is a **CT_Boolean** element<45> ([ISO/IEC29500-1:2012] section A.5.1) that specifies whether the captions of the data points in this chart series ([ISO/IEC29500-1:2012] section 21.2) were automatically generated. This element is present only if the chart series ([ISO/IEC29500-1:2012] section 21.2) has filtered data points in it.

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

```
<xsd:element name="autoCat" type="c:CT_Boolean"/>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.1.2 categoryFilterExceptions

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

categoryFilterExceptions is a CT_CategoryFilterExceptions element<46> that contains a list of CT_CategoryFilterException entries. Each entry corresponds to a single data point in the chart series ([ISO/IEC29500-1:2012] section 21.2), that has been filtered out. Each entry specifies special formatting properties associated with that data point.

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

```
<xsd:element name="categoryFilterExceptions" type="CT_CategoryFilterExceptions"/>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.1.3 datalabelsRange

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

datalabelsRange is a CT_SeriesDataLabelsRange element<47> that specifies the reference to the formula from which the values of dLbls element ([ISO/IEC29500-1:2012] section 21.2.2.49) on a chart series ([ISO/IEC29500-1:2012] section 21.2) are obtained.

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

```
<xsd:element name="datalabelsRange" type="CT_SeriesDataLabelsRange"/>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.1.4 dlblFieldTable

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

The **dlblFieldTable** element is a **CT_DataLabelFieldTable** element<48> (section 2.6.3.3) that contains a list of **CT_DataLabelFieldTableEntry** entries (section 2.6.3.4). Each entry corresponds to a text field in a **Datalabel** (section 2.2.1.3) whose value is obtained from a formula reference.

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

```
<xsd:element name="dlblFieldTable" type="CT_DataLabelFieldTable"/>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.1.5 filteredAreaSeries

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

A CT_FilteredAreaSer element<49> that specifies a chart area series ([ISO/IEC29500-1:2012] section 21.2.2.168) that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2).

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

```
    <xsd:element name="filteredAreaSeries" type="CT_FilteredAreaSer"/>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.1.6 filteredBarSeries

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

A CT_FilteredBarSer element<50> that specifies a chart bar series ([ISO/IEC29500-1:2012] section 21.2.2.170) that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2).

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

```
    <xsd:element name="filteredBarSeries" type="CT_FilteredBarSer"/>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.1.7 filteredBubbleSeries

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

A CT_FilteredBubbleSer element<51> that specifies a chart bubble series ([ISO/IEC29500-1:2012] section 21.2.2.174) that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2).

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

```
    <xsd:element name="filteredBubbleSeries" type="CT_FilteredBubbleSer"/>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.1.8 filteredCategoryTitle

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

A CT_FilteredCategoryTitle element<52> that specifies a chart ([ISO/IEC29500-1:2012] section 21.2) category title that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2).

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

```
    <xsd:element name="filteredCategoryTitle" type="CT_FilteredCategoryTitle"/>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.1.9 filteredLineSeries

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

A CT_FilteredLineSer element<53> that specifies a chart line series ([ISO/IEC29500-1:2012] section 21.2.2.171) that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2).

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

```
<xsd:element name="filteredLineSeries" type="CT_FilteredLineSer"/>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.1.10   filteredPieSeries

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

A CT_FilteredPieSer element<54> that specifies a chart pie series ([ISO/IEC29500-1:2012] section 21.2.2.172) that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2).

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

```
<xsd:element name="filteredPieSeries" type="CT_FilteredPieSer"/>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.1.11   filteredRadarSeries

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

A CT_FilteredRadarSer element<55> that specifies a chart radar series ([ISO/IEC29500-1:2012] section 21.2.2.169) that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2).

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

```
<xsd:element name="filteredRadarSeries" type="CT_FilteredRadarSer"/>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.1.12   filteredScatterSeries

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

A CT_FilteredScatterSer element<56> that specifies a chart scatter series ([ISO/IEC29500-1:2012] section 21.2.2.167) that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2).

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

```
<xsd:element name="filteredScatterSeries" type="CT_FilteredScatterSer"/>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.1.13   filteredSeriesTitle

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

A CT_FilteredSeriesTitle element<57> that specifies a chart ([ISO/IEC29500-1:2012] section 21.2) series title that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2).

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

```
<xsd:element name="filteredSeriesTitle" type="CT_FilteredSeriesTitle"/>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.1.14   filteredSurfaceSeries

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

A CT_FilteredSurfaceSer element<58> that specifies a chart surface series ([ISO/IEC29500-1:2012] section 21.2.2.173) that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2).

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

```
<xsd:element name="filteredSurfaceSeries" type="CT_FilteredSurfaceSer"/>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.1.15   formulaRef

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

A **CT_FormulaRef** element (section 2.6.3.15) that specifies the visible data source reference for filtered out chart ([ISO/IEC29500-1:2012] section 21.2) series data. This element specifies the reference for the series caption or values or category labels for a chart series that is filtered out from the chart.

This reference is in the form of a book, sheet, and cell reference. This reference does not include the equals sign.

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

```
<xsd:element name="formulaRef" type="CT_FormulaRef"/>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.1.16   fullRef

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

A CT_FullRef element<59> that specifies the non-filtered data source reference for filtered out chart ([ISO/IEC29500-1:2012] section 21.2) series data.

This reference is in the form of a book, sheet, and cell reference. This reference does not include the equals sign.

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

```
<xsd:element name="fullRef" type="CT_FullRef"/>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.1.17 layout

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

layout<60> is a **CT_Layout** ([ISO/IEC29500-1:2012] section A.5.1) element<61> whose child element **manualLayout** ([ISO/IEC29500-1:2012] section A.5.1) specifies the manual layout for a **Datalabel** (section 2.2.1.3) or the parent **Datalabels** object (section 2.2.1.2).

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

```
<xsd:element name="layout" type="c:CT_Layout"/>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.1.18 leaderLines

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

leaderLines is a **CT_ChartLines** ([ISO/IEC29500-1:2012] section A.5.1) element<62> that specifies the formatting of leader lines, which are chart lines that connect data labels to their corresponding chart series points.

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

```
<xsd:element name="leaderLines" type="c:CT_ChartLines"/>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.1.19 levelRef

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

A CT_LevelRef element<63> that specifies the data source reference for the currently selected label level for a chart ([ISO/IEC29500-1:2012] section 21.2) category axis or a chart ([ISO/IEC29500-1:2012] section 21.2) series title.

This reference is in the form of a book, sheet, and cell reference. This reference does not include the equals sign.

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

```
<xsd:element name="levelRef" type="CT_LevelRef"/>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.1.20   numFmt

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

A **CT_NumFmt** ([ISO/IEC29500-1:2012] section A.5.1) element<64> that specifies number formatting for elements of type CT_CatAx ([ISO/IEC29500-1:2012] section A.5.1), CT_DateAx ([ISO/IEC29500-1:2012] section A.5.1), CT_SerAx ([ISO/IEC29500-1:2012] section A.5.1) and CT_ValAx ([ISO/IEC29500-1:2012] section A.5.1). MUST NOT exist if the **CT_ExtensionList** ([ISO/IEC29500-1:2012] section A.3) element of the parent **CT_ChartSpace** element ([ISO/IEC29500-4:2012] section A.5.1) does not have a child **CT_PivotSource** element ([ISO/IEC29500-4:2012] section A.5.1).

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

```
    <xsd:element name="numFmt" type="c:CT_NumFmt"/>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.1.21   pivotSource

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

A **CT_PivotSource** ([ISO/IEC29500-4:2012] section A.5.1) element<65> that specifies the source pivot table for a pivot chart. MUST exist only if the pivot table associated with the chart ([ISO/IEC29500-1:2012] section 21.2) is a Non-WorkSheet PivotTable ([MS-XLSX] section 2.3.3 and [MS-XLSB] section 2.2.5.5).

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

```
    <xsd:element name="pivotSource" type="c:CT_PivotSource"/>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.1.22   showDataLabelsRange

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

The **showDataLabelsRange** element is a **CT_Boolean** element<66> ([ISO/IEC29500-1:2012] section A.5.1) that specifies whether the value from the **datalabelsrange** (section 2.6.1.3) is shown in this **Datalabel** (section 2.2.1.3). If set to true, the value from the **datalabelsrange** corresponding to the index of this **Datalabel** in the chart series ([ISO/IEC29500-1:2012] section 21.2) is shown in this **Datalabel**. The value will be shown as the first field in the **Datalabel's** text.

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

```
    <xsd:element name="showDataLabelsRange" type="c:CT_Boolean"/>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.1.23   showLeaderLines

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

The **showLeaderLines** element is a **CT_Boolean** ([ISO/IEC29500-1:2012] section A.5.1) element<67> that specifies whether leader lines, which are chart lines that connect data labels to their corresponding chart series points, are allowed to be displayed for this set of **Datalabels** (section 2.2.1.3). If leader lines are displayed, the formatting from the **leaderLines** (section 2.6.1.18) is used for the leader lines of these **Datalabels**.

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

```
<xsd:element name="showLeaderLines" type="c:CT_Boolean"/>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.1.24   spPr

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

The **spPr** element is a **CT_ShapeProperties** ([ISO/IEC29500-1:2012] section A.4.1) element<68> that specifies the **shape** geometry for a **Datalabel** (section 2.2.1.3).

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

```
<xsd:element name="spPr" type="a:CT_ShapeProperties"/>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.1.25   tx

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

The **tx** element is a **CT_Tx** ([ISO/IEC29500-1:2012] section 21.2.2.215) element<69> that specifies the text string stored in the default **Datalabel** (section 2.2.1.3) of a chart series ([ISO/IEC29500-1:2012] section 21.2). This string represents the text that will be shown in every **Datalabel** on the series which does not have custom properties of its own.

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

```
<xsd:element name="tx" type="c:CT_Tx"/>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.1.26   xForSave

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

The **xForSave** element is a **CT_Boolean** ([ISO/IEC29500-1:2012] section A.5.1) element<70> that specifies whether this **Datalabel** (section 2.2.1.3) was created solely for the purpose of saving. If it is true, it means that when the file is loaded back this **Datalabel** will be merged with the default **Datalabel** on that chart series ([ISO/IEC29500-1:2012] section 21.2).

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

```
<xsd:element name="xForSave" type="c:CT_Boolean"/>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.2 Attributes

None.

2.6.3 Complex Types

2.6.3.1 CT_CategoryFilterException

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

Referenced by: CT_CategoryFilterExceptions

CT_CategoryFilterException is a complex type that contains information about special formatting properties associated with a single data point in a chart series ([ISO/IEC29500-1:2012] section 21.2).<71> This complex type is used to save special data point properties of points that are filtered out of the chart series ([ISO/IEC29500-1:2012] section 21.2). An entry of this type MUST contain exactly one **sqref** element followed by one or more child elements.

Child Elements:

sqref: A **string** element ([XMLSCHEMA2] section 3.2.1) that specifies the cell reference of the data corresponding to this data point in the chart series ([ISO/IEC29500-1:2012] section 21.2). This element is required. This reference MUST follow the ABNF grammar rules defined in the Formulas section ([MS-XLSX] section 2.2.2) with the following restrictions:

- MUST follow the single-sheet-reference rule.

- MUST NOT use the A1-area, A1-relative-column and A1-relative-row rules.

- MUST use ONLY A1-cell, A1-absolute-column, and A1-absolute-row (since a data point in a series can correspond to only one cell, it SHOULD NOT use area references).

An application can adjust this **cell reference** when the **worksheet** layout changes, even when the containing **ext** element ([ISO/IEC29500-1:2012] section 18.2.7) is not recognized by the application.

spPr: A CT_ShapeProperties element ([ISO/IEC29500-1:2012] section A.4.1) that specifies the formatting (like fill or line properties) to be shown on this data point.

explosion: A CT_UnsignedInt element ([ISO/IEC29500-1:2012] section A.5.1) that specifies the amount this data point shall be moved from the center of the pie in a pie chart series.

invertIfNegative: A **CT_Boolean** element ([ISO/IEC29500-1:2012] section A.5.1) that specifies if the invert color is shown when this data point has a negative value.

bubble3D: A **CT_Boolean** element ([ISO/IEC29500-1:2012] section A.5.1) that specifies if this data point has a 3D bubble.

marker: A CT_Marker element ([ISO/IEC29500-1:2012] section A.5.1) that specifies the properties of the line marker associated with this data point.

dLbl: A CT_DLbl element ([ISO/IEC29500-1:2012] section A.5.1) that specifies the properties of the **Datalabel** (section 2.2.1.3) associated with this data point.

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

```
<xsd:complexType name="CT CategoryFilterException">
  <xsd:sequence>
    <xsd:element name="sqref" type="xsd:string" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="explosion" type="c:CT_UnsignedInt" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="invertIfNegative" type="c:CT Boolean" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="bubble3D" type="c:CT_Boolean" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="marker" type="c:CT Marker" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="dLbl" type="c:CT_DLbl" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.3.2 CT_CategoryFilterExceptions

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

Referenced by: categoryFilterExceptions

CT_CategoryFilteredExceptions is a complex type that contains one or more entries of type CT_CategoryFilterException.<72> Each entry specifies special formatting properties associated with a single data point in a chart series ([ISO/IEC29500-1:2012] section 21.2), that has been filtered out.

Child Elements:

categoryFilterException: It is a CT_CategoryFilterException element that specifies special formatting properties associated with a single data point in a chart series ([ISO/IEC29500-1:2012] section 21.2), which has been filtered out.

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

```
<xsd:complexType name="CT_CategoryFilterExceptions">
  <xsd:sequence>
    <xsd:element name="categoryFilterException" type="CT_CategoryFilterException"
minOccurs="1" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.3.3 CT_DataLabelFieldTable

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

Referenced by: dlblFieldTable

The **CT_DataLabelFieldTable** is a complex type that contains one or more **CT_DataLabelFieldTableEntry** entries (section 2.6.3.4) which specify the formula references of each of the cell-reference text fields in the parent **Datalabel** text (section 2.2.1.3).<73> Each **Datalabel** can have one or more of these cell-reference fields. This complex type contains one entry for each

cell-reference field, identifying the field it references using the **GUID** of the field. This is pointed to by the **txfldGUID** element of **CT_DataLabelFieldTableEntry**.

Child Elements:

dlblFTEntry: A **CT_DataLabelFieldTableEntry** element that specifies the formula reference for a single cell-reference field in the **Datalabel** text. This formula reference points to the text value of the field.

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

```
<xsd:complexType name="CT_DataLabelFieldTable">
  <xsd:sequence>
    <xsd:element name="dlblFTEntry" type="CT DataLabelFieldTableEntry" minOccurs="0"
maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.3.4 CT_DataLabelFieldTableEntry

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

Referenced by: CT_DataLabelFieldTable

The **CT_DataLabelFieldTableEntry** is a complex type that specifies the formula reference used to obtain the text value of a cell reference field in the parent **dLbl** element ([ISO/IEC29500-1:2012] section 21.2.2.47).<74> A **Datalabel** (section 2.2.1.3) can contain more than one field pointing to formula references. This complex type associates one field in the **Datalabel** with the formula reference to which it refers.

Child Elements:

txfldGUID: A **string** ([XMLSCHEMA2] section 3.2.1) element that specifies the **GUID** (identifier) of the cell-reference field in the **Datalabel** text. This element is used to identify which field in the **Datalabel** text this entry corresponds to.

f: A **string** element ([XMLSCHEMA2] section 3.2.1) that specifies the formula reference of the text field in the **Datalabel** text whose GUID is identified by the **txfldGUID** element.

dlblFieldTableCache: A CT_StrData element ([ISO/IEC29500-1:2012] section A.5.1) that contains the value to be inserted into the ancestor **Datalabel**. This is a cached value obtained from the reference formula specified by the **f** element in the parent **Datalabel** field table entry.

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

```
<xsd:complexType name="CT_DataLabelFieldTableEntry">
  <xsd:sequence>
    <xsd:element name="txfldGUID" type="xsd:string" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="f" type="xsd:string" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="dlblFieldTableCache" type="c:CT_StrData" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.3.5 CT_FilteredAreaSer

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

Referenced by: filteredAreaSeries

A complex type that specifies a chart area series ([ISO/IEC29500-1:2012] section 21.2.2.168) that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2).<75>

Child Elements:

ser: A CT_AreaSer ([ISO/IEC29500-1:2012] section 21.2.2.168) element that specifies a chart area series ([ISO/IEC29500-1:2012] section 21.2.2.168) that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2).

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

```
<xsd:complexType name="CT_FilteredAreaSer">
  <xsd:sequence>
    <xsd:element name="ser" type="c:CT_AreaSer" minOccurs="1" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.3.6 CT_FilteredBarSer

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

Referenced by: filteredBarSeries

A complex type that specifies a chart bar series ([ISO/IEC29500-1:2012] section 21.2.2.170) that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2).<76>

Child Elements:

ser: A CT_BarSer ([ISO/IEC29500-1:2012] section 21.2.2.170) element that specifies a chart bar series ([ISO/IEC29500-1:2012] section 21.2.2.170) that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2).

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

```
<xsd:complexType name="CT FilteredBarSer">
  <xsd:sequence>
    <xsd:element name="ser" type="c:CT_BarSer" minOccurs="1" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.3.7 CT_FilteredBubbleSer

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

Referenced by: filteredBubbleSeries

A complex type that specifies a chart bubble series ([ISO/IEC29500-1:2012] section 21.2.2.174) that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2).<77>

Child Elements:

ser: A **CT_BubbleSer** ([ISO/IEC29500-1:2012] section 21.2.2.174) element that specifies a chart bubble series ([ISO/IEC29500-1:2012] section 21.2.2.174) that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2).

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

```
<xsd:complexType name="CT_FilteredBubbleSer">
  <xsd:sequence>
    <xsd:element name="ser" type="c:CT_BubbleSer" minOccurs="1" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.3.8 CT_FilteredCategoryTitle

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

Referenced by: filteredCategoryTitle

A complex type that specifies a chart ([ISO/IEC29500-1:2012] section 21.2) category title that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2) and the category titles for this chart ([ISO/IEC29500-1:2012] section 21.2) are automatically generated numbers.<78>

Child Elements:

cat: A CT_AxDataSource ([ISO/IEC29500-1:2012] section 21.2.2.24) element that specifies the data used for the category axis that has been filtered from the chart.

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

```
<xsd:complexType name="CT_FilteredCategoryTitle">
  <xsd:sequence>
    <xsd:element name="cat" type="c:CT_AxDataSource" minOccurs="1" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.3.9 CT_FilteredLineSer

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

Referenced by: filteredLineSeries

A complex type that specifies a chart line series ([ISO/IEC29500-1:2012] section 21.2.2.171) that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2).<79>

Child Elements:

ser: A CT_LineSer ([ISO/IEC29500-1:2012] section 21.2.2.171) element that specifies a chart line series ([ISO/IEC29500-1:2012] section 21.2.2.171) that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2).

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

```
<xsd:complexType name="CT_FilteredLineSer">
  <xsd:sequence>
    <xsd:element name="ser" type="c:CT_LineSer" minOccurs="1" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.3.10   CT_FilteredPieSer

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

Referenced by: filteredPieSeries

A complex type that specifies a chart pie series ([ISO/IEC29500-1:2012] section 21.2.2.172) that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2).<80>

Child Elements:

ser: A CT_PieSer ([ISO/IEC29500-1:2012] section 21.2.2.172) element that specifies a chart pie series ([ISO/IEC29500-1:2012] section 21.2.2.172) that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2).

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

```
<xsd:complexType name="CT_FilteredPieSer">
  <xsd:sequence>
    <xsd:element name="ser" type="c:CT_PieSer" minOccurs="1" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.3.11   CT_FilteredRadarSer

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

Referenced by: filteredRadarSeries

A complex type that specifies a chart radar series ([ISO/IEC29500-1:2012] section 21.2.2.169) that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2).<81>

Child Elements:

ser: A CT_RadarSer ([ISO/IEC29500-1:2012] section 21.2.2.169) element that specifies a chart radar series ([ISO/IEC29500-1:2012] section 21.2.2.169) that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2).

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

```
<xsd:complexType name="CT_FilteredRadarSer">
  <xsd:sequence>
    <xsd:element name="ser" type="c:CT_RadarSer" minOccurs="1" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.3.12   CT_FilteredScatterSer

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

Referenced by: filteredScatterSeries

A complex type that specifies a chart scatter series ([ISO/IEC29500-1:2012] section 21.2.2.167) that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2).<82>

Child Elements:

ser: A CT_ScatterSer ([ISO/IEC29500-1:2012] section 21.2.2.167) element that specifies a chart scatter series ([ISO/IEC29500-1:2012] section 21.2.2.167) that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2).

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

```
<xsd:complexType name="CT_FilteredScatterSer">
  <xsd:sequence>
    <xsd:element name="ser" type="c:CT_ScatterSer" minOccurs="1" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.3.13   CT_FilteredSeriesTitle

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

Referenced by: filteredSeriesTitle

A complex type that specifies a chart ([ISO/IEC29500-1:2012] section 21.2) series title that has been filtered from the chart ([ISO/IEC29500-1:2012] section 21.2) and the chart series ([ISO/IEC29500-1:2012] section 21.2) has an automatically generated title.<83>

Child Elements:

tx: A CT_Tx ([ISO/IEC29500-1:2012] section 21.2.2.215) element that specifies text for a series name, without rich text formatting, that has been filtered from the chart.

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

```
<xsd:complexType name="CT_FilteredSeriesTitle">
  <xsd:sequence>
    <xsd:element name="tx" type="c:CT_Tx" minOccurs="1" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.3.14   CT_FilteredSurfaceSer

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

Referenced by: filteredSurfaceSeries

The **CT_FilteredSurfaceSer** complex type specifies a **chart surface series** ([ISO/IEC29500-1:2012] section 21.2.2.173) that has been filtered from the **chart** ([ISO/IEC29500-1:2012] section 21.2).<84>

Child Elements:

ser: A **CT_SurfaceSer** ([ISO/IEC29500-1:2012] section 21.2.2.173) element that specifies a **chart surface series** ([ISO/IEC29500-1:2012] section 21.2.2.173) that has been filtered from the **chart** ([ISO/IEC29500-1:2012] section 21.2).

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

```
<xsd:complexType name="CT_FilteredSurfaceSer">
  <xsd:sequence>
    <xsd:element name="ser" type="c:CT_SurfaceSer" minOccurs="1" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.3.15   CT_FormulaRef

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

Referenced by: formulaRef

The **CT_FormulaRef** complex type specifies the data source reference for a chart ([ISO/IEC29500-1:2012] section 21.2) with filtered series data.<85>

This reference is in the form of a book, sheet, and cell reference. This reference does not include the equals sign.

Child Elements:

sqref: A **string** element ([XMLSCHEMA2] section 3.2.1) that specifies the data source reference for the chart data. This reference MUST follow the ABNF grammar rules defined in Formulas ([MS-XLSX] section 2.2.2) with the following restrictions:

- MUST follow the ref-nospace-expression rule.

- MUST NOT use the A1-relative-column and A1-relative-row rules.

- MUST use ONLY A1-absolute-column and A1-absolute-row.

Contains the data source reference for the series caption or values, or category labels of a filtered out series in the chart.

An application can adjust these **cell references** when the **worksheet** layout changes, even when the containing **ext** element ([ISO/IEC29500-1:2012] section 18.2.7) is not recognized by the application.

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

```
<xsd:complexType name="CT_FormulaRef">
  <xsd:sequence>
    <xsd:element name="sqref" type="xsd:string" minOccurs="1" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.3.16   CT_FullRef

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

Referenced by: fullRef

CT_FullRef is a complex type that specifies the complete data source reference for a chart ([ISO/IEC29500-1:2012] section 21.2) with filtered series data.<86>

This reference is in the form of a book, sheet, and cell reference. This reference does not include the equals sign.

Child Elements:

sqref: A **string** element ([XMLSCHEMA2] section 3.2.1) that specifies the data source reference for the chart data. This reference MUST follow the ABNF grammar rules defined in Formulas ([MS-XLSX] section 2.2.2) with the following restrictions:

- MUST follow the single-sheet-reference rule.

- MUST NOT use the A1-relative-column and A1-relative-row rules.

- MUST ONLY use A1-absolute-column and A1-absolute-row.

Contains the full set of cell references for the chart, including both filtered and unfiltered data.

An application can adjust these **cell references** when the **worksheet** layout changes, even when the containing **ext** element ([ISO/IEC29500-1:2012] section 18.2.7) is not recognized by the application.

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

```
<xsd:complexType name="CT_FullRef">
  <xsd:sequence>
    <xsd:element name="sqref" type="xsd:string" minOccurs="1" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.3.17   CT_LevelRef

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

Referenced by: levelRef

The **CT_LevelRef** is a complex type that specifies the data source reference for the currently selected label level within a hierarchical set of labels for a chart ([ISO/IEC29500-1:2012] section 21.2) category axis or a chart series title.<87>

This reference is in the form of a book, sheet, and cell reference. This reference does not include the equals sign.

Child Elements:

sqref: A **string** element ([XMLSCHEMA2] section 3.2.1) that specifies the data source reference for the chart data for the associated caption level. This reference MUST follow the ABNF grammar rules defined in Formulas ([MS-XLSX] section 2.2.2) with the following restrictions:

- MUST follow the single-sheet-reference rule.

- MUST NOT use the A1-relative-column and A1-relative-row rules.

- MUST ONLY use A1-absolute-column and A1-absolute-row.

An application can adjust these **cell references** when the **worksheet** layout changes, even when the containing **ext** element ([ISO/IEC29500-1:2012] section 18.2.7) is not recognized by the application.

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

```
<xsd:complexType name="CT_LevelRef">
  <xsd:sequence>
    <xsd:element name="sqref" type="xsd:string" minOccurs="1" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.3.18   CT_SeriesDataLabelsRange

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chart

Referenced by: datalabelsRange

The **CT_SeriesDataLabelsRange** is a complex type that specifies the formula from which the values of the **Datalabels** (section 2.2.1.3) on a chart series ([ISO/IEC29500-1:2012] section 21.2) are obtained.<88>

Child Elements:

f: It is a **string** ([XMLSCHEMA2] section 3.2.1) element that specifies the reference from which the values of the **Datalabels** on a chart series ([ISO/IEC29500-1:2012] section 21.2) are obtained. This reference MUST follow the ABNF grammar rules defined in the Formulas section ([MS-XLSX] section 2.2.2) with the following restrictions:

- MUST follow the single-sheet-reference rule OR the external-name rule.

- MUST NOT use the A1-relative-column and A1-relative-row rules. MUST use ONLY A1-absolute-column and A1-absolute-row

- MUST NOT use the bang-name rule.

- If the string contains a "#REF!", it MUST be the ONLY value in the string.

dlblRangeCache: It is a **CT_StrData** ([ISO/IEC29500-1:2012] section A.5.1) element that contains the values to be inserted in each of the **Datalabels** in the parent chart series ([ISO/IEC29500-1:2012] section 21.2). This is a cache of values obtained from the reference formula specified by the element **f** in this complex type. Each value corresponds to one **Datalabel** in the series. The values are assigned to **Datalabels** in the order of their index.

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

```
<xsd:complexType name="CT_SeriesDataLabelsRange">
  <xsd:sequence>
    <xsd:element name="f" type="xsd:string" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="dlblRangeCache" type="c:CT_StrData" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.13 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.6.4 Simple Types

None.

2.7 http://schemas.microsoft.com/office/drawing/2007/8/2/chart

2.7.1 Elements

2.7.1.1 invertSolidFillFmt

Target namespace: http://schemas.microsoft.com/office/drawing/2007/8/2/chart

A **CT_InvertSolidFillFmt** element that specifies the color of the negative data points of the chart ([ISO/IEC29500-1:2012] section 21.2) series.

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

```
<xsd:element name="invertSolidFillFmt" type="CT_InvertSolidFillFmt"/>
```

See section 5.10 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.7.1.2 pivotOptions

Target namespace: http://schemas.microsoft.com/office/drawing/2007/8/2/chart

A **CT_PivotOptions** element that specifies the pivot controls that appear on the chart ([ISO/IEC29500-1:2012] section 21.2).

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

```
<xsd:element name="pivotOptions" type="CT_PivotOptions"/>
```

See section 5.10 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.7.1.3 style

Target namespace: http://schemas.microsoft.com/office/drawing/2007/8/2/chart

A **CT_Style** element that specifies a chart **style** ([ISO/IEC29500-1:2012] section 21.2).

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

```
<xsd:element name="style" type="CT_Style"/>
```

See section 5.10 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.7.2 Attributes

None.

2.7.3 Complex Types

2.7.3.1 CT_BooleanFalse

Target namespace: http://schemas.microsoft.com/office/drawing/2007/8/2/chart

Referenced by: CT_PivotOptions

A complex type that specifies a Boolean value that defaults to FALSE.

Attributes:

val: A Boolean attribute ([XMLSCHEMA2] section 3.2.2) that specifies the value for the property. This MUST be set to one of the following: zero, 1, TRUE, or FALSE.

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

```
<xsd:complexType name="CT_BooleanFalse">
  <xsd:attribute name="val" type="xsd:boolean" use="optional" default="false"/>
</xsd:complexType>
```

See section 5.10 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.7.3.2 CT_BooleanTrue

Target namespace: http://schemas.microsoft.com/office/drawing/2007/8/2/chart

A complex type that specifies a Boolean value that defaults to TRUE.

Attributes:

val: A Boolean attribute ([XMLSCHEMA2] section 3.2.2) that specifies the value for the property. This MUST be set to one of the following: zero, 1, TRUE, or FALSE.

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

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

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

See section 5.10 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.7.3.3 CT_InvertSolidFillFmt

Target namespace: http://schemas.microsoft.com/office/drawing/2007/8/2/chart

Referenced by: invertSolidFillFmt

A complex type that specifies the color of the negative data points of the chart series ([ISO/IEC29500-1:2012] section 21.2).

MUST NOT exist if the parent **CT_BarSer** element ([ISO/IEC29500-4:2012] section A.5.1) or parent **CT_BubbleSer** element ([ISO/IEC29500-4:2012] section A.5.1) has a child **CT_ShapeProperties** element ([ISO/IEC29500-4:2012] section A.4.1) that does not have a child **CT_SolidColorFillProperties** element ([ISO/IEC29500-4:2012] section A.4.1).

MUST NOT exist if not a descendant of a **CT_BarChart** element ([ISO/IEC29500-4:2012] section A.5.1), **CT_Bar3DChart** element ([ISO/IEC29500-4:2012] section A.5.1), or **CT_BubbleChart** element ([ISO/IEC29500-4:2012] section A.5.1).

MUST NOT exist if the parent **CT_BarSer** element or parent **CT_BubbleSer** element has a child **invertIfNegative**.

Child Elements:

spPr: A **CT_ShapeProperties** element that specifies the solid color of the negative data points of the chart series ([ISO/IEC29500-1:2012] section 21.2). MUST have a child **CT_SolidColorFillProperties** element.

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

```
    <xsd:complexType name="CT_InvertSolidFillFmt">
      <xsd:sequence>
        <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="1" maxOccurs="1"/>
      </xsd:sequence>
    </xsd:complexType>
```

See section 5.10 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.7.3.4 CT_PivotOptions

Target namespace: http://schemas.microsoft.com/office/drawing/2007/8/2/chart

Referenced by: pivotOptions

A complex type that specifies the pivot controls that appear on the chart ([ISO/IEC29500-1:2012] section 21.2).

Child Elements:

dropZoneFilter: A **CT_BooleanFalse** element that specifies whether a control for each **PivotTable** field ([ISO/IEC29500-1:2012] section 18.10) on the **PivotTable** page axis ([ISO/IEC29500-1:2012] section 18.10) of the source **PivotTable** appears on the chart when **dropZonesVisible** is set to

TRUE. MUST NOT exist if the parent **CT_ChartSpace** element ([ISO/IEC29500-4:2012] section A.5.1) does not have a child **CT_PivotSource** element ([ISO/IEC29500-4:2012] section A.5.1).

dropZoneCategories: A **CT_BooleanFalse** element that specifies whether a control for each **PivotTable** field on the **PivotTable** row axis of the source **PivotTable** appears on the chart when **dropZonesVisible** is set to TRUE. MUST NOT exist if the parent **CT_ChartSpace** element does not have a child **CT_PivotSource** element.

dropZoneData: A **CT_BooleanFalse** element that specifies whether a control for each **PivotTable** field on the **PivotTable** data axis of the source **PivotTable** appears on the chart when **dropZonesVisible** is set to TRUE. MUST NOT exist if the parent **CT_ChartSpace** element does not have a child **CT_PivotSource** element.

dropZoneSeries: A **CT_BooleanFalse** element that specifies whether a control for each **PivotTable** field on the **PivotTable** column axis of the source **PivotTable** appears on the chart when **dropZonesVisible** is set to TRUE. MUST NOT exist if the parent **CT_ChartSpace** element does not have a child **CT_PivotSource** element.

dropZonesVisible: A **CT_BooleanFalse** element that specifies whether any pivot controls can appear on the pivot chart. For example, if **dropZoneFilter** and **dropZoneCategories** are set to TRUE and **dropZoneData** and **dropZoneSeries** are set to FALSE, if **dropZonesVisible** is set to TRUE, controls corresponding to **PivotTable** fields on the **PivotTable** page axis and **PivotTable** row axis appear on the chart, and if **dropZonesVisible** is set to FALSE, no controls appears on the chart. MUST NOT exist if the **parent CT_ChartSpace** element does not have a child **CT_PivotSource** element.

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

```
<xsd:complexType name="CT PivotOptions">
  <xsd:sequence>
    <xsd:element name="dropZoneFilter" type="CT_BooleanFalse" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="dropZoneCategories" type="CT_BooleanFalse" minOccurs="0"
maxOccurs="1"/>
    <xsd:element name="dropZoneData" type="CT_BooleanFalse" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="dropZoneSeries" type="CT BooleanFalse" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="dropZonesVisible" type="CT_BooleanFalse" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.10 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.7.3.5 CT_Style

Target namespace: http://schemas.microsoft.com/office/drawing/2007/8/2/chart

Referenced by: style

A complex type that specifies a chart style ([ISO/IEC29500-1:2012] section 21.2).

If this element exists, the **CT_Style** element ([ISO/IEC29500-4:2012] section A.5.1) that is a descendent of the **CT_ChartSpace** element ([ISO/IEC29500-4:2012] section A.5.1) that is the ancestor of this element MUST exist, SHOULD<89> be ignored, and MUST have a **val** attribute equal to the **val** attribute of this element minus 100.

Attributes:

val: An **ST_Style** attribute that specifies a chart **style**.

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

```
<xsd:complexType name="CT_Style">
  <xsd:attribute name="val" type="ST_Style" use="required"/>
</xsd:complexType>
```

See section 5.10 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.7.4 Simple Types

2.7.4.1 ST_Style

Target namespace: http://schemas.microsoft.com/office/drawing/2007/8/2/chart

Referenced by: CT_Style

A simple type that specifies a chart style ([ISO/IEC29500-1:2012] section 21.2).

The **style** definitions for this simple type are identical to the corresponding **ST_Style** style definitions ([ISO/IEC29500-1:2012] section 21.2.3.46), with the following exceptions:

- The number for each style in this simple type is 100 plus the corresponding style number in **ST_Style** ([ISO/IEC29500-1:2012] section 21.2.3.46).

- The **ST_Style** simple type ([ISO/IEC29500-1:2012] section 21.2.3.46) states, "If the chart does not have a font size set, then the default font size is 10." This is changed in this simple type to the following: If the chart does not have a font size set, the default font size for the chart is 10 points, and the default font size for the chart title is 18 points.

- The **ST_Style** simple type ([ISO/IEC29500-1:2012] section 21.2.3.46), table 2, column Axis & Major Gridlines has a value of "tx1" for styles 1 to 32. This is changed in this simple type to specify that styles 101 to 132 have a value of "75% tint of tx1".

- The **ST_Style** simple type ([ISO/IEC29500-1:2012] section 21.2.3.46), table 2, column Axis & Major Gridlines has a value of "dk1" for styles 33 to 48. This is changed in this simple type to specify that styles 133 to 148 have a value of "75% tint of dk1".

- The **ST_Style** simple type ([ISO/IEC29500-1:2012] section 21.2.3.46), table 2, column Minor Gridlines has a value of "50% tint of tx1" for styles 33 to 40. This is changed in this simple type to specify that styles 133 to 140 have a value of "50% tint of dk1".

- The **ST_Style** simple type ([ISO/IEC29500-1:2012] section 21.2.3.46), table 2, column Minor Gridlines has a value of "90% tint of tx1" for styles 41 to 48. This is changed in this simple type to specify that styles 141 to 148 have a value of "90% tint of dk1".

- The **ST_Style** simple type ([ISO/IEC29500-1:2012] section 21.2.3.46), table 2, column Other Lines has a value of "25% shade of dk1" for styles 35 to 40. This is changed in this simple type to specify that styles 135 to 140 have a value of "dk1".

- The **ST_Style** simple type ([ISO/IEC29500-1:2012] section 21.2.3.46), table 3, column Floor, Walls & Plot Area (2-D) has a value of "accent1-6" for styles 35 to 40. This is changed in this simple type to specify that styles 135 to 140 have a value of "20% tint of accent1-6".

- The **ST_Style** simple type ([ISO/IEC29500-1:2012] section 21.2.3.46), tables 4 and 5 do not specify the color of the effect. This is changed in this simple type to specify in tables 4 and 5 that the effect color is "dk1" if the style has an effect applied.

- The **ST_Style** simple type ([ISO/IEC29500-1:2012] section 21.2.3.46), table 5, column Line Color or Pattern has a value of "50% shade of dk1" for style 33. This is changed in this simple type to specify that style 133 has a value of "92.5% tint of dk1".

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

```
<xsd:simpleType name="ST_Style">
  <xsd:restriction base="xsd:unsignedByte">
    <xsd:minInclusive value="101"/>
    <xsd:maxInclusive value="148"/>
  </xsd:restriction>
</xsd:simpleType>
```

See section 5.10 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.8   http://schemas.microsoft.com/office/drawing/2012/chartStyle

2.8.1   Elements

2.8.1.1   chartStyle

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chartStyle

A CT_ChartStyle element<90> that specifies the default formatting for all chart elements.

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

```
<xsd:element name="chartStyle" type="CT_ChartStyle"/>
```

See section 5.15 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.8.1.2   colorStyle

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chartStyle

The **colorStyle** element<91> (section 2.8.3.2), which is of type **CT_ColorStyle**, specifies the color style for the chart.

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

```
<xsd:element name="colorStyle" type="CT_ColorStyle"/>
```

See section 5.15 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.8.2   Attributes

None.

2.8.3 Complex Types

2.8.3.1 CT_ChartStyle

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chartStyle

Referenced by: chartStyle

A complex type that specifies visual and text properties for all elements present on a chart.<92>

Child Elements:

axisTitle: A **CT_StyleEntry** element that specifies default formatting for an axis title.

categoryAxis: A **CT_StyleEntry** element that specifies default formatting for a category axis.

chartArea: A **CT_StyleEntry** element that specifies default formatting for a chart area.

dataLabel: A **CT_StyleEntry** element that specifies default formatting for a data label.

dataLabelCallout: A CT_StyleEntry element that specifies default formatting for a data label callout.

dataPoint: A **CT_StyleEntry** element that specifies default formatting for a data point on a 2-D chart of type column, bar, filled radar, stock, bubble, pie, doughnut, and area as well as 3-D bubble.

dataPoint3D: A **CT_StyleEntry** element that specifies default formatting for a data point on a 3-D chart of type column, bar, line, pie, area and surface.

dataPointLine: A **CT_StyleEntry** element that specifies default formatting for a data point on a 2-D chart of type line, scatter and radar.

dataPointMarker: A **CT_StyleEntry** element that specifies default formatting for markers.

dataPointMarkerLayout: A **CT_MarkerLayout** element that specifies additional marker properties not present in **dataPointMarker**.

dataPointWireframe: A **CT_StyleEntry** element that specifies default formatting for a data point on a surface wireframe chart.

dataTable: A **CT_StyleEntry** element that specifies default formatting for a data table.

downBar: A **CT_StyleEntry** element that specifies default formatting for a down bar.

dropLine: A **CT_StyleEntry** element that specifies default formatting for a drop line.

errorBar: A **CT_StyleEntry** element that specifies default formatting for an error bar.

floor: A **CT_StyleEntry** element that specifies default formatting for a floor.

gridlineMajor: A **CT_StyleEntry** element that specifies default formatting for a major gridline.

gridlineMinor: A **CT_StyleEntry** element that specifies default formatting for a minor gridline.

hiLoLine: A **CT_StyleEntry** element that specifies default formatting for a high low line.

leaderLine: A **CT_StyleEntry** element that specifies default formatting for a leader line.

legend: A **CT_StyleEntry** element that specifies default formatting for a legend.

plotArea: A **CT_StyleEntry** element that specifies default formatting for a plot area on a 2-D chart.

plotArea3D: A **CT_StyleEntry** element that specifies default formatting for a 3-D chart.

seriesAxis: A **CT_StyleEntry** element that specifies default formatting for a series axis.

seriesLine: A **CT_StyleEntry** element that specifies default formatting for a series line.

title: A **CT_StyleEntry** element that specifies default formatting for a chart title.

trendline: A **CT_StyleEntry** element that specifies default formatting for a trend line.

trendlineLabel: A **CT_StyleEntry** element that specifies default formatting for a trend line label.

upBar: A **CT_StyleEntry** element that specifies default formatting for an up bar.

valueAxis: A **CT_StyleEntry** element that specifies default formatting for a value axis.

wall: A **CT_StyleEntry** element that specifies default formatting for a wall.

extLst: A **CT_OfficeArtExtensionList** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the extension list in which all future extensions of element type **ext** are defined. The extension list, along with corresponding future extensions, is used to extend the storage capabilities of the DrawingML framework. This enables new types of data to be stored natively within the framework.

Attributes:

id: An **unsignedInt** ([XMLSCHEMA2] section 3.3.22) attribute that specifies the identifier for this **CT_ChartStyle**.

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

```xsd
<xsd:complexType name="CT ChartStyle">
  <xsd:sequence>
    <xsd:element name="axisTitle" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="categoryAxis" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="chartArea" type="CT StyleEntry" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="dataLabel" type="CT StyleEntry" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="dataLabelCallout" type="CT StyleEntry" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="dataPoint" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="dataPoint3D" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="dataPointLine" type="CT StyleEntry" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="dataPointMarker" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="dataPointMarkerLayout" type="CT MarkerLayout" minOccurs="0"
maxOccurs="1"/>
    <xsd:element name="dataPointWireframe" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="dataTable" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="downBar" type="CT StyleEntry" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="dropLine" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="errorBar" type="CT StyleEntry" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="floor" type="CT StyleEntry" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="gridlineMajor" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="gridlineMinor" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="hiLoLine" type="CT StyleEntry" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="leaderLine" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="legend" type="CT StyleEntry" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="plotArea" type="CT StyleEntry" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="plotArea3D" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="seriesAxis" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="seriesLine" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="title" type="CT StyleEntry" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="trendline" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="trendlineLabel" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="upBar" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="valueAxis" type="CT StyleEntry" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="wall" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="extLst" type="a:CT OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
  </xsd:sequence>
```

```
    <xsd:attribute name="id" type="xsd:unsignedInt" use="optional"/>
  </xsd:complexType>
```

See section 5.15 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.8.3.2 CT_ColorStyle

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chartStyle

Referenced by: colorStyle

The complex type specifies colors used to resolve **CT_StyleColor** (section 2.8.3.6) colors in a **CT_ChartStyle (**section 2.8.3.1).<93> The color style consists of a list of colors, a list of variations and a method for iterating the total set of colors.

The total set of colors is all contained colors repeated each time with each variation applied. A color style can contain 6 colors and 7 variations. This yields a total of 42 colors with the first 6 having the first variation applied, the second 6 having the second variation applied and so on. If no variations are present, then the total color set is just the contained colors with no extra variations.

To retrieve a color given an index, a method is applied to map that index into the total set of colors.

Child Elements:

scrgbClr: A **CT_ScRgbColor** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies a color using the **red-green-blue (RGB)** color model. See ([ISO/IEC29500-1:2012] section 20.1.2.3.30).

srgbClr: A **CT_SRgbColor** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies a color using the RGB color model. See ([ISO/IEC29500-1:2012] section 20.1.2.3.32).

hslClr: A **CT_HslColor** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies a color using the **HSL** color model. See ([ISO/IEC29500-1:2012] section 20.1.2.3.13).

sysClr: A **CT_SystemColor** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies a color bound to predefined operating system elements. See ([ISO/IEC29500-1:2012] section 20.1.2.3.33).

schemeClr: A **CT_SchemeColor** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies a color bound to a user's theme. See ([ISO/IEC29500-1:2012] section 20.1.2.3.29).

prstClr: A **CT_PresetColor** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies a color which is bound to one of a predefined collection of colors. See ([ISO/IEC29500-1:2012] section 20.1.2.3.22).

variation: A **CT_ColorStyleVariation** element that specifies a variation applied to all colors to create a longer set of colors without having to explicitly list them all.

extLst: A **CT_OfficeArtExtensionList** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the extension list in which all future extensions of element type **ext** is defined. The extension list, along with corresponding future extensions, is used to extend the storage capabilities of the DrawingML framework. This enables various types of data to be stored natively in the framework.

Attributes:

meth: An **ST_ColorStyleMethod** attribute that specifies the method for mapping an index for an element in a chart to the total set of colors contained in this **CT_ColorStyle**.

id: An **unsignedInt** ([XMLSCHEMA2] section 3.3.22) attribute that specifies the identifier for this **CT_ColorStyle**.

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

```
<xsd:complexType name="CT_ColorStyle">
  <xsd:sequence>
    <xsd:group ref="a:EG_ColorChoice" minOccurs="1" maxOccurs="unbounded"/>
    <xsd:element name="variation" type="CT_ColorStyleVariation" minOccurs="0"
maxOccurs="unbounded"/>
    <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="meth" type="ST_ColorStyleMethod" use="required"/>
  <xsd:attribute name="id" type="xsd:unsignedInt" use="optional"/>
</xsd:complexType>
```

See section 5.15 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.8.3.3 CT_ColorStyleVariation

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chartStyle

Referenced by: CT_ColorStyle

The complex type specifies a list of transforms that are appended to all colors in a CT_ColorStyle to produce a variation of the color style.<94>

Child Elements:

tint: A **CT_PositiveFixedPercentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies a lighter version of its input color. See ([ISO/IEC29500-1:2012] section 20.1.2.3.34).

shade: A **CT_PositiveFixedPercentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies a darker version of its input color. See ([ISO/IEC29500-1:2012] section 20.1.2.3.31).

comp: A **CT_ComplementTransform** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the complement of its input color. See ([ISO/IEC29500-1:2012] section 20.1.2.3.7).

inv: A **CT_InverseTransform** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the inverse of its input color. See ([ISO/IEC29500-1:2012] section 20.1.2.3.17).

gray: A **CT_GrayscaleTransform** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies a grayscale of its input color. See ([ISO/IEC29500-1:2012] section 20.1.2.3.9).

alpha: A **CT_PositiveFixedPercentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies its input color with the specified opacity, but with its color unchanged. See ([ISO/IEC29500-1:2012] section 20.1.2.3.1).

alphaOff: A **CT_FixedPercentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies a more or less opaque version of its input color. See ([ISO/IEC29500-1:2012] section 20.1.2.3.3).

alphaMod: A **CT_PositivePercentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies a more or less opaque version of its input color. See ([ISO/IEC29500-1:2012] section 20.1.2.3.2).

hue: A **CT_PositiveFixedAngle** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with the specified hue, but with its saturation and luminance unchanged. See ([ISO/IEC29500-1:2012] section 20.1.2.3.14).

hueOff: A **CT_Angle** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with its hue shifted, but with its saturation and luminance unchanged. See ([ISO/IEC29500-1:2012] section 20.1.2.3.16).

hueMod: A **CT_PositivePercentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with its hue modulated by the given percentage. See ([ISO/IEC29500-1:2012] section 20.1.2.3.15).

sat: A **CT_Percentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with the specified saturation, but with its hue and luminance unchanged. See ([ISO/IEC29500-1:2012] section 20.1.2.3.26).

satOff: A **CT_Percentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with its saturation shifted, but with its hue and luminance unchanged. See ([ISO/IEC29500-1:2012] section 20.1.2.3.28).

satMod: A **CT_Percentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with its saturation modulated by the given percentage. See ([ISO/IEC29500-1:2012] section 20.1.2.3.27).

lum: A **CT_Percentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with the specified luminance, but with its hue and saturation unchanged. See ([ISO/IEC29500-1:2012] section 20.1.2.3.19).

lumOff: A **CT_Percentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with its luminance shifted, but with its hue and saturation unchanged. See ([ISO/IEC29500-1:2012] section 20.1.2.3.21).

lumMod: A **CT_Percentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with its luminance modulated by the given percentage. See ([ISO/IEC29500-1:2012] section 20.1.2.3.20).

red: A **CT_Percentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with the specified red component, but with its green and blue components unchanged. See ([ISO/IEC29500-1:2012] section 20.1.2.3.23).

redOff: A **CT_Percentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with its red component shifted, but with its green and blue components unchanged. See ([ISO/IEC29500-1:2012] section 20.1.2.3.25).

redMod: A **CT_Percentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with its red component modulated by the given percentage. See ([ISO/IEC29500-1:2012] section 20.1.2.3.24).

green: A **CT_Percentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with the specified green component, but with its red and blue components unchanged. See ([ISO/IEC29500-1:2012] section 20.1.2.3.10).

greenOff: A **CT_Percentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with its green component shifted, but with its red and blue components unchanged. See ([ISO/IEC29500-1:2012] section 20.1.2.3.12).

greenMod: A **CT_Percentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with its green component modulated by the given percentage. See ([ISO/IEC29500-1:2012] section 20.1.2.3.11).

blue: A **CT_Percentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with the specified blue component, but with its red and green components unchanged. See ([ISO/IEC29500-1:2012] section 20.1.2.3.4).

blueOff: A **CT_Percentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with its blue component shifted, but with its red and green components unchanged. See ([ISO/IEC29500-1:2012] section 20.1.2.3.6).

blueMod: A **CT_Percentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with its blue component modulated by the given percentage. See ([ISO/IEC29500-1:2012] section 20.1.2.3.5).

gamma: A **CT_GammaTransform** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the sRGB gamma shift of its input color. See ([ISO/IEC29500-1:2012] section 20.1.2.3.8).

invGamma: A **CT_InverseGammaTransform** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the inverse sRGB gamma shift of its input color. See ([ISO/IEC29500-1:2012] section 20.1.2.3.18).

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

```
<xsd:complexType name="CT_ColorStyleVariation">
  <xsd:sequence>
    <xsd:group ref="a:EG_ColorTransform" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.15 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.8.3.4 CT_FontReference

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chartStyle

Referenced by: CT_StyleEntry

A reference to the document's font scheme.<95> This element is identical to **CT_FontReference** ([ISO/IEC29500-1:2012] section A.4.1) but also allows for a **CT_StyleColor** (section 2.8.3.6) element and a modifier list**.**

Child Elements:

scrgbClr: A **CT_ScRgbColor** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies a color using the **red-green-blue (RGB)** color model. See ([ISO/IEC29500-1:2012] section 20.1.2.3.30).

srgbClr: A **CT_SRgbColor** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies a color using the RGB color model. See ([ISO/IEC29500-1:2012] section 20.1.2.3.32).

hslClr: A **CT_HslColor** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies a color using the **HSL** color model. See ([ISO/IEC29500-1:2012] section 20.1.2.3.13).

sysClr: A **CT_SystemColor** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies a color bound to predefined operating system elements. See ([ISO/IEC29500-1:2012] section 20.1.2.3.33).

schemeClr: A **CT_SchemeColor** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies a color bound to a user's theme. See ([ISO/IEC29500-1:2012] section 20.1.2.3.29).

prstClr: A **CT_PresetColor** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies a color which is bound to one of a predefined collection of colors. See ([ISO/IEC29500-1:2012] section 20.1.2.3.22).

styleClr: A **CT_StyleColor** element that specifies a color calculated from a **CT_ColorStyle.**

Attributes:

idx: An **ST_FontCollectionIndex** ([ISO/IEC29500-1:2012] section 20.1.10.25) attribute that specifies a font associated with the style.

mods: An **ST_StyleReferenceModifierList** attribute that specifies a list of modifiers for this reference.

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

```
<xsd:complexType name="CT_FontReference">
  <xsd:sequence>
    <xsd:group ref="a:EG_ColorChoice" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="styleClr" type="CT StyleColor" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="idx" type="a:ST FontCollectionIndex" use="required"/>
  <xsd:attribute name="mods" type="ST_StyleReferenceModifierList" use="optional"/>
</xsd:complexType>
```

See section 5.15 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.8.3.5 CT_MarkerLayout

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chartStyle

Referenced by: CT_ChartStyle

The complex type specifies additional properties for data points that have markers.<96>

Attributes:

symbol: An **ST_MarkerStyle** attribute that specifies a style for markers on a chart.

size: An **ST_MarkerSize** attribute that specifies the size for markers on a chart.

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

```
<xsd:complexType name="CT_MarkerLayout">
  <xsd:attribute name="symbol" type="ST_MarkerStyle" use="optional"/>
  <xsd:attribute name="size" type="ST_MarkerSize" use="optional"/>
</xsd:complexType>
```

See section 5.15 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.8.3.6 CT_StyleColor

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chartStyle

Referenced by: CT_StyleReference, CT_FontReference

The complex type specifies a color which is retrieved from **CT_ColorStyle** (section 2.8.3.2).<97>

Child Elements:

tint: A **CT_PositiveFixedPercentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies a lighter version of its input color. See ([ISO/IEC29500-1:2012] section 20.1.2.3.34).

shade: A **CT_PositiveFixedPercentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies a darker version of its input color. See ([ISO/IEC29500-1:2012] section 20.1.2.3.31).

comp: A **CT_ComplementTransform** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the complement of its input color. See ([ISO/IEC29500-1:2012] section 20.1.2.3.7).

inv: A **CT_InverseTransform** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the inverse of its input color. See ([ISO/IEC29500-1:2012] section 20.1.2.3.17).

gray: A **CT_GrayscaleTransform** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies a grayscale of its input color. See ([ISO/IEC29500-1:2012] section 20.1.2.3.9).

alpha: A **CT_PositiveFixedPercentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies its input color with the specified opacity, but with its color unchanged. See ([ISO/IEC29500-1:2012] section 20.1.2.3.1).

alphaOff: A **CT_FixedPercentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies a more or less opaque version of its input color. See ([ISO/IEC29500-1:2012] section 20.1.2.3.3).

alphaMod: A **CT_PositivePercentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies a more or less opaque version of its input color. See ([ISO/IEC29500-1:2012] section 20.1.2.3.2).

hue: A **CT_PositiveFixedAngle** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with the specified hue, but with its saturation and luminance unchanged. See ([ISO/IEC29500-1:2012] section 20.1.2.3.14).

hueOff: A **CT_Angle** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with its hue shifted, but with its saturation and luminance unchanged. See ([ISO/IEC29500-1:2012] section 20.1.2.3.16).

hueMod: A **CT_PositivePercentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with its hue modulated by the given percentage. See ([ISO/IEC29500-1:2012] section 20.1.2.3.15).

sat: A **CT_Percentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with the specified saturation, but with its hue and luminance unchanged. See ([ISO/IEC29500-1:2012] section 20.1.2.3.26).

satOff: A **CT_Percentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with its saturation shifted, but with its hue and luminance unchanged. See ([ISO/IEC29500-1:2012] section 20.1.2.3.28).

satMod: A **CT_Percentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with its saturation modulated by the given percentage. See ([ISO/IEC29500-1:2012] section 20.1.2.3.27).

lum: A **CT_Percentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with the specified luminance, but with its hue and saturation unchanged. See ([ISO/IEC29500-1:2012] section 20.1.2.3.19).

lumOff: A **CT_Percentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with its luminance shifted, but with its hue and saturation unchanged. See ([ISO/IEC29500-1:2012] section 20.1.2.3.21).

lumMod: A **CT_Percentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with its luminance modulated by the given percentage. See ([ISO/IEC29500-1:2012] section 20.1.2.3.20).

red: A **CT_Percentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with the specified red component, but with its green and blue components unchanged. See ([ISO/IEC29500-1:2012] section 20.1.2.3.23).

redOff: A **CT_Percentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with its red component shifted, but with its green and blue components unchanged. See ([ISO/IEC29500-1:2012] section 20.1.2.3.25).

redMod: A **CT_Percentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with its red component modulated by the given percentage. See ([ISO/IEC29500-1:2012] section 20.1.2.3.24).

green: A **CT_Percentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with the specified green component, but with its red and blue components unchanged. See ([ISO/IEC29500-1:2012] section 20.1.2.3.10).

greenOff: A **CT_Percentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with its green component shifted, but with its red and blue components unchanged. See ([ISO/IEC29500-1:2012] section 20.1.2.3.12).

greenMod: A **CT_Percentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with its green component modulated by the given percentage. See ([ISO/IEC29500-1:2012] section 20.1.2.3.11).

blue: A **CT_Percentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with the specified blue component, but with its red and green components unchanged. See ([ISO/IEC29500-1:2012] section 20.1.2.3.4).

blueOff: A **CT_Percentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with its blue component shifted, but with its red and green components unchanged. See ([ISO/IEC29500-1:2012] section 20.1.2.3.6).

blueMod: A **CT_Percentage** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the input color with its blue component modulated by the given percentage. See ([ISO/IEC29500-1:2012] section 20.1.2.3.5).

gamma: A **CT_GammaTransform** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the sRGB gamma shift of its input color. See ([ISO/IEC29500-1:2012] section 20.1.2.3.8).

invGamma: A **CT_InverseGammaTransform** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the inverse sRGB gamma shift of its input color. See ([ISO/IEC29500-1:2012] section 20.1.2.3.18).

Attributes:

val: An **ST_StyleColorVal** attribute that specifies the value which is used to determine the index of the color in a **CT_ColorStyle**.

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

```
<xsd:complexType name="CT_StyleColor">
  <xsd:sequence>
    <xsd:group ref="a:EG_ColorTransform" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
  <xsd:attribute name="val" type="ST_StyleColorVal"/>
</xsd:complexType>
```

See section 5.15 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.8.3.7 CT_StyleEntry

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chartStyle

Referenced by: CT_ChartStyle

This complex type specifies the default formatting for a single type of element on a chart.<98> This element allows for properties to be explicitly specified or hold references to the document's theme.

Child Elements:

lnRef: A **CT_StyleReference** element that specifies a reference to a line style within the style matrix.

lineWidthScale: A **double** ([XMLSCHEMA1] section 2.1) element that specifies a multiplier to apply to the line width.

fillRef: A **CT_StyleReference** element that specifies a reference to a fill style within the style matrix.

effectRef: A **CT_StyleReference** element that specifies a reference to an effect style within the style matrix.

fontRef: A **CT_FontReference** element that specifies a reference to a themed font.

spPr: A **CT_ShapeProperties** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies visual **shape** properties of the part of the chart associated with this **CT_StyleEntry**. These properties override properties that are specified by **fillRef**, **lnRef** and **effectRef**.

If a **CT_SchemeColor** ([ISO/IEC29500-1:2012] section A.4.1) element within this element's child **CT_FillProperties** ([ISO/IEC29500-1:2012] section A.4.1) element has a value of **phClr**, then the color is resolved by replacing it with the color specified by **fillRef**.

If a **CT_SchemeColor** ([ISO/IEC29500-1:2012] section A.4.1) element within this element's child **CT_LineProperties** ([ISO/IEC29500-1:2012] section A.4.1) element has a value of **phClr**, then the color is resolved by replacing it with the color specified by **lnRef**.

If a **CT_SchemeColor** ([ISO/IEC29500-1:2012] section A.4.1) element within this element's child **CT_EffectProperties** ([ISO/IEC29500-1:2012] section A.4.1) or **CT_Shape3D** ([ISO/IEC29500-1:2012] section A.4.1) element has a value of **phClr**, then the color is resolved by replacing it with the color specified by **effectRef**.

defRPr: A **CT_TextCharacterProperties** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the default text character properties for a text body on a chart which is associated with this **CT_StyleEntry**. If a **CT_SchemeColo**r ([ISO/IEC29500-1:2012] section A.4.1) element within this element has a value of **phClr**, then the color is resolved by replacing it with the color specified by **fontRef**.

bodyPr: A **CT_TextBodyProperties** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the body properties for a text body on a chart that is associated with this **CT_StyleEntry**.

extLst: A **CT_OfficeArtExtensionList** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the extension list in which all future extensions of element type **ext** is defined. The extension list, along with corresponding future extensions, is used to extend the storage capabilities of the DrawingML framework. This enables various types of data to be stored natively in the framework.

Attributes:

mods: An **ST_StyleEntryModifierList** attribute that specifies modifiers for this style entry.

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

```
<xsd:complexType name="CT StyleEntry">
  <xsd:sequence>
    <xsd:element name="lnRef" type="CT_StyleReference" minOccurs="1" maxOccurs="1"/>
```

```
        <xsd:element name="lineWidthScale" type="xsd:double" minOccurs="0" maxOccurs="1"
default="1.0"/>
        <xsd:element name="fillRef" type="CT_StyleReference" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="effectRef" type="CT_StyleReference" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="fontRef" type="CT_FontReference" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="defRPr" type="a:CT_TextCharacterProperties" minOccurs="0"
maxOccurs="1"/>
        <xsd:element name="bodyPr" type="a:CT_TextBodyProperties" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
    </xsd:sequence>
    <xsd:attribute name="mods" type="ST_StyleEntryModifierList" use="optional"/>
</xsd:complexType>
```

See section 5.15 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.8.3.8 CT_StyleReference

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chartStyle

Referenced by: CT_StyleEntry

A reference to the document's theme style matrix.<99> This element is identical to
CT_StyleMatrixReference ([ISO/IEC29500-1:2012] section A.4.1) but also allows for a
CT_StyleColor (section 2.8.3.6) element and a modifier list**.**

Child Elements:

scrgbClr: A **CT_ScRgbColor** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies a color
using the **red-green-blue (RGB)** color model. See ([ISO/IEC29500-1:2012] section 20.1.2.3.30).

srgbClr: A **CT_SRgbColor** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies a color
using the RGB color model. See ([ISO/IEC29500-1:2012] section 20.1.2.3.32).

hslClr: A **CT_HslColor** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies a color using
the **HSL** color model. See ([ISO/IEC29500-1:2012] section 20.1.2.3.13).

sysClr: A **CT_SystemColor** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies a color
bound to predefined operating system elements. See ([ISO/IEC29500-1:2012] section 20.1.2.3.33).

schemeClr: A **CT_SchemeColor** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies a
color bound to a user's theme. See ([ISO/IEC29500-1:2012] section 20.1.2.3.29).

prstClr: A **CT_PresetColor** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies a color
which is bound to one of a predefined collection of colors. See ([ISO/IEC29500-1:2012] section
20.1.2.3.22).

styleClr: A **CT_StyleColor** element that specifies a color calculated from a **CT_ColorStyle**.

Attributes:

idx: An **ST_StyleMatrixColumnIndex** ([ISO/IEC29500-1:2012] section 20.1.10.57) attribute that
specifies the style matrix index of the style referred to.

mods: An **ST_StyleReferenceModifierList** attribute that specifies a list of modifiers for this
reference.

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

```
<xsd:complexType name="CT_StyleReference">
  <xsd:sequence>
    <xsd:group ref="a:EG_ColorChoice" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="styleClr" type="CT_StyleColor" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="idx" type="a:ST_StyleMatrixColumnIndex" use="required"/>
  <xsd:attribute name="mods" type="ST_StyleReferenceModifierList" use="optional"/>
</xsd:complexType>
```

See section 5.15 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.8.4 Simple Types

2.8.4.1 ST_ColorStyleMethod

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chartStyle

Referenced by: CT_ColorStyle

This simple type specifies the method for mapping an index for an element in a chart to the total set of colors contained in a **CT_ColorStyle**.<100> Methods are either the enumerations specified here, or unknown methods which are stored as strings. If an unknown method is specified, it is assumed that the method is an **ST_ColorStyleMethodEnum** (section 2.8.4.2) with a value of **cycle**.

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

```
<xsd:simpleType name="ST_ColorStyleMethod">
  <xsd:union memberTypes="ST_ColorStyleMethodEnum xsd:string"/>
</xsd:simpleType>
```

See section 5.15 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.8.4.2 ST_ColorStyleMethodEnum

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chartStyle

Referenced by: ST_ColorStyleMethod

This simple type specifies how colors are picked from a **CT_ColorStyle (**section 2.8.3.2) given a zero based index and a count of objects being colored.<101>

Value	Meaning
cycle	The color picked from **CT_ColorStyle** is the index modulus the total set of colors in **CT_ColorStyle**.
withinLinear	The color picked from **CT_ColorStyle** is the first color with a brightness that varies from darker to lighter based on how close the index is from 0 and the count of objects being colored respectively.
acrossLinear	The color picked from **CT_ColorStyle** is the index modulus the total set of colors in **CT_ColorStyle**. The color has a brightness that varies from darker to lighter based on how close the index is from 0 and the count of objects being colored respectively.
withinLinearReversed	The color picked from **CT_ColorStyle** is the first color with a brightness that varies from lighter to darker based on how close the index is from 0 and the count of objects being

Value	Meaning
	colored respectively.
acrossLinearReversed	The color picked from **CT_ColorStyle** is the index modulus the total set of colors in **CT_ColorStyle**. The color has a brightness that varies from lighter to darker based on how close the index is from 0 and the count of objects being colored respectively.

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

```
<xsd:simpleType name="ST_ColorStyleMethodEnum">
  <xsd:restriction base="xsd:token">
    <xsd:enumeration value="cycle"/>
    <xsd:enumeration value="withinLinear"/>
    <xsd:enumeration value="acrossLinear"/>
    <xsd:enumeration value="withinLinearReversed"/>
    <xsd:enumeration value="acrossLinearReversed"/>
  </xsd:restriction>
</xsd:simpleType>
```

See section 5.15 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.8.4.3 ST_MarkerSize

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chartStyle

Referenced by: CT_MarkerLayout

The simple type specifies that its contents contain an integer between 2 and 72, inclusive, whose contents are a size in points.<102> See ([ISO/IEC29500-1:2012] section 21.2.3.26)

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

```
<xsd:simpleType name="ST_MarkerSize">
  <xsd:restriction base="xsd:unsignedByte">
    <xsd:minInclusive value="2"/>
    <xsd:maxInclusive value="72"/>
  </xsd:restriction>
</xsd:simpleType>
```

See section 5.15 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.8.4.4 ST_MarkerStyle

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chartStyle

Referenced by: CT_MarkerLayout

The simple type specifies a shape for a marker.<103> See ([ISO/IEC29500-1:2012] section 21.2.3.27) for visual representations.

Value	Meaning
circle	Specifies a circle shall be drawn at each data point.
dash	Specifies a dash shall be drawn at each data point.
diamond	Specifies a diamond shall be drawn at each data point.
dot	Specifies a dot shall be drawn at each data point.
plus	Specifies a plus shall be drawn at each data point.
square	Specifies a square shall be drawn at each data point.
star	Specifies a star shall be drawn at each data point.
triangle	Specifies a triangle shall be drawn at each data point.
x	Specifies an X shall be drawn at each data point.

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

```
<xsd:simpleType name="ST_MarkerStyle">
  <xsd:restriction base="xsd:token">
    <xsd:enumeration value="circle"/>
    <xsd:enumeration value="dash"/>
    <xsd:enumeration value="diamond"/>
    <xsd:enumeration value="dot"/>
    <xsd:enumeration value="plus"/>
    <xsd:enumeration value="square"/>
    <xsd:enumeration value="star"/>
    <xsd:enumeration value="triangle"/>
    <xsd:enumeration value="x"/>
  </xsd:restriction>
</xsd:simpleType>
```

See section 5.15 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.8.4.5 ST_StyleColorEnum

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chartStyle

Referenced by: ST_StyleColorVal

This simple type specifies the properties of a chart element that are used as the index when retrieving a color from the **CT_ColorStyle** (section 2.8.3.2).<104>

Value	Meaning
auto	The relative index of the element in the chart is used as the index into the **CT_ColorStyle**. For example, **auto** on a series element will make the first series retrieve the color at the first index; the second will retrieve the color at the second index and so on. Elements that do not have an index (such as a plot area) will retrieve the color at the first index.

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

```
<xsd:simpleType name="ST_StyleColorEnum">
  <xsd:restriction base="xsd:token">
    <xsd:enumeration value="auto"/>
  </xsd:restriction>
</xsd:simpleType>
```

See section 5.15 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.8.4.6 ST_StyleColorVal

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chartStyle

Referenced by: CT_StyleColor

This simple type specifies what index to use when retrieving a color from **CT_ColorStyle** (section 2.8.3.2).<105>

If the type is **xsd:unsignedInt** ([XMLSCHEMA2] section 3.3.22), then that integer value is used as the index, zero being the first index.

If the type is **ST_StyleColorEnum (**section 2.8.4.5), the index is retrieved using the properties of the enumeration specified.

Finally, if the type is a string then the index is assumed to be zero.

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

```
<xsd:simpleType name="ST_StyleColorVal">
  <xsd:union memberTypes="xsd:unsignedInt ST_StyleColorEnum xsd:string"/>
</xsd:simpleType>
```

See section 5.15 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.8.4.7 ST_StyleEntryModifier

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chartStyle

Referenced by: ST_StyleEntryModifierList

This simple type specifies a modifier to use when resolving a **CT_StyleEntry** (section 2.8.3.7) that alters the properties in the specified way.<106> The modifier is either an enumeration or an unknown modifier. If the modifier is unknown, it is assumed to be a string and has no effect.

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

```
<xsd:simpleType name="ST_StyleEntryModifier">
  <xsd:union memberTypes="ST_StyleEntryModifierEnum xsd:string"/>
</xsd:simpleType>
```

See section 5.15 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.8.4.8 ST_StyleEntryModifierEnum

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chartStyle

This simple type specifies a modifier to use when resolving a **CT_StyleEntry** (section [2.8.3.7](#)) that alters the properties in the specified way.[<107>](#)

Value	Meaning
allowNoFillOverride	The fill properties specified on this **CT_StyleEntry** can be replaced with no fill instead.
allowNoLineOverride	The line properties specified on this **CT_StyleEntry** can be replaced with no line instead.

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

```
<xsd:simpleType name="ST_StyleEntryModifierEnum">
  <xsd:restriction base="xsd:token">
    <xsd:enumeration value="allowNoFillOverride"/>
    <xsd:enumeration value="allowNoLineOverride"/>
  </xsd:restriction>
</xsd:simpleType>
```

See section [5.15](#) for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.8.4.9 ST_StyleEntryModifierList

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chartStyle

Referenced by: [CT_StyleEntry](#)

This simple type specifies a list modifiers to use when resolving a **CT_StyleEntry** (section 2.8.3.7) which alters the properties in the specified way.[<108>](#) The modifiers are applied in the order in which they appear.

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

```
<xsd:simpleType name="ST_StyleEntryModifierList">
  <xsd:list itemType="ST_StyleEntryModifier"/>
</xsd:simpleType>
```

See section [5.15](#) for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.8.4.10   ST_StyleReferenceModifier

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chartStyle

Referenced by: [ST_StyleReferenceModifierList](#)

This simple type specifies a modifier to use when resolving a **CT_StyleReference** (section [2.8.3.8](#)) which alters the resolved properties in the specified way.[<109>](#) The modifier is either a known enumeration or an unknown modifier stored as a string. If it is an unknown modifier, no modification is made.

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

```
<xsd:simpleType name="ST_StyleReferenceModifier">
```

```
        <xsd:union memberTypes="ST_StyleReferenceModifierEnum xsd:string"/>
    </xsd:simpleType>
```

See section 5.15 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.8.4.11   ST_StyleReferenceModifierEnum

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chartStyle

This simple type specifies a modifier to use when resolving a **CT_StyleReference** (section 2.8.3.8) which alters the resolved properties in the specified way.<110>

Value	Meaning
ignoreCSTransforms	When resolving a **CT_StyleColor** (section 2.8.3.6) in this **CT_StyleReference**, a color is retrieved from the **CT_ColorStyle**. With this modifier, the color retrieved will not have any transforms applied to it.

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

```
    <xsd:simpleType name="ST_StyleReferenceModifierEnum">
      <xsd:restriction base="xsd:token">
        <xsd:enumeration value="ignoreCSTransforms"/>
      </xsd:restriction>
    </xsd:simpleType>
```

See section 5.15 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.8.4.12   ST_StyleReferenceModifierList

Target namespace: http://schemas.microsoft.com/office/drawing/2012/chartStyle

Referenced by: CT_StyleReference, CT_FontReference

This simple type specifies a list of modifiers to use when resolving a **CT_StyleReference** (section 2.8.3.8) which alters the resolved properties in the specified way.<111> Modifiers are applied in order that they are listed.

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

```
    <xsd:simpleType name="ST_StyleReferenceModifierList">
      <xsd:list itemType="ST_StyleReferenceModifier"/>
    </xsd:simpleType>
```

See section 5.15 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.9 http://schemas.microsoft.com/office/drawing/2010/diagram

2.9.1 Elements

2.9.1.1 cNvPr

Target namespace: http://schemas.microsoft.com/office/drawing/2010/diagram

A **CT_NonVisualDrawingProps** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies the non-visual drawing properties of a point in the data model. This enables additional information that does not affect the appearance of the point to be stored.<112>

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

```
<xsd:element name="cNvPr" type="a:CT_NonVisualDrawingProps"/>
```

See section 5.16 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.9.1.2 recolorImg

Target namespace: http://schemas.microsoft.com/office/drawing/2010/diagram

A CT_Boolean element that specifies that images in the diagram are to be rendered as duotone, and thus rendered with the color specified by the **fillCrlLst** ([ISO/IEC29500-1:2012] section 21.4.4.8) of the color transform on the diagram.

The following figures demonstrate the effect of this flag on a diagram with images in it.

Figure 28: recolorImg is set to "false" or not present

Figure 29: recolorImg is set to "true"

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

```
<xsd:element name="recolorImg" type="CT_Boolean"/>
```

See section 5.16 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.9.2 Attributes

None.

2.9.3 Complex Types

2.9.3.1 CT_Boolean

Target namespace: http://schemas.microsoft.com/office/drawing/2010/diagram

Referenced by: recolorImg

Defines a property with a Boolean value.

Attributes:

val: Specifies a binary value for the property defined by the parent **XML** element. The default is FALSE.

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

```
<xsd:complexType name="CT_Boolean">
  <xsd:attribute name="val" type="xsd:boolean" use="optional" default="false"/>
</xsd:complexType>
```

See section 5.16 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.9.4 Simple Types

None.

2.10 http://schemas.microsoft.com/office/drawing/2008/diagram

2.10.1 Elements

2.10.1.1 dataModelExt

Target namespace: http://schemas.microsoft.com/office/drawing/2008/diagram

Element type: **CT_DataModelExtBlock**

An extension list child element of: **dataModel** as specified in [ISO/IEC29500-1:2012] section 21.4.2.10

*(*For more details, see [ISO/IEC29500-1:2012] section 10*.1.2.)*

Extension list URI attribute: http://schemas.microsoft.com/office/drawing/2008/diagram

An additional element of a **dataModel** that defines the explicit part location of the Diagram Drawing and the minimum application version required to layout this diagram.

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

```
<xsd:element name="dataModelExt" type="CT_DataModelExtBlock"/>
```

See section 5.6 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.10.1.2   drawing

Target namespace: http://schemas.microsoft.com/office/drawing/2008/diagram

A CT_Drawing element that specifies the last successful output of diagram layout. This element is the root element of the Diagram Layout part (see 2.1.3).

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

```
<xsd:element name="drawing" type="CT_Drawing"/>
```

See section 5.6 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.10.2 Attributes

None.

2.10.3 Complex Types

2.10.3.1   CT_DataModelExtBlock

Target namespace: http://schemas.microsoft.com/office/drawing/2008/diagram

Referenced by: dataModelExt

This complex type specifies a relationship identifier to the Diagram Drawing part, as well as a URI that is used to determine the minimum application version required to run layout on the diagram.

Attributes:

relId: A **string** attribute ([XMLSCHEMA2] section 3.2.1) that specifies the identifier of the part that contains the Diagram Drawing object.

minVer: An **anyURI** attribute ([XMLSCHEMA2] section 3.2.17) that specifies the minimum version required to display the layout.

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

```
<xsd:complexType name="CT_DataModelExtBlock">
  <xsd:attribute name="relId" type="xsd:string"/>
  <xsd:attribute name="minVer" type="xsd:anyURI"/>
</xsd:complexType>
```

See section 5.6 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.10.3.2   CT_Drawing

Target namespace: http://schemas.microsoft.com/office/drawing/2008/diagram

Referenced by: drawing

This specifies a visual representation of the last successful layout for a diagram.

Child Elements:

spTree: A **CT_GroupShape** element that specifies the top-level **group shape** that represents the last layout.

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

```
<xsd:complexType name="CT_Drawing">
  <xsd:sequence>
    <xsd:element name="spTree" type="CT_GroupShape" minOccurs="1" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.6 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.10.3.3   CT_GroupShape

Target namespace: http://schemas.microsoft.com/office/drawing/2008/diagram

Referenced by: CT_Drawing

This complex type specifies a **group shape** that represents one or more shapes grouped together. This **shape** is to be treated as if it were a regular shape, but instead of being described by a single geometry, it is made up of all the shape geometries encompassed within it. Within a group shape, each shape in the group is specified as it normally would be. However, a single transform can apply to the group of shapes as though it were a single shape.

Child Elements:

nvGrpSpPr: A **CT_GroupShapeNonVisual** element that specifies the non-visual properties of the group shape.

grpSpPr: A **CT_GroupShapeProperties** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies group shape properties.

sp: A **CT_Shape** element that specifies a shape that is a child of this group.

grpSp: A **CT_GroupShape** element that specifies a group shape that is a child of this group.

extLst: A **CT_OfficeArtExtensionList** element ([ISO/IEC29500-1:2012] section A.4.1) that enables future extensions to the group shape.

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

```
<xsd:complexType name="CT_GroupShape">
  <xsd:sequence>
    <xsd:element name="nvGrpSpPr" type="CT_GroupShapeNonVisual" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="grpSpPr" type="a:CT_GroupShapeProperties" minOccurs="1"
maxOccurs="1"/>
    <xsd:choice minOccurs="0" maxOccurs="unbounded">
      <xsd:element name="sp" type="CT_Shape"/>
      <xsd:element name="grpSp" type="CT_GroupShape"/>
    </xsd:choice>
    <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
```

```
        </xsd:sequence>
    </xsd:complexType>
```

See section 5.6 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.10.3.4   CT_GroupShapeNonVisual

Target namespace: http://schemas.microsoft.com/office/drawing/2008/diagram

Referenced by: CT_GroupShape

This complex type specifies all non-visual properties for a **group shape**. This element is a container for the non-visual shape properties of a group shape. This provides additional information that does not affect the appearance of the group shape to be stored.

Child Elements:

cNvPr: A **CT_NonVisualDrawingProps** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies non-visual drawing properties.

cNvGrpSpPr: A **CT_NonVisualGroupDrawingShapeProps** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies all non-visual group shape drawing properties.

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

```
<xsd:complexType name="CT GroupShapeNonVisual">
  <xsd:sequence>
    <xsd:element name="cNvPr" type="a:CT NonVisualDrawingProps" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="cNvGrpSpPr" type="a:CT_NonVisualGroupDrawingShapeProps" minOccurs="1"
maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.6 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.10.3.5   CT_Shape

Target namespace: http://schemas.microsoft.com/office/drawing/2008/diagram

Referenced by: CT_GroupShape

This complex type specifies the existence of a single **shape**. A shape can use either a preset or a custom geometry, defined by using the DrawingML framework. In addition to a geometry, each shape can have both visual and non-visual properties. Text and corresponding styling information can also be attached to a shape. This shape is specified along with all other shapes in **group shape** elements.

Child Elements:

nvSpPr: A **CT_ShapeNonVisual** element that specifies non-visual shape properties associated with the shape.

spPr: A **CT_ShapeProperties** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies visual shape properties of the shape

style: A **CT_ShapeStyle** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies the style of the shape.

txBody: A **CT_TextBody** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies the shape text associated with the shape

txXfrm: A **CT_Transform2D** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies a 2-D transform to be applied to the text body of the shape.

extLst: A **CT_OfficeArtExtensionList** element ([ISO/IEC29500-1:2012] section A.4.1) that enables future extensions to the shape.

Attributes:

modelId: An **ST_ModelId** attribute ([ISO/IEC29500-1:2012] section 21.4.7.43) that specifies the identifier of the **DataModel** element that this shape represents.

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

```
<xsd:complexType name="CT Shape">
  <xsd:sequence>
    <xsd:element name="nvSpPr" type="CT_ShapeNonVisual" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="spPr" type="a:CT ShapeProperties" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="style" type="a:CT_ShapeStyle" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="txBody" type="a:CT TextBody" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="txXfrm" type="a:CT_Transform2D" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="modelId" type="d:ST_ModelId" use="required"/>
</xsd:complexType>
```

See section 5.6 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.10.3.6   CT_ShapeNonVisual

Target namespace: http://schemas.microsoft.com/office/drawing/2008/diagram

Referenced by: CT_Shape

This complex type specifies all non-visual properties for a **shape**. This element is a container for the non-visual identification properties, shape properties, and application properties of a shape. This complex type provides additional information that does not affect the appearance of the shape to be stored.

Child Elements:

cNvPr: A **CT_NonVisualDrawingProps** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies non-visual drawing properties for the shape.

cNvSpPr: A **CT_NonVisualDrawingShapeProps** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies all non-visual shape drawing properties of the shape.

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

```
<xsd:complexType name="CT_ShapeNonVisual">
  <xsd:sequence>
    <xsd:element name="cNvPr" type="a:CT_NonVisualDrawingProps" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="cNvSpPr" type="a:CT_NonVisualDrawingShapeProps" minOccurs="1"
maxOccurs="1"/>
  </xsd:sequence>
```

```
        </xsd:complexType>
```

See section 5.6 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.10.4 Simple Types

None.

2.11 http://schemas.microsoft.com/ink/2010/main

2.11.1 Elements

2.11.1.1   context

Target namespace: http://schemas.microsoft.com/ink/2010/main

A CT_CtxNode element that specifies the context of a set of Ink traces stored in a **traceGroup** element as specified in [InkML].

This element MUST be a child of an **emma:interpretation** element ([EMMA] section 3.2). The **emma:interpretation** element must be a child of an **inkml::annotationXML** element ([InkML] section 6.3.2). The **inkml:annotationXML** element MUST be a child of an **inkml:traceGroup** element ([InkML] section 3.3.1).

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

```
    <xsd:element name="context" type="CT_CtxNode"/>
```

See section 5.7 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.11.2 Attributes

None.

2.11.3 Complex Types

2.11.3.1   CT_CtxLink

Target namespace: http://schemas.microsoft.com/ink/2010/main

Referenced by: CT_CtxNode

An element of this type defines a semantic relationship from one Ink context node to another.

Attributes:

direction: An **ST_Dir** attribute that specifies the direction of the semantic link: to, from, or with. The "to" or "from" directions apply to ink that represent connectors or arrows, whereas "with" implies no direction, such as an underline on a word.

ref: An **ST_Ref** attribute that specifies the identifier of the other context node or **shape** being linked to, from, or with this context node. If it is an **xsd:unsignedInt**, it MUST reference a shape identifier

elsewhere in the drawing. If it is an **ST_Guid**, it MUST reference another context node in the document.

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

```
<xsd:complexType name="CT_CtxLink">
  <xsd:attribute name="direction" type="ST_Dir"/>
  <xsd:attribute name="ref" type="ST_Ref"/>
</xsd:complexType>
```

See section 5.7 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.11.3.2   CT_CtxNode

Target namespace: http://schemas.microsoft.com/ink/2010/main

Referenced by: context

The **CT_CtxNode** defines an Ink context node and its properties. A context node is a logical collection of Ink traces. When Ink is drawn by the user, the Ink traces are analyzed and organized into a hierarchy of context nodes. Each context node has a type (specified by the **type** attribute) and can have zero or more child content nodes. For example, a **writingRegion** content node can have one or more **paragraph** content nodes. In addition, context nodes can have relational links to each other. For example, if a word is underlined, the context node representing the ink word and the context node representing the underline are linked.

For example, the following figure shows ink that is analyzed as shown in the following code example.

Figure 30: Example ink text

```
<context type="writingRegion"/>
  ...
  <context type="paragraph"/>
    ...
    <context type="line"/>
      ...
      <context type="inkWord"/>
      ...
      <context type="inkWord">
         <destinationLink direction="with" ref="id of inkDrawing below"/>
      </context>

<context type="inkDrawing" semanticType="underline">
  <sourceLink direction="with" ref="id of inkWord above"/>
<context>
```

Child Elements:

property: A **CT_Property** element that specifies a user-defined binary data property.

sourceLink: A **CT_CtxLink** element that specifies a semantic link from another content node.

destinationLink: A **CT_CtxLink** element that specifies a semantic link to another context node.

Attributes:

id: An **ST_Guid** attribute that specifies a GUID for this context node.

type: An **ST_CtxNodeType** attribute that specifies the type of this context node.

rotatedBoundingBox: An **[ST_Points](#)** attribute that specifies a rectangular region encompassed by this context node. Applies to all context node types.

alignmentLevel: An **xsd:int** attribute ([XMLSCHEMA2] section 3.3.17) that specifies the alignment level of a paragraph type context node. If this attribute is present, the value of the type attribute MUST be set to "paragraph".

contentType: An **xsd:int** attribute ([XMLSCHEMA2] section 3.3.17) that specifies the content type of the context node. If this attribute is present, the value of the type attribute MUST be set to "paragraph".

ascender: An **ST_Points** attribute that specifies the ascender. If this attribute is present, the value of the type attribute MUST be set to "line".

descender: An **ST_Points** attribute that specifies the descender. If this attribute is present, the value of the type attribute MUST be set to "line".

baseline: An **ST_Points** attribute that specifies the baseline of a line. If this attribute is present, the value of the type attribute MUST be set to "line".

midline: An **ST_Points** attribute that specifies the midline of a line. If this attribute is present, the value of the type attribute MUST be set to "line".

customRecognizerId: An **ST_Guid** attribute that specifies the globally unique identifier (GUID) that represents the custom ink recognizer. If this attribute is present, the value of the type attribute MUST be set to "customRecognizer".

mathML: An **xsd:string** attribute ([XMLSCHEMA2] section 3.2.1) that specifies a string of Math Markup Language ([MathML2.0]). If this attribute is present, the value of the type attribute MUST be set to "mathEquation".

mathStruct: An **xsd:string** attribute ([XMLSCHEMA2] section 3.2.1) that specifies a math **struct**. If this attribute is present, the value of the type attribute MUST be set to "mathStruct".

mathSymbol: An **xsd:string** attribute ([XMLSCHEMA2] section 3.2.1) that specifies a math symbol. If this attribute is present, the value of the type attribute MUST be set to "mathSymbol".

beginModifierType: An **xsd:string** attribute ([XMLSCHEMA2] section 3.2.1) that specifies the beginning modifier type. If this attribute is present, the value of the type attribute MUST be set to "inkDrawing", "nonInkDrawing", or "mixedDrawing".

endModifierType: An **xsd:string** attribute ([XMLSCHEMA2] section 3.2.1) that specifies the ending modifier type. If this attribute is present, the value of the type attribute MUST be set to "inkDrawing", "nonInkDrawing", or "mixedDrawing".

rotationAngle: An **xsd:int** attribute ([XMLSCHEMA2] section 3.3.17) that specifies the rotation angle of the drawing, in degrees. If this attribute is present, the value of the type attribute MUST be set to "inkDrawing", "nonInkDrawing", or "mixedDrawing".

hotPoints: An **ST_Points** attribute that specifies coordinates of the hot points of the drawing. If this attribute is present, the value of the type attribute MUST be set to "inkDrawing", "nonInkDrawing", or "mixedDrawing".

centroid: An **ST_Point** attribute that specifies the center point of the drawing. If this attribute is present, the value of the type attribute MUST be set to "inkDrawing", "nonInkDrawing", or "mixedDrawing".

semanticType: An **ST_SemanticType** attribute that specifies the semantic type of the writing region or drawing. If this attribute is present, the value of the type attribute MUST be set to "writingRegion", "inkDrawing", "nonInkDrawing", or "mixedDrawing".

shapeName: An **xsd:string** attribute ([XMLSCHEMA2] section 3.2.1) that specifies the **shape** name. If this attribute is present, the value of the type attribute MUST be set to "inkDrawing", "nonInkDrawing", or "mixedDrawing".

shapeGeometry: An **ST_Points** attribute that specifies coordinates of the line segments of a drawing. If this attribute is present, the value of the type attribute MUST be set to "nonInkDrawing".

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

```
<xsd:complexType name="CT_CtxNode">
  <xsd:sequence>
    <xsd:element name="property" type="CT_Property" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element name="sourceLink" type="CT_CtxLink" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element name="destinationLink" type="CT_CtxLink" minOccurs="0"
maxOccurs="unbounded"/>
  </xsd:sequence>
  <xsd:attribute name="id" type="ST_Guid" use="optional"/>
  <xsd:attribute name="type" type="ST_CtxNodeType" use="required"/>
  <xsd:attribute name="rotatedBoundingBox" type="ST_Points" use="optional"/>
  <xsd:attribute name="alignmentLevel" type="xsd:int" use="optional" default="0"/>
  <xsd:attribute name="contentType" type="xsd:int" use="optional" default="0"/>
  <xsd:attribute name="ascender" type="ST_Points" use="optional" default="0,0"/>
  <xsd:attribute name="descender" type="ST_Points" use="optional" default="0,0"/>
  <xsd:attribute name="baseline" type="ST_Points" use="optional" default="0,0"/>
  <xsd:attribute name="midline" type="ST_Points" use="optional" default="0,0"/>
  <xsd:attribute name="customRecognizerId" type="ST_Guid" use="optional"/>
  <xsd:attribute name="mathML" type="xsd:string" use="optional" default=""/>
  <xsd:attribute name="mathStruct" type="xsd:string" use="optional" default=""/>
  <xsd:attribute name="mathSymbol" type="xsd:string" use="optional" default=""/>
  <xsd:attribute name="beginModifierType" type="xsd:string" use="optional" default=""/>
  <xsd:attribute name="endModifierType" type="xsd:string" use="optional" default=""/>
  <xsd:attribute name="rotationAngle" type="xsd:int" use="optional" default="0"/>
  <xsd:attribute name="hotPoints" type="ST_Points" use="optional"/>
  <xsd:attribute name="centroid" type="ST_Point" use="optional"/>
  <xsd:attribute name="semanticType" type="ST_SemanticType" use="optional" default="none"/>
  <xsd:attribute name="shapeName" type="xsd:string" use="optional" default=""/>
  <xsd:attribute name="shapeGeometry" type="ST_Points" use="optional"/>
</xsd:complexType>
```

See section 5.7 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.11.3.3   CT_Property

Target namespace: http://schemas.microsoft.com/ink/2010/main

Referenced by: CT_CtxNode

An element of this type stores an arbitrary piece of binary data. The format of the data MUST be represented as an **xsd:hexBinary** ([XMLSCHEMA2] section 3.2.15).

Attributes:

type: An **ST_Guid** attribute that specifies the moniker of the custom data.

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

```
<xsd:complexType name="CT_Property">
  <xsd:simpleContent>
    <xsd:extension base="xsd:hexBinary">
      <xsd:attribute name="type" type="ST_Guid"/>
    </xsd:extension>
  </xsd:simpleContent>
</xsd:complexType>
```

See section 5.7 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.11.4 Simple Types

2.11.4.1   ST_CtxNodeType

Target namespace: http://schemas.microsoft.com/ink/2010/main

Referenced by: CT_CtxNode

This type defines a moniker of a context node type. MUST be either an **ST_KnownCtxNodeType** or an **ST_Guid**.

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

```
<xsd:simpleType name="ST CtxNodeType">
  <xsd:union memberTypes="msink:ST_KnownCtxNodeType msink:ST_Guid"/>
</xsd:simpleType>
```

See section 5.7 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.11.4.2   ST_Dir

Target namespace: http://schemas.microsoft.com/ink/2010/main

Referenced by: CT_CtxLink

This type is an enumeration of context node link directions. Possible values are described in the following table.

Value	Meaning
to	The link is the source of a "to" directional link, such as the beginning of an arrow.
from	This link is the destination of a "from" directional link, such as the head of an arrow.
with	This is a link with no implied direction, such as the underlining of a word.

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

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

```
            <xsd:enumeration value="to"/>
            <xsd:enumeration value="from"/>
            <xsd:enumeration value="with"/>
        </xsd:restriction>
    </xsd:simpleType>
```

See section 5.7 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.11.4.3 ST_Guid

Target namespace: http://schemas.microsoft.com/ink/2010/main

Referenced by: CT_Property, ST_Ref, CT_CtxNode, ST_CtxNodeType

This type specifies the format of a 128-bit **GUID**. Values of this type MUST begin with an opening curly bracket character ({), followed by a string that conforms to the Internet standards track protocol as specified in [RFC4122], and end with a closing curly bracket (}).

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

```
    <xsd:simpleType name="ST_Guid">
        <xsd:restriction base="xsd:token">
            <xsd:pattern value="\{[0-9A-F]{8}-[0-9A-F]{4}-[0-9A-F]{4}-[0-9A-F]{4}-[0-9A-F]{12}\}"/>
        </xsd:restriction>
    </xsd:simpleType>
```

See section 5.7 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.11.4.4 ST_KnownCtxNodeType

Target namespace: http://schemas.microsoft.com/ink/2010/main

Referenced by: ST_CtxNodeType

This type specifies an enumeration of Ink content node types. Possible values are described in the following table.

Value	Meaning
root	A root-level content node. This can be used as the parent of all other context nodes in a collection of ink traces.
unclassifiedInk	The ink of this context node cannot be identified as a particular type.
writingRegion	A context node that is the parent of **paragraph** context nodes.
analysisHint	A context node that contains analysis hint information.
object	A context node that might contain non-ink data of an unknown type.
inkDrawing	A context node that contains ink strokes that make up an arbitrary drawing and does not contain writing.
image	A context node that contains non-ink image data.
paragraph	A context node that is the parent of **line** context nodes and the child of **writingRegion** context nodes.

Value	Meaning
line	A context node that is the parent of **inkWord** or **inkBullet** context nodes and the child of **paragraph** context nodes.
inkBullet	A context node that is the child of a **line** context node and contains ink traces that represent bullet symbols in a bulleted list.
inkWord	A context node that is the child of a **line** context node and contains ink traces that represent written words.
textWord	A context node that is the child of a **line** context node and contains textual words, rather than ink-based words.
customRecognizer	A context node that uses a custom recognizer.
mathRegion	A context node that is the parent of **mathEquation** context nodes.
mathEquation	A context node that contains ink traces that represent a mathematical equation. It has child context nodes of type **mathStruct**.
mathStruct	A context node that contains portions of a mathematical equations. Supported child context nodes are **mathSymbol**, **mathIndentifier**, **mathOperator**, and **mathNumber** elements.
mathSymbol	A context node that represents a mathematical symbol, such as a degree symbol (°).
mathIdentifier	A context node that represents a mathematical identifier such as a function name.
mathOperator	A context node that represents a mathematical operator such as a plus sign.
mathNumber	A context node that represents a number in a mathematical equation.
nonInkDrawing	A context node that represents an arbitrary drawing made up of non-ink geometry.
groupNode	A context node that represents an arbitrary group of other context nodes.
mixedDrawing	A context node that represents a mixture of ink and non-ink drawing traces.

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

```
<xsd:simpleType name="ST_KnownCtxNodeType">
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="root"/>
    <xsd:enumeration value="unclassifiedInk"/>
    <xsd:enumeration value="writingRegion"/>
    <xsd:enumeration value="analysisHint"/>
    <xsd:enumeration value="object"/>
    <xsd:enumeration value="inkDrawing"/>
    <xsd:enumeration value="image"/>
    <xsd:enumeration value="paragraph"/>
    <xsd:enumeration value="line"/>
    <xsd:enumeration value="inkBullet"/>
    <xsd:enumeration value="inkWord"/>
    <xsd:enumeration value="textWord"/>
    <xsd:enumeration value="customRecognizer"/>
    <xsd:enumeration value="mathRegion"/>
    <xsd:enumeration value="mathEquation"/>
    <xsd:enumeration value="mathStruct"/>
    <xsd:enumeration value="mathSymbol"/>
    <xsd:enumeration value="mathIdentifier"/>
    <xsd:enumeration value="mathOperator"/>
    <xsd:enumeration value="mathNumber"/>
```

```
      <xsd:enumeration value="nonInkDrawing"/>
      <xsd:enumeration value="groupNode"/>
      <xsd:enumeration value="mixedDrawing"/>
    </xsd:restriction>
  </xsd:simpleType>
```

See section 5.7 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.11.4.5   ST_KnownSemanticType

Target namespace: http://schemas.microsoft.com/ink/2010/main

Referenced by: ST_SemanticType

This type specifies the semantic type of an Ink context node. Possible values are described in the following table.

Value	Meaning
none	The context node does not have a semantic type.
underline	The context node represents a straight line segment used for annotation to mark text that appears with a horizontal line under it.
strikethrough	The context node represents a straight line segment used for annotation to mark text that appears with a line through it.
highlight	The context node represents a highlight demarcating the underlying object to bring it to the attention of the reader.
scratchOut	The context node represents a wavy line segment used for erasing content.
verticalRange	The context node represents a vertical range consisting of one or more ink strokes that span multiple lines.
callout	The context node represents a callout consisting of one or more ink strokes connecting two objects to draw attention to a portion of a text or drawing.
enclosure	The context node represents one or more ink strokes that encircle a text, an image or an ink area for emphasis.
comment	The context node represents a comment.
container	The context node represents a container consisting of one or more ink strokes that make up a standard **shape**.
connector	The context node represents a connector consisting of one or more ink strokes used to connect two objects.

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

```
  <xsd:simpleType name="ST_KnownSemanticType">
    <xsd:restriction base="xsd:string">
      <xsd:enumeration value="none"/>
      <xsd:enumeration value="underline"/>
      <xsd:enumeration value="strikethrough"/>
      <xsd:enumeration value="highlight"/>
      <xsd:enumeration value="scratchOut"/>
```

```
      <xsd:enumeration value="verticalRange"/>
      <xsd:enumeration value="callout"/>
      <xsd:enumeration value="enclosure"/>
      <xsd:enumeration value="comment"/>
      <xsd:enumeration value="container"/>
      <xsd:enumeration value="connector"/>
    </xsd:restriction>
</xsd:simpleType>
```

See section 5.7 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.11.4.6   ST_Point

Target namespace: http://schemas.microsoft.com/ink/2010/main

Referenced by: ST_Points, CT_CtxNode

This type defines a single coordinate. The coordinate space of both the x and y values is 1/1000 of 1 centimeter. The format of this value MUST be one or more numeric characters optionally preceded by a minus sign, followed by a comma, then one or more numeric characters optionally preceded by a minus sign.

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

```
<xsd:simpleType name="ST_Point">
  <xsd:restriction base="xsd:string">
    <xsd:pattern value="-?[0-9]+,-?[0-9]+"/>
  </xsd:restriction>
</xsd:simpleType>
```

See section 5.7 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.11.4.7   ST_Points

Target namespace: http://schemas.microsoft.com/ink/2010/main

Referenced by: CT_CtxNode

This value defines a series of zero or more coordinates. Each coordinate MUST conform to the **ST_Point** format and be delimited by white space characters.

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

```
<xsd:simpleType name="ST_Points">
  <xsd:list itemType="msink:ST_Point"/>
</xsd:simpleType>
```

See section 5.7 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.11.4.8   ST_Ref

Target namespace: http://schemas.microsoft.com/ink/2010/main

Referenced by: CT_CtxLink

This type defines a reference identifier used by context node links. MUST be either an **xsd:unsignedInt** ([XMLSCHEMA2] section 3.3.22) or an **ST_Guid**.

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

```
<xsd:simpleType name="ST Ref">
  <xsd:union memberTypes="msink:ST Guid xsd:unsignedInt"/>
</xsd:simpleType>
```

See section 5.7 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.11.4.9   ST_SemanticType

Target namespace: http://schemas.microsoft.com/ink/2010/main

Referenced by: CT_CtxNode

This type defines a moniker that identifies the semantic type of an Ink context node. MUST be either an **ST_KnownSemanticType** or an **xsd:unsignedInt** ([XMLSCHEMA2] section 3.3.22).

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

```
<xsd:simpleType name="ST_SemanticType">
  <xsd:union memberTypes="ST KnownSemanticType xsd:unsignedInt"/>
</xsd:simpleType>
```

See section 5.7 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.12 http://schemas.microsoft.com/office/drawing/2012/main

2.12.1 Elements

2.12.1.1   backgroundPr

Target namespace: http://schemas.microsoft.com/office/drawing/2012/main

A CT_BackgroundPr element<113> that specifies the properties of the background of the document.

An extension list child element of: **CT_NonVisualDrawingProps (cNvPr)** as specified in [ISO/IEC29500-1:2012] section 19.3.1.12.

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

```
<xsd:element name="backgroundPr" type="CT_BackgroundPr"/>
```

See section 5.14 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.12.1.2   nonVisualGroupProps

Target namespace: http://schemas.microsoft.com/office/drawing/2012/main

A CT_NonVisualGroupProps element<114> that specifies non-visual properties of a group.

An extension list child element of: **CT_NonVisualGroupDrawingShapeProps (cNvGrpSpPr)** as specified in [ISO/IEC29500-1:2012] section 19.3.1.10.

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

```
<xsd:element name="nonVisualGroupProps" type="CT_NonVisualGroupProps"/>
```

See section 5.14 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.12.1.3   objectPr

Target namespace: http://schemas.microsoft.com/office/drawing/2012/main

A CT_ObjectPr element<115> that specifies object properties of a control or object.

An extension list child element of: **CT_NonVisualPictureProperties (cNvPicPr)** as specified in [ISO/IEC29500-1:2012] section 19.3.1.11.

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

```
<xsd:element name="objectPr" type="CT_ObjectPr"/>
```

See section 5.14 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.12.1.4   signatureLine

Target namespace: http://schemas.microsoft.com/office/drawing/2012/main

A CT_SignatureLine element<116> that specifies a signature line. A signature line provides a visual representation of a signature that is digitally signed.

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

```
<xsd:element name="signatureLine" type="CT_SignatureLine"/>
```

See section 5.14 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.12.2 Attributes

None.

2.12.3 Complex Types

2.12.3.1   CT_BackgroundPr

Target namespace: http://schemas.microsoft.com/office/drawing/2012/main

Referenced by: backgroundPr

This complex type describes the visual properties of the background of a WordprocessingML document.<117>

Attributes:

bwMode: An **ST_BlackWhiteMode** ([ISO/IEC29500-1:2012] section 20.1.10.10) attribute that specifies in what types of colors the background is rendered.

bwPure: An **ST_BlackWhiteMode** ([ISO/IEC29500-1:2012] section 20.1.10.10) attribute that specifies how the background is rendered using pure black and white color.

This is subordinate to **bwMode**. If **bwmMode** is "auto" then the value for **bwNormal** or **bwPure** is used depending on what the output format is. An application can define for itself what, if any, difference there is between normal black and white and pure black and white.

bwNormal: An **ST_BlackWhiteMode** ([ISO/IEC29500-1:2012] section 20.1.10.10) attribute that specifies how the background is rendered using normal black and white color.

This is subordinate to **bwMode**. If **bwMode** is set to "auto" then the value for **bwNormal** or **bwPure** is used depending on what the output format is. An application can define for itself what, if any, difference there is between normal black and white and pure black and white.

targetScreenSize: An **ST_TargetScreenSz** attribute that specifies the target resolution used for documents with a gradient or picture-filled background.

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

```
<xsd:complexType name="CT_BackgroundPr">
  <xsd:attribute name="bwMode" type="a:ST_BlackWhiteMode"/>
  <xsd:attribute name="bwPure" type="a:ST_BlackWhiteMode"/>
  <xsd:attribute name="bwNormal" type="a:ST_BlackWhiteMode"/>
  <xsd:attribute name="targetScreenSize" type="ST_TargetScreenSz"/>
</xsd:complexType>
```

See section 5.14 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.12.3.2   CT_NonVisualGroupProps

Target namespace: http://schemas.microsoft.com/office/drawing/2012/main

Referenced by: nonVisualGroupProps

This complex type specifies non-visual properties of a group of shapes.<118>

Attributes:

isLegacyGroup: A **boolean** ([XMLSCHEMA2] section 3.2.2) attribute that specifies if the group is a legacy group.

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

```
<xsd:complexType name="CT_NonVisualGroupProps">
  <xsd:attribute name="isLegacyGroup" type="xsd:boolean"/>
</xsd:complexType>
```

See section 5.14 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.12.3.3   CT_ObjectPr

Target namespace: http://schemas.microsoft.com/office/drawing/2012/main

Referenced by: objectPr

This complex type specifies the object properties of a control or an object.<119>

Attributes:

objectId: A **string** ([XMLSCHEMA2] section 3.2.1) attribute that specifies a unique ID identifying the **OLE** Object.

isActiveX: A **boolean** ([XMLSCHEMA2] section 3.2.2) attribute that specifies whether the object is an ActiveX object.

linkType: A **string** ([XMLSCHEMA2] section 3.2.1) attribute that specifies the type of image that shall be requested from the application which hosts embedded object data for a linked object.

The following are the possible values for this attribute:

Value	Meaning
Bitmap	(Bitmap Image) Specifies that a bitmap shall be requested.
EnhancedMetaFile	(Enhanced Metafile Image) Specifies that an enhanced metafile shall be requested.
Picture	(Other Image) Specifies that any image format can be requested.

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

```
<xsd:complexType name="CT_ObjectPr">
  <xsd:attribute name="objectId" type="xsd:string"/>
  <xsd:attribute name="isActiveX" type="xsd:boolean"/>
  <xsd:attribute name="linkType" type="xsd:string"/>
</xsd:complexType>
```

See section 5.14 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.12.3.4   CT_SignatureLine

Target namespace: http://schemas.microsoft.com/office/drawing/2012/main

Referenced by: signatureLine

This complex type specifies the properties of signature lines.<120>

Attributes:

isSignatureLine: A **boolean** ([XMLSCHEMA2] section 3.2.2) attribute that specifies whether the image is a signature line object.

id: An **ST_Guid** ([ISO/IEC29500-1:2012] section 22.9.2.4) attribute that specifies the **GUID** of the signature line object.

provId: An **ST_Guid** ([ISO/IEC29500-1:2012] section 22.9.2.4) attribute that specifies the GUID of the provider that creates the signature line object.

signingInstructionsSet: A **boolean** ([XMLSCHEMA2] section 3.2.2) that specifies whether there is data in the **signingInstructions** attribute of the signature line object.

allowComments: A **boolean** ([XMLSCHEMA2] section 3.2.2) attribute that specifies whether the user can attach comments at signing time.

showSignDate: A **boolean** ([XMLSCHEMA2] section 3.2.2) attribute that specifies whether the signed image generated includes the signing date.

suggestedSigner: A **string** ([XMLSCHEMA2] section 3.2.1) attribute that specifies the name of the suggested signer.

suggestedSigner2: A **string** ([XMLSCHEMA2] section 3.2.1) attribute that specifies the title or additional information about the suggested signer.

suggestedSignerEmail: A **string** ([XMLSCHEMA2] section 3.2.1) attribute that specifies the e-mail address of the suggested signer.

signingInstructions: A **string** ([XMLSCHEMA2] section 3.2.1) attribute that specifies the signing instruction that is displayed to the signer.

addlXml: A **string** ([XMLSCHEMA2] section 3.2.1) attribute that specifies an optional **XML** text used to store additional info about the signature line object.

sigProvUrl: A **string** ([XMLSCHEMA2] section 3.2.1) attribute that specifies the URL of the provider.

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

```xsd
<xsd:complexType name="CT_SignatureLine">
  <xsd:attribute name="isSignatureLine" type="xsd:boolean"/>
  <xsd:attribute name="id" type="a:ST_Guid"/>
  <xsd:attribute name="provId" type="a:ST_Guid"/>
  <xsd:attribute name="signingInstructionsSet" type="xsd:boolean"/>
  <xsd:attribute name="allowComments" type="xsd:boolean"/>
  <xsd:attribute name="showSignDate" type="xsd:boolean"/>
  <xsd:attribute name="suggestedSigner" type="xsd:string"/>
  <xsd:attribute name="suggestedSigner2" type="xsd:string"/>
  <xsd:attribute name="suggestedSignerEmail" type="xsd:string"/>
  <xsd:attribute name="signingInstructions" type="xsd:string"/>
  <xsd:attribute name="addlXml" type="xsd:string"/>
  <xsd:attribute name="sigProvUrl" type="xsd:string"/>
</xsd:complexType>
```

See section 5.14 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.12.4 Simple Types

2.12.4.1 ST_TargetScreenSz

Target namespace: http://schemas.microsoft.com/office/drawing/2012/main

Referenced by: CT_BackgroundPr

This simple type specifies possible ideal minimum target screen sizes (width by height, specified in pixels) for how the document could be optimized.<121>

Value	Meaning
544x376	Specifies that the document is optimized for a screen size of 544x376
640x480	Specifies that the document is optimized for a screen size of 640x480
720x512	Specifies that the document is optimized for a screen size of 720x512
800x600	Specifies that the document is optimized for a screen size of 800x600
1024x768	Specifies that the document is optimized for a screen size of 1024x768
1152x882	Specifies that the document is optimized for a screen size of 1152x882
1152x900	Specifies that the document is optimized for a screen size of 1152x900
1280x1024	Specifies that the document is optimized for a screen size of 1280x1024
1600x1200	Specifies that the document is optimized for a screen size of 1600x1200
1800x1440	Specifies that the document is optimized for a screen size of 1800x1440
1920x1200	Specifies that the document is optimized for a screen size of 1920x1200

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

```
<xsd:simpleType name="ST_TargetScreenSz">
  <xsd:restriction base="xsd:token">
    <xsd:enumeration value="544x376"/>
    <xsd:enumeration value="640x480"/>
    <xsd:enumeration value="720x512"/>
    <xsd:enumeration value="800x600"/>
    <xsd:enumeration value="1024x768"/>
    <xsd:enumeration value="1152x882"/>
    <xsd:enumeration value="1152x900"/>
    <xsd:enumeration value="1280x1024"/>
    <xsd:enumeration value="1600x1200"/>
    <xsd:enumeration value="1800x1440"/>
    <xsd:enumeration value="1920x1200"/>
  </xsd:restriction>
</xsd:simpleType>
```

See section 5.14 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.13 http://schemas.microsoft.com/office/word/2010/wordprocessingShape

2.13.1 Elements

2.13.1.1   wsp

Target namespace: http://schemas.microsoft.com/office/word/2010/wordprocessingShape

Referenced by: CT_WordprocessingGroup, CT_WordprocessingCanvas

A CT_WordprocessingShape element that specifies a **shape** in WordprocessingML. See 2.2.7 for more details about how this element is integrated with the Open XML file formats as specified in [ISO/IEC29500-1:2012].

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

```
<xsd:element name="wsp" type="CT_WordprocessingShape"/>
```

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

2.13.2 Attributes

None.

2.13.3 Complex Types

2.13.3.1 CT_LinkedTextboxInformation

Target namespace: http://schemas.microsoft.com/office/word/2010/wordprocessingShape

Referenced by: CT_WordprocessingShape

This type contains all the information necessary for a CT_WordprocessingShape to participate in a **text box story**. An element of this type MUST NOT be present on the first CT_WordprocessingShape element in a series of CT_WordprocessingShape elements that are part of the same text box story. An element of this type MUST be present on all subsequent CT_WordprocessingShape elements.

Child Elements:

extLst: A **CT_OfficeArtExtensionList** ([ISO/IEC29500-1:2012] section A.4.1) element to hold future extensions to the parent element of this **extLst** element

Attributes:

id: An **unsignedShort** ([XMLSCHEMA2] section 3.3.23) attribute that specifies the text box story to which this text box belongs.

seq: An **unsignedShort** ([XMLSCHEMA2] section 3.3.23) attribute that specifies the position of the owning **shape** in the given text box story. This value MUST be unique across all **CT_LinkedTextboxInformation** instances with the same story identifier. This value MUST be greater than 0.

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

```
<xsd:complexType name="CT_LinkedTextboxInformation">
  <xsd:sequence>
    <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="id" type="xsd:unsignedShort" use="required"/>
  <xsd:attribute name="seq" type="xsd:unsignedShort" use="required"/>
</xsd:complexType>
```

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

2.13.3.2 CT_TextboxInfo

Target namespace: http://schemas.microsoft.com/office/word/2010/wordprocessingShape

Referenced by: CT_WordprocessingShape

This type contains all the text contents of a CT_WordprocessingShape and associates that textual information, referred to as a **text box story**, with a story identifier. An element of this type MUST be present only in the CT_WordprocessingShape element that is the first in a series of CT_WordprocessingShape elements that refer to the same text box story.

Child Elements:

w12:txbxContent: A **CT_TxbxContent** ([ISO/IEC29500-4:2012] section A.1) element. This element specifies the text contents.

wne:txbxContent: A **CT_TxbxContent** ([ISO/IEC29500-4:2012] section A.1) element that specifies the text contents. This element is used in place of **w12:txbxContent** in documents with strict conformance.

extLst: A **CT_OfficeArtExtensionList** ([ISO/IEC29500-1:2012] section A.4.1) element to hold future extensions to the parent element of this **extLst** element.

Attributes:

id: An **unsignedShort** ([XMLSCHEMA2] section 3.3.23) attribute that specifies the identity of the text box story begun by a **CT_TextboxInfo** element. This value MUST be unique across a document for each instance of **CT_TextboxInfo**.

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

```
<xsd:complexType name="CT_TextboxInfo">
  <xsd:sequence>
    <xsd:element ref="w12:txbxContent" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="wne:txbxContent" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="id" type="xsd:unsignedShort" use="optional" default="0"/>
</xsd:complexType>
```

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

2.13.3.3   CT_WordprocessingShape

Target namespace: http://schemas.microsoft.com/office/word/2010/wordprocessingShape

Referenced by: wsp, CT_WordprocessingGroup, CT_WordprocessingCanvas

This type defines a **shape** in a WordprocessingML document.

Child Elements:

cNvPr: A **CT_NonVisualDrawingProps** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies non-visual properties. This element MUST NOT be present when the **CT_WordprocessingShape** is contained directly by a **graphicData** (Graphic Object Data) element as specified in [ISO/IEC29500-1:2012] section 20.1.2.2.17. This element MUST be present when the **CT_WordprocessingShape** is not contained directly by a **graphicData** element as specified in [ISO/IEC29500-1:2012] section 20.1.2.2.17.<122>

cNvSpPr: A **CT_NonVisualDrawingShapeProps** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies non-visual shape properties.

cNvCnPr: A **CT_NonVisualConnectorProperties** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies non-visual connector properties.

spPr: A **CT_ShapeProperties** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies the visual shape properties that can be applied to a shape.<123>

style: A **CT_ShapeStyle** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies the style information for a shape.

extLst: A **CT_OfficeArtExtensionList** element ([ISO/IEC29500-1:2012] section A.4.1) to hold future extensions to the parent element of this **extLst** element.

txbx: A CT_TextboxInfo element that specifies the textual contents of the shape if the shape is the first in the series of shapes for the same **text box story**.

linkedTxbx: A CT_LinkedTextboxInformation element that specifies the textual contents of the shape if the shape is not the first in the series of shapes for the indicated text box story.

bodyPr: A **CT_TextBodyProperties** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies the body properties for the text body in a shape.

Attributes:

normalEastAsianFlow: A Boolean attribute that specifies whether the text flow of the text contents of the shape ignores the text flow value specified by the **vert** attribute of the **bodyPr** element. If this flag is set to TRUE, the value of the **vert** attribute of the **bodyPr** element on this **CT_WordprocessingShape** MUST be ignored, and text flows in the manner specified by the value "tbV" for an **ST_TextDirection** (Text Flow Direction) type as specified in [ISO/IEC29500-1:2012] section17.18.93.

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

```
<xsd:complexType name="CT WordprocessingShape">
  <xsd:sequence minOccurs="1" maxOccurs="1">
    <xsd:element name="cNvPr" type="a:CT_NonVisualDrawingProps" minOccurs="0" maxOccurs="1"/>
    <xsd:choice minOccurs="1" maxOccurs="1">
      <xsd:element name="cNvSpPr" type="a:CT NonVisualDrawingShapeProps" minOccurs="1"
maxOccurs="1"/>
      <xsd:element name="cNvCnPr" type="a:CT NonVisualConnectorProperties" minOccurs="1"
maxOccurs="1"/>
    </xsd:choice>
    <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="style" type="a:CT_ShapeStyle" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="extLst" type="a:CT OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
    <xsd:choice minOccurs="0" maxOccurs="1">
      <xsd:element name="txbx" type="CT_TextboxInfo" minOccurs="1" maxOccurs="1"/>
      <xsd:element name="linkedTxbx" type="CT LinkedTextboxInformation" minOccurs="1"
maxOccurs="1"/>
    </xsd:choice>
    <xsd:element name="bodyPr" type="a:CT_TextBodyProperties" minOccurs="1" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="normalEastAsianFlow" type="xsd:boolean" use="optional"
default="false"/>
</xsd:complexType>
```

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

2.13.4 Simple Types

None.

2.14 http://schemas.microsoft.com/office/drawing/2010/picture

2.14.1 Elements

2.14.1.1   extLst

Target namespace: http://schemas.microsoft.com/office/drawing/2010/picture

A **CT_OfficeArtExtensionList** element ([ISO/IEC29500-1:2012] section A.4.1).

Extension attribute on type: **pic** (Picture) as specified in [ISO/IEC29500-1:2012] section20.2.2.5

To maintain compatibility with Office Open XML implementations as specified in [ISO/IEC29500:2012], the namespace of this attribute prefix MUST be specified in an **Ignorable** attribute ([ISO/IEC29500-3:2012] section 10.1.1).

This element specifies a list of extensions for a picture.

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

```
<xsd:element name="extLst" type="a:CT_OfficeArtExtensionList"/>
```

See section 5.12 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.14.1.2   style

Target namespace: http://schemas.microsoft.com/office/drawing/2010/picture

A **CT_ShapeStyle** element ([ISO/IEC29500-1:2012] section A.4.1).

Extension attribute on type: [ISO/IEC29500-1:2012] section 20.2.2.5

To maintain compatibility with Office Open XML file formats as specified in [ISO/IEC29500:2012], the namespace of this attribute prefix MUST be specified in an **Ignorable** attribute ([ISO/IEC29500-3:2012] section 10.1.1).

This element specifies the style information for a picture.

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

```
<xsd:element name="style" type="a:CT_ShapeStyle"/>
```

See section 5.12 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.14.2 Attributes

None.

2.14.3 Complex Types

None.

2.14.4 Simple Types

None.

2.15 http://schemas.microsoft.com/office/word/2010/wordml

2.15.1 Elements

2.15.1.1 contentPart

Target namespace: http://schemas.microsoft.com/office/word/2010/wordml

Referenced by: CT_WordprocessingGroup, CT_WordprocessingCanvas

A CT_WordContentPart element that specifies a reference to XML content in a format not specified in [ISO/IEC29500-1:2012].

This element serves the same purpose as the **contentPart** element in WordprocessingML ([ISO/IEC29500-1:2012] section 17.3.3.2), but appears under **graphicData** ([ISO/IEC29500-1:2012] section 20.1.2.2.17), CT_WordprocessingGroup, and CT_WordprocessingCanvas.

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

```
<xsd:element name="contentPart" type="CT_WordContentPart"/>
```

See section 5.3 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.15.2 Attributes

None.

2.15.3 Complex Types

2.15.3.1 CT_WordContentPart

Target namespace: http://schemas.microsoft.com/office/word/2010/wordml

Referenced by: contentPart, CT_WordprocessingGroup, CT_WordprocessingCanvas

A complex type that specifies a reference to XML content in a format not specified by [ISO/IEC29500-1:2012].

This element serves the same purpose as the **contentPart** element in WordprocessingML ([ISO/IEC29500-1:2012] section 17.3.3.2), but appears under **graphicData** ([ISO/IEC29500-1:2012] section 20.1.2.2.17), **CT_WordprocessingGroup**, and **CT_WordprocessingCanvas**.

Child Elements:

nvContentPartPr: A CT_WordContentPartNonVisual element that specifies non-visual properties for the content part.

xfrm: A **CT_Transform2D** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies the 2-D transform for the content part.

extLst: A **CT_OfficeArtExtensionList** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies the extension list in which all future extensions of element type **ext** is defined. The extension list, along with corresponding future extensions, is used to extend the storage capabilities of the DrawingML framework. This enables various new types of data to be stored natively in the framework.

Attributes:

bwMode: An **ST_BlackWhiteMode** attribute ([ISO/IEC29500-1:2012] section 20.1.10.10) 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.

r:id: An **ST_RelationshipId** attribute ([ISO/IEC29500-1:2012] section 22.8.2.1) that specifies the relationship identifier to a content part.

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

```
<xsd:complexType name="CT_WordContentPart">
  <xsd:sequence>
    <xsd:element name="nvContentPartPr" type="CT_WordContentPartNonVisual" minOccurs="0"
maxOccurs="1"/>
    <xsd:element name="xfrm" type="a:CT_Transform2D" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="bwMode" type="a:ST_BlackWhiteMode" use="optional"/>
  <xsd:attribute ref="r:id" use="required"/>
</xsd:complexType>
```

See section 5.3 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.15.3.2   CT_WordContentPartNonVisual

Target namespace: http://schemas.microsoft.com/office/word/2010/wordml

Referenced by: CT_WordContentPart

A complex type that specifies non-visual properties for CT_WordContentPart.

Child Elements:

cNvPr: A **CT_NonVisualDrawingProps** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies the non-visual drawing properties for the content part. This provides additional information that does not affect the appearance of the content part to be stored.

cNvContentPartPr: A CT_NonVisualInkContentPartProperties element that specifies non-visual ink properties for the content part. This provides additional information that does not affect the appearance of ink in the content part to be stored.

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

```
<xsd:complexType name="CT_WordContentPartNonVisual">
  <xsd:sequence>
    <xsd:element name="cNvPr" type="a:CT_NonVisualDrawingProps" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="cNvContentPartPr" type="a14:CT_NonVisualInkContentPartProperties"
minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.3 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.15.4 Simple Types

None.

2.16 http://schemas.microsoft.com/office/word/2010/wordprocessingGroup

2.16.1 Elements

2.16.1.1 wgp

Target namespace: http://schemas.microsoft.com/office/word/2010/wordprocessingGroup

Referenced by: CT_WordprocessingCanvas

A CT_WordprocessingGroup element that specifies a group in WordprocessingML. See 2.2.7 for more details about how this element is integrated with the Open XML file formats as specified in [ISO/IEC29500-1:2012].

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

```
    <xsd:element name="wgp" type="CT_WordprocessingGroup"/>
```

See section 5.4 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.16.2 Attributes

None.

2.16.3 Complex Types

2.16.3.1 CT_GraphicFrame

Target namespace: http://schemas.microsoft.com/office/word/2010/wordprocessingGroup

Referenced by: CT_WordprocessingGroup, CT_WordprocessingCanvas

This type defines a container for a graphical object as specified in [ISO/IEC29500-1:2012] section 20.1.2.2.16 to be integrated in the context of the type defined by a CT_WordprocessingGroup.

Child Elements:

cNvPr: A **CT_NonVisualDrawingProps** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies the non-visual properties of the current **CT_GraphicFrame**.

cNvFrPr: A **CT_NonVisualGraphicFrameProperties** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies the non-visual frame properties of the current **CT_GraphicFrame**.

xfrm: A **CT_Transform2D** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies the transformation of the current **CT_GraphicFrame**.

a:graphic: A **CT_GraphicalObject** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies the graphical object content in the current **CT_GraphicFrame**.

extLst: A **CT_OfficeArtExtensionList** element ([ISO/IEC29500-1:2012] section A.4.1) to hold future extensions to the parent element of this **extLst** element.

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

```
<xsd:complexType name="CT_GraphicFrame">
  <xsd:sequence>
    <xsd:element name="cNvPr" type="a:CT_NonVisualDrawingProps" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="cNvFrPr" type="a:CT_NonVisualGraphicFrameProperties" minOccurs="1"
maxOccurs="1"/>
    <xsd:element name="xfrm" type="a:CT_Transform2D" minOccurs="1" maxOccurs="1"/>
    <xsd:element ref="a:graphic" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.4 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.16.3.2 CT_WordprocessingGroup

Target namespace: http://schemas.microsoft.com/office/word/2010/wordprocessingGroup

Referenced by: wgp, CT_WordprocessingCanvas

This complex type defines the data that represents a group of graphical objects in WordprocessingML.

Child Elements:

cNvPr: A **CT_NonVisualDrawingProps** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies the non-visual properties of the current **CT_WordprocessingGroup**. This element MUST NOT be present when the **CT_WordprocessingGroup** is contained directly by a **graphicData** (Graphic Object Data) element as specified in [ISO/IEC29500-1:2012] section 20.1.2.2.17. This element MUST be present when the **CT_WordprocessingGroup** is not contained directly by a **graphicData** element as specified in [ISO/IEC29500-1:2012] section 20.1.2.2.17.

cNvGrpSpPr: A **CT_NonVisualGroupDrawingShapeProps** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies the non-visual group properties of the current **CT_WordprocessingGroup**.

grpSpPr: A **CT_GroupShapeProperties** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies the properties that are common across all shapes in the current **CT_WordprocessingGroup**. If there are any conflicting properties between the **group shape** properties and **shape** properties, the individual shape properties SHOULD<124> take precedence.

wps:wsp: A CT_WordprocessingShape element that specifies a shape that is a child of the current **CT_WordprocessingGroup**.

grpSp: A CT_WordprocessingGroup element that specifies a group that is a child of the current **CT_WordprocessingGroup**.

graphicFrame: A CT_GraphicFrame element that specifies a graphical object that is a child of the current **CT_WordprocessingGroup**.<125>

pic:pic: A **CT_Picture** element ([ISO/IEC29500-1:2012] section A.4.2) that specifies a picture that is a child of the current **CT_WordprocessingGroup**.

w14:contentPart: A CT_WordContentPart element that specifies a content part that is a child of the current **CT_WordprocessingGroup**.

extLst: A **CT_OfficeArtExtensionList** element ([ISO/IEC29500-1:2012] section A.4.1) to hold future extensions to the parent element of this **extLst** element.

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

```
    <xsd:complexType name="CT WordprocessingGroup">
      <xsd:sequence minOccurs="1" maxOccurs="1">
        <xsd:element name="cNvPr" type="a:CT NonVisualDrawingProps" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="cNvGrpSpPr" type="a:CT_NonVisualGroupDrawingShapeProps" minOccurs="1"
  maxOccurs="1"/>
        <xsd:element name="grpSpPr" type="a:CT GroupShapeProperties" minOccurs="1"
  maxOccurs="1"/>
        <xsd:choice minOccurs="0" maxOccurs="unbounded">
          <xsd:element ref="wps:wsp"/>
          <xsd:element name="grpSp" type="CT_WordprocessingGroup"/>
          <xsd:element name="graphicFrame" type="CT_GraphicFrame"/>
          <xsd:element ref="pic:pic"/>
          <xsd:element ref="w14:contentPart"/>
        </xsd:choice>
        <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
  maxOccurs="1"/>
      </xsd:sequence>
    </xsd:complexType>
```

See section 5.4 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.16.4 Simple Types

None.

2.17 http://schemas.microsoft.com/office/word/2010/wordprocessingCanvas

2.17.1 Elements

2.17.1.1   wpc

Target namespace: http://schemas.microsoft.com/office/word/2010/wordprocessingCanvas

A CT_WordprocessingCanvas element that specifies a **drawing canvas** in WordprocessingML. See section 2.2.7 for more details about how this element is integrated with [ISO/IEC29500-1:2012].

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

```
    <xsd:element name="wpc" type="CT_WordprocessingCanvas"/>
```

See section 5.5 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.17.2 Attributes

None.

2.17.3 Complex Types

2.17.3.1   CT_WordprocessingCanvas

Target namespace: http://schemas.microsoft.com/office/word/2010/wordprocessingCanvas

Referenced by: wpc

This type defines a **drawing canvas** in a WordprocessingML document.

Child Elements:

bg: A **CT_BackgroundFormatting** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies formatting applied to the background of a drawing canvas.

whole: A **CT_WholeE2oFormatting** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies line formatting properties applied to a drawing canvas and any reflection effect applied to a drawing canvas that includes reflection of the objects in the drawing canvas.

wps:wsp: A CT_WordprocessingShape element that specifies a **shape** in a drawing canvas.

pic:pic: A **CT_Picture** element ([ISO/IEC29500-1:2012] section A.4.2) that specifies a picture in a drawing canvas.

w14:contentPart: A CT_WordContentPart element that specifies a graphical object represented by arbitrary **XML** stored in a referenced part.

wpg:wgp: A CT_WordprocessingGroup element that specifies a groups of graphical objects.

graphicFrame: A CT_GraphicFrame element that specifies a graphical object that is a child of the current **CT_WordprocessingCanvas**.<126>

extLst: A **CT_OfficeArtExtensionList** element ([ISO/IEC29500-1:2012] section A.4.1) to hold future extensions to the parent element of this **extLst** element.

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

```
<xsd:complexType name="CT_WordprocessingCanvas">
  <xsd:sequence minOccurs="1" maxOccurs="1">
    <xsd:element name="bg" type="a:CT_BackgroundFormatting" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="whole" type="a:CT_WholeE2oFormatting" minOccurs="0" maxOccurs="1"/>
    <xsd:choice minOccurs="0" maxOccurs="unbounded">
      <xsd:element ref="wps:wsp"/>
      <xsd:element ref="pic:pic"/>
      <xsd:element ref="w14:contentPart"/>
      <xsd:element ref="wpg:wgp"/>
      <xsd:element name="graphicFrame" type="wpg:CT_GraphicFrame"/>
    </xsd:choice>
    <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.5 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.17.4 Simple Types

None.

2.18 http://schemas.microsoft.com/office/word/2010/wordprocessingDrawing

2.18.1 Elements

2.18.1.1   pctPosHOffset

Target namespace: http://schemas.microsoft.com/office/word/2010/wordprocessingDrawing

Child element of: positionH (Horizontal positioning) as specified in [ISO/IEC29500-1:2012] section 20.4.2.10.

An **ST_Percentage** element as specified in [ISO/IEC29500-4:2012] section 12.1.2.2 and [ISO/IEC29500-1:2012] section 20.1.10.40 that specifies the horizontal offset.

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

```
<xsd:element name="pctPosHOffset" type="a:ST_Percentage"/>
```

See section 5.11 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.18.1.2   pctPosVOffset

Target namespace: http://schemas.microsoft.com/office/word/2010/wordprocessingDrawing

Child element of: **positionV** (Vertical positioning) as specified in [ISO/IEC29500-1:2012] section 20.4.2.11.

An **ST_Percentage** element as specified in [ISO/IEC29500-4:2012] section 12.1.2.2 and [ISO/IEC29500-1:2012] section 20.1.10.40 that specifies the vertical offset.

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

```
<xsd:element name="pctPosVOffset" type="a:ST_Percentage"/>
```

See section 5.11 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.18.1.3   sizeRelH

Target namespace: http://schemas.microsoft.com/office/word/2010/wordprocessingDrawing

Optional child element of: **anchor** as specified in [ISO/IEC29500-1:2012] section 20.4.2.3.

If present, this element specifies that the horizontal size (width) is relative. If absent, the horizontal size is absolute.

A **CT_SizeRelH** element that specifies the relative width of a floating DrawingML object in a WordprocessingML document.

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

```
<xsd:element name="sizeRelH" type="CT_SizeRelH"/>
```

See section 5.11 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.18.1.4   sizeRelV

Target namespace: http://schemas.microsoft.com/office/word/2010/wordprocessingDrawing

Optional child element of: **anchor** as specified in [ISO/IEC29500-1:2012] section 20.4.2.3.

If present, this element specifies that the vertical size (height) is relative. If absent, the vertical size is absolute.

A **CT_SizeRelV** element that specifies the relative height of a floating DrawingML object in a WordprocessingML document.

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

```
<xsd:element name="sizeRelV" type="CT_SizeRelV"/>
```

See section 5.11 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.18.2 Attributes

2.18.2.1   anchorId

Target namespace: http://schemas.microsoft.com/office/word/2010/wordprocessingDrawing

An optional ST_EditId attribute that specifies an identifier for the element this attribute is applied to. Values MUST be greater than 0 and less than 0x80000000. See [MS-DOCX] section 2.2.6 for how this attribute integrates with [ISO/IEC29500-1:2012].

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

```
<xsd:attribute name="anchorId" type="ST_EditId"/>
```

See section 5.11 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.18.2.2   editId

Target namespace: http://schemas.microsoft.com/office/word/2010/wordprocessingDrawing

An optional **ST_EditId** attribute of an anchor or inline element as specified in [ISO/IEC29500-1:2012] section 20.4.2.3 and [ISO/IEC29500-1:2012] section 20.4.2.8. If present, this attribute specifies whether the object has been edited relative to the corresponding object in another version of the same document. If this attribute is present on an anchor or inline element and that element is edited in a way other than editing the contents of any nested **txbxContent** element ([ISO/IEC29500-4:2012] section 9.8.1.1), the application MUST either change the value of this attribute or remove it. If present, the value of this attribute MUST be greater than zero and less than 0x80000000.

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

```
<xsd:attribute name="editId" type="ST_EditId"/>
```

See section 5.11 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.18.3 Complex Types

2.18.3.1   CT_SizeRelH

Target namespace: http://schemas.microsoft.com/office/word/2010/wordprocessingDrawing

Referenced by: sizeRelH

Specifies the relative width of a floating DrawingML object in a WordprocessingML document.

Child Elements:

pctWidth: An **ST_PositivePercentage** element (as specified in [ISO/IEC29500-1:2012] section 20.1.10.45) that specifies the width.<127>

Attributes:

relativeFrom: An **ST_SizeRelFromH** attribute that specifies the base on which the relative width is calculated.

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

```
<xsd:complexType name="CT_SizeRelH">
  <xsd:sequence>
    <xsd:element name="pctWidth" type="a:ST_PositivePercentage" minOccurs="1" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="relativeFrom" type="ST_SizeRelFromH" use="required"/>
</xsd:complexType>
```

See section 5.11 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.18.3.2   CT_SizeRelV

Target namespace: http://schemas.microsoft.com/office/word/2010/wordprocessingDrawing

Referenced by: sizeRelV

Specifies the relative height of a floating DrawingML object in a WordprocessingML document.

Child Elements:

pctHeight: An **ST_PositivePercentage** element (as specified in [ISO/IEC29500-1:2012] section 20.1.10.45) that specifies the height.<128>

Attributes:

relativeFrom: An **ST_SizeRelFromV** attribute that specifies the base on which the relative height is calculated.

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

```
<xsd:complexType name="CT_SizeRelV">
  <xsd:sequence>
    <xsd:element name="pctHeight" type="a:ST PositivePercentage" minOccurs="1"
maxOccurs="1"/>
```

```
        </xsd:sequence>
        <xsd:attribute name="relativeFrom" type="ST_SizeRelFromV" use="required"/>
     </xsd:complexType>
```

See section 5.11 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.18.4 Simple Types

2.18.4.1 ST_EditId

Target namespace: http://schemas.microsoft.com/office/word/2010/wordprocessingDrawing

Referenced by: anchorId, editId

This simple type specifies a number value specified as a four-octet (eight-digit) hexadecimal number.

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

```
     <xsd:simpleType name="ST_EditId">
       <xsd:restriction base="xsd:hexBinary">
         <xsd:length value="4"/>
       </xsd:restriction>
     </xsd:simpleType>
```

See section 5.11 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.18.4.2 ST_SizeRelFromH

Target namespace: http://schemas.microsoft.com/office/word/2010/wordprocessingDrawing

Referenced by: CT_SizeRelH

A simple type that specifies the base on which the relative width is calculated. Possible values are described in the following table.

Value	Meaning
margin	Relative to margins of the current page.
page	Relative to edges of the current page.
leftMargin	Relative to the left margin of the current page.
rightMargin	Relative to the right margin of the current page.
insideMargin	Relative to the inside margin of the current page.
outsideMargin	Relative to the outside margin of the current page.

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

```
     <xsd:simpleType name="ST_SizeRelFromH">
       <xsd:restriction base="xsd:token">
```

```
        <xsd:enumeration value="margin"/>
        <xsd:enumeration value="page"/>
        <xsd:enumeration value="leftMargin"/>
        <xsd:enumeration value="rightMargin"/>
        <xsd:enumeration value="insideMargin"/>
        <xsd:enumeration value="outsideMargin"/>
      </xsd:restriction>
    </xsd:simpleType>
```

See section 5.11 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.18.4.3   ST_SizeRelFromV

Target namespace: http://schemas.microsoft.com/office/word/2010/wordprocessingDrawing

Referenced by: CT_SizeRelV

A simple type that specifies the base on which the relative height is calculated. Possible values are described in the following table.

Value	Meaning
margin	Relative to margins of the current page.
page	Relative to edges of the current page.
topMargin	Relative to the top margin of the current page.
bottomMargin	Relative to the bottom margin of the current page.
insideMargin	Relative to the inside margin of the current page.
outsideMargin	Relative to the outside margin of the current page.

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

```
    <xsd:simpleType name="ST_SizeRelFromV">
      <xsd:restriction base="xsd:token">
        <xsd:enumeration value="margin"/>
        <xsd:enumeration value="page"/>
        <xsd:enumeration value="topMargin"/>
        <xsd:enumeration value="bottomMargin"/>
        <xsd:enumeration value="insideMargin"/>
        <xsd:enumeration value="outsideMargin"/>
      </xsd:restriction>
    </xsd:simpleType>
```

See section 5.11 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.19 http://schemas.microsoft.com/office/word/2012/wordprocessingDrawing

2.19.1 Elements

2.19.1.1   webVideoPr

Target namespace: http://schemas.microsoft.com/office/word/2012/wordprocessingDrawing

A CT_WebVideoPr element that specifies the properties for displaying an online video to the user.

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

```
<xsd:element name="webVideoPr" type="CT_WebVideoPr"/>
```

See section 5.18 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.19.2 Attributes

None.

2.19.3 Complex Types

2.19.3.1   CT_WebVideoPr

Target namespace: http://schemas.microsoft.com/office/word/2012/wordprocessingDrawing

Referenced by: webVideoPr

A complex type that specifies the properties used to render HTML into the containing binary large image or picture (BLIP).

Attributes:

embeddedHtml: An xsd:string attribute (**[XMLSCHEMA2]** section 3.2.1) that specifies the embedded HTML to be rendered within the BLIP. This attribute SHOULD NOT be omitted if the video playback experience is to be fully preserved.

h: An xsd:unsignedInt [XMLSCHEMA2] section 3.3.22) attribute that specifies the height of the rendered html page in pixels. This attribute SHOULD NOT be omitted if the video playback experience is to be fully preserved.

w: An xsd:unsignedInt ([XMLSCHEMA2] section 3.3.22) attribute that specifies the width of the rendered html page in pixels. This attribute SHOULD NOT be omitted if the video playback experience is to be fully preserved.

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

```
<xsd:complexType name="CT_WebVideoPr">
  <xsd:attribute name="embeddedHtml" type="xsd:string" use="optional" default=""/>
  <xsd:attribute name="h" type="xsd:unsignedInt" use="optional" default="0"/>
  <xsd:attribute name="w" type="xsd:unsignedInt" use="optional" default="0"/>
</xsd:complexType>
```

See section 5.18 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.19.4 Simple Types

None.

2.20 http://schemas.microsoft.com/office/excel/2010/spreadsheetDrawing

2.20.1 Elements

2.20.1.1 contentPart

Target namespace: http://schemas.microsoft.com/office/excel/2010/spreadsheetDrawing

A CT_ContentPart element that specifies a reference to XML content in a format not specified by [ISO/IEC29500-1:2012].

This element serves the same purpose as the **contentPart** element in SpreadsheetML Drawing ([ISO/IEC29500-1:2012] section 20.5.2.12), but appears as an element in **CT_GroupShape** ([ISO/IEC29500-1:2012] section A.4.5).

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

```
<xsd:element name="contentPart" type="CT_ContentPart"/>
```

See section 5.9 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.20.2 Attributes

None.

2.20.3 Complex Types

2.20.3.1 CT_ApplicationNonVisualDrawingProps

Target namespace: http://schemas.microsoft.com/office/excel/2010/spreadsheetDrawing

Referenced by: CT_ContentPart

A complex type that specifies SpreadsheetML Drawing-specific non-visual properties of a content part.

Attributes:

macro: A string ([XMLSCHEMA2] section 3.2.1) that specifies the name of the custom function associated with the content part.
The format of this string is application-defined and SHOULD be ignored if not understood.<129>
fPublished: A Boolean attribute ([XMLSCHEMA2] section 3.2.2) that specifies whether the content part is published with the worksheet when sent to the server.

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

```
<xsd:complexType name="CT_ApplicationNonVisualDrawingProps">
    <xsd:attribute name="macro" type="xsd:string" use="optional"/>
```

```
            <xsd:attribute name="fPublished" type="xsd:boolean" use="optional" default="false"/>
        </xsd:complexType>
```

See section 5.9 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.20.3.2   CT_ContentPart

Target namespace: http://schemas.microsoft.com/office/excel/2010/spreadsheetDrawing

Referenced by: contentPart

A complex type that specifies a reference to XML content in a format not specified in [ISO/IEC29500-1:2012].

This element serves the same purpose as the **contentPart** element in SpreadsheetML Drawing ([ISO/IEC29500-1:2012] section 20.5.2.12), but appears under **CT_GroupShape** ([ISO/IEC29500-1:2012] section A.4.5) to enable content parts nested in a **group shape**.

Child Elements:

nvContentPartPr: A CT_ContentPartNonVisual element that specifies non-visual properties of the content part.

nvPr: A CT_ApplicationNonVisualDrawingProps element that specifies non-visual SpreadsheetML Drawing-specific properties.

xfrm: A **CT_Transform2D** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies the 2-D transform for the content part.

extLst: A **CT_OfficeArtExtensionList** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies the extension list in which all future extensions of element type **ext** are defined. The extension list, along with corresponding future extensions, is used to extend the storage capabilities of the DrawingML framework. This enables various new types of data to be stored natively in the framework.

Attributes:

r:id: An **ST_RelationshipId** attribute ([ISO/IEC29500-1:2012] section 22.8.2.1) that specifies the relationship identifier to a content part.

bwMode: An **ST_BlackWhiteMode** attribute ([ISO/IEC29500-1:2012] section 20.1.10.10) 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.

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

```
    <xsd:complexType name="CT_ContentPart">
      <xsd:sequence>
        <xsd:element name="nvContentPartPr" type="CT_ContentPartNonVisual" minOccurs="0"
maxOccurs="1"/>
        <xsd:element name="nvPr" type="CT_ApplicationNonVisualDrawingProps" minOccurs="0"
maxOccurs="1"/>
        <xsd:element name="xfrm" type="a:CT_Transform2D" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
      </xsd:sequence>
      <xsd:attribute ref="r:id" use="required"/>
      <xsd:attribute name="bwMode" type="a:ST_BlackWhiteMode" use="optional" default="auto"/>
```

```
        </xsd:complexType>
```

See section 5.9 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.20.3.3   CT_ContentPartNonVisual

Target namespace: http://schemas.microsoft.com/office/excel/2010/spreadsheetDrawing

Referenced by: CT_ContentPart

A complex type that specifies non-visual properties of a **contentPart** element ([ISO/IEC29500-1:2012] section 20.5.2.12).

Child Elements:

cNvPr: A **CT_NonVisualDrawingProps** element ([ISO/IEC29500-1:2012] section A.4.1) that specifies the non-visual drawing properties of the content part. This enables additional information that does not affect the appearance of the content part to be stored.

cNvContentPartPr: A CT_NonVisualInkContentPartProperties element that specifies non-visual **ink** properties of the content part. This enables additional information that does not affect the appearance of ink in the content part to be stored.

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:sequence>
    </xsd:complexType>
```

See section 5.9 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.20.4 Simple Types

None.

2.21 http://schemas.microsoft.com/office/powerpoint/2014/inkAction

2.21.1 Elements

2.21.1.1   actions

Target namespace: http://schemas.microsoft.com/office/powerpoint/2014/inkAction

A CT_Actions element<130> that specifies the root element for ink actions.

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

```
    <xsd:element name="actions" type="CT_Actions"/>
```

See section 5.19 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.21.2 Attributes

None.

2.21.3 Complex Types

2.21.3.1   CT_Action

Target namespace: http://schemas.microsoft.com/office/powerpoint/2014/inkAction

Referenced by: CT_ActionGroup, CT_Actions

A complex type<131> that represents an ink action.

Child Elements:

property: A CT_ActionProperty element<132> that specifies additional properties for the ink action. Additional properties include data type required by the ink action, or the render style for the ink action.

actionData: A CT_ActionData element<133> that specifies the data used by the ink action.

actionDataGroup: A CT_ActionDataGroup element<134> that specifies a group of data used by the ink action.

Attributes:

xml:id: A **xsd:string** ([XMLSCHEMA2] section 3.2.1) attribute<135> that specifies identifier for the ink action.

type: An ST_ActionType attribute<136> that specifies the type of the ink action. The ink action type can be "add", "remove" or "transform".

startTime: A **xsd:decimal** ([XMLSCHEMA2] section 3.2.3) attribute<137> that specifies the relative start time for the ink action. The unit is specified by the **timeUnit** attribute in CT_Actions.

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

```
<xsd:complexType name="CT_Action">
  <xsd:sequence>
    <xsd:element name="property" type="CT_ActionProperty" minOccurs="0"
maxOccurs="unbounded"/>
    <xsd:choice minOccurs="0" maxOccurs="unbounded">
      <xsd:element name="actionData" type="CT_ActionData"/>
      <xsd:element name="actionDataGroup" type="CT_ActionDataGroup"/>
    </xsd:choice>
  </xsd:sequence>
  <xsd:attribute ref="xml:id" use="optional" default=""/>
  <xsd:attribute name="type" type="ST_ActionType" use="required"/>
  <xsd:attribute name="startTime" type="xsd:decimal" use="required"/>
</xsd:complexType>
```

See section 5.19 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.21.3.2 CT_ActionData

Target namespace: http://schemas.microsoft.com/office/powerpoint/2014/inkAction

Referenced by: CT_ActionDataGroup, CT_Action

A complex type<138> that represents ink action data.

Child Elements:

transform: A **CT_Matrix** ([InkML] section 6.1.4) element<139> that specifies the transformation applied to the data.

inkml:trace: A **CT_Trace** ([InkML] section 3.2.1) element<140> that specifies an ink stroke data trace captured by the digitizer.

inkml:traceView: A **CT_TraceView** ([InkML] section 3.3.2) element<141> that specifies traces by reference.

Attributes:

xml:id: An **xsd:string** ([XMLSCHEMA2] section 3.2.1) attribute<142> that specifies the identifier for the ink action data.

name: An ST_DataName attribute<143> that specifies the name of ink action data. Ink actions "add" and "remove" require ink action data with the name "stroke". Ink action "transform" requires ink action data names "target" and "path".

ref: An **anyURI** ([XMLSCHEMA2] section 3.2.17) attribute<144> that specifies ink action data by reference.

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

```
<xsd:complexType name="CT ActionData">
  <xsd:sequence>
    <xsd:element name="transform" type="inkml:CT_Matrix" minOccurs="0" maxOccurs="1"/>
    <xsd:choice minOccurs="0" maxOccurs="unbounded">
      <xsd:element ref="inkml:trace"/>
      <xsd:element ref="inkml:traceView"/>
    </xsd:choice>
  </xsd:sequence>
  <xsd:attribute ref="xml:id" use="optional" default=""/>
  <xsd:attribute name="name" type="ST_DataName" use="optional" default="stroke"/>
  <xsd:attribute name="ref" type="xsd:anyURI" use="optional" default=""/>
</xsd:complexType>
```

See section 5.19 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.21.3.3 CT_ActionDataGroup

Target namespace: http://schemas.microsoft.com/office/powerpoint/2014/inkAction

Referenced by: CT_Action

A complex type<145> that represents a group of action data.

Child Elements:

actionData: A CT_ActionData element<146> that specifies ink action data in the group.

Attributes:

xml:id: An **xsd:string** ([XMLSCHEMA2] section 3.2.1) attribute<147> that specifies the identifier for the ink action data group.

name: An ST_DataName attribute<148> that specifies the name of the ink action data group.

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

```
<xsd:complexType name="CT_ActionDataGroup">
  <xsd:sequence>
    <xsd:element name="actionData" type="CT_ActionData" minOccurs="1" maxOccurs="unbounded"/>
  </xsd:sequence>
  <xsd:attribute ref="xml:id" use="optional" default=""/>
  <xsd:attribute name="name" type="ST_DataName" use="optional" default="stroke"/>
</xsd:complexType>
```

See section 5.19 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.21.3.4   CT_ActionGroup

Target namespace: http://schemas.microsoft.com/office/powerpoint/2014/inkAction

Referenced by: CT_Actions

A complex type<149> that represents a group of actions.

Child Elements:

action: A CT_Action element<150> that specifies an ink action.

Attributes:

xml:id: An **xsd:string** ([XMLSCHEMA2] section 3.2.1) attribute<151> that specifies an identifier for the ink action group.

type: An ST_ActionType attribute that specifies the type of the ink action group.

startTime: A **xsd:decimal** ([XMLSCHEMA2] section 3.2.3) attribute<152> that specifies the start time of the ink action group.

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

```
<xsd:complexType name="CT_ActionGroup">
  <xsd:sequence>
    <xsd:element name="action" type="CT_Action" minOccurs="1" maxOccurs="unbounded"/>
  </xsd:sequence>
  <xsd:attribute ref="xml:id" use="optional" default=""/>
  <xsd:attribute name="type" type="ST_ActionType" use="required"/>
  <xsd:attribute name="startTime" type="xsd:decimal" use="required"/>
</xsd:complexType>
```

See section 5.19 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.21.3.5   CT_ActionProperty

Target namespace: http://schemas.microsoft.com/office/powerpoint/2014/inkAction

Referenced by: CT_Action

A complex type<153> that represents an action property.

Attributes:

name: An ST_PropertyName attribute<154> that specifies the name of the action property.

value: An ST_PropertyValue attribute<155> that specifies the value of the action property.

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

```
<xsd:complexType name="CT_ActionProperty">
  <xsd:attribute name="name" type="ST_PropertyName" use="required"/>
  <xsd:attribute name="value" type="ST_PropertyValue" use="optional" default="ink"/>
</xsd:complexType>
```

See section 5.19 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.21.3.6   CT_Actions

Target namespace: http://schemas.microsoft.com/office/powerpoint/2014/inkAction

Referenced by: actions

A complex type<156> that represents the root of ink actions.

Child Elements:

inkml:definitions: A **CT_Definitions** ([InkML] section 6.2.1) element<157> that specifies definitions used by the ink actions.

actionGroup: A CT_ActionGroup element<158> that specifies a group of ink actions.

action: A CT_Action element<159> that specifies an ink action.

Attributes:

xml:id: An **xsd:string** ([XMLSCHEMA2] section 3.2.1) attribute<160> that specifies the identifier for ink actions.

lengthUnit: An **ST_StandardLengthUnits** attribute<161> that specifies length unit used in ink actions. This attribute is defined based on the length attribute of **Units** in [InkML] section 6.4.

timeUnit: An **ST_StandardTimeUnits** attribute<162> that specifies time unit used in ink actions. This attribute is defined based on the time attribute of **Units** in [InkML] section 6.4.

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

```
<xsd:complexType name="CT_Actions">
  <xsd:sequence>
    <xsd:element ref="inkml:definitions" minOccurs="0" maxOccurs="1"/>
    <xsd:choice minOccurs="0" maxOccurs="unbounded">
      <xsd:element name="actionGroup" type="CT_ActionGroup"/>
      <xsd:element name="action" type="CT_Action"/>
    </xsd:choice>
  </xsd:sequence>
  <xsd:attribute ref="xml:id" use="optional" default=""/>
  <xsd:attribute name="lengthUnit" type="inkml:ST_StandardLengthUnits" use="required"/>
```

```
              <xsd:attribute name="timeUnit" type="inkml:ST_StandardTimeUnits" use="required"/>
    </xsd:complexType>
```

See section 5.19 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.21.4 Simple Types

2.21.4.1   ST_ActionType

Target namespace: http://schemas.microsoft.com/office/powerpoint/2014/inkAction

Referenced by: CT_Action, CT_ActionGroup

This simple type<163> specifies a major action type.

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

```
    <xsd:simpleType name="ST_ActionType">
      <xsd:union memberTypes="ST_ActionTypeReserved ST_ActionTypeUser"/>
    </xsd:simpleType>
```

See section 5.19 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.21.4.2   ST_ActionTypeReserved

Target namespace: http://schemas.microsoft.com/office/powerpoint/2014/inkAction

Referenced by: ST_ActionType

This simple type<164> specifies reserved major action types.

Value	Meaning
add	Add data. Ink strokes are added in ink actions with type "add" type. "add" ink action has one child element data or dataGroup with name "stroke" or "path".
remove	Remove data. Ink strokes are removed in ink actions with "remove" type. "remove" ink action has one child element data or dataGroup with name "stroke".
transform	Transform data. "transform" ink action has two child elements **data** or **dataGroup** with name "target" and "path".

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

```
    <xsd:simpleType name="ST_ActionTypeReserved">
      <xsd:restriction base="xsd:string">
        <xsd:enumeration value="add"/>
        <xsd:enumeration value="remove"/>
        <xsd:enumeration value="transform"/>
      </xsd:restriction>
    </xsd:simpleType>
```

See section 5.19 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.21.4.3   ST_ActionTypeUser

Target namespace: http://schemas.microsoft.com/office/powerpoint/2014/inkAction

Referenced by: ST_ActionType

This simple type<165> specifies a user major action type.

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

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

See section 5.19 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.21.4.4   ST_DataName

Target namespace: http://schemas.microsoft.com/office/powerpoint/2014/inkAction

Referenced by: CT_ActionData, CT_ActionDataGroup

This simple type<166> specifies a data name. Data names are named parameters for actions.

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

```
<xsd:simpleType name="ST_DataName">
  <xsd:union memberTypes="ST_DataNameReserved ST_DataNameUser"/>
</xsd:simpleType>
```

See section 5.19 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.21.4.5   ST_DataNameReserved

Target namespace: http://schemas.microsoft.com/office/powerpoint/2014/inkAction

Referenced by: ST_DataName

This simple type<167> specifies reserved data names.

Value	Meaning
stroke	The data represents an ink stroke.
path	The data represents an eraser path.
target	The data represents a target.

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

```
<xsd:simpleType name="ST_DataNameReserved">
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="stroke"/>
    <xsd:enumeration value="path"/>
    <xsd:enumeration value="target"/>
  </xsd:restriction>
</xsd:simpleType>
```

See section 5.19 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.21.4.6   ST_DataNameUser

Target namespace: http://schemas.microsoft.com/office/powerpoint/2014/inkAction

Referenced by: ST_DataName

This simple type<168> specifies a user data name.

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

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

See section 5.19 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.21.4.7   ST_PropertyName

Target namespace: http://schemas.microsoft.com/office/powerpoint/2014/inkAction

Referenced by: CT_ActionProperty

This simple type<169> specifies an action property name.

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

```
<xsd:simpleType name="ST PropertyName">
  <xsd:union memberTypes="ST_PropertyNameReserved ST_PropertyNameUser"/>
</xsd:simpleType>
```

See section 5.19 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.21.4.8   ST_PropertyNameReserved

Target namespace: http://schemas.microsoft.com/office/powerpoint/2014/inkAction

Referenced by: ST_PropertyName

This simple type<170> specifies reserved action property names.

Value	Meaning
dataType	Indicates data type. Value can be "ink", "pointEraser", or "strokeEraser".

Value	Meaning
style	Indicates render style. Value can be "instant".

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

```
<xsd:simpleType name="ST PropertyNameReserved">
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="dataType"/>
    <xsd:enumeration value="style"/>
  </xsd:restriction>
</xsd:simpleType>
```

See section 5.19 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.21.4.9 ST_PropertyNameUser

Target namespace: http://schemas.microsoft.com/office/powerpoint/2014/inkAction

Referenced by: ST_PropertyName

This simple type<171> specifies a user action property name.

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

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

See section 5.19 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.21.4.10 ST_PropertyValue

Target namespace: http://schemas.microsoft.com/office/powerpoint/2014/inkAction

Referenced by: CT_ActionProperty

This simple type<172> specifies action property values.

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

```
<xsd:simpleType name="ST_PropertyValue">
  <xsd:union memberTypes="ST_PropertyValueReserved ST_PropertyValueUser"/>
</xsd:simpleType>
```

See section 5.19 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.21.4.11 ST_PropertyValueReserved

Target namespace: http://schemas.microsoft.com/office/powerpoint/2014/inkAction

Referenced by: ST_PropertyValue

This simple type<173> specifies reserved action property values.

Value	Meaning
ink	The action represents an ink stroke.
pointEraser	The action represents a point eraser.
strokeEraser	The action represents a stroke eraser.
instant	The action represents data that will be rendered instantly, ignoring any time in CT_ActionData.

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

```
<xsd:simpleType name="ST_PropertyValueReserved">
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="ink"/>
    <xsd:enumeration value="pointEraser"/>
    <xsd:enumeration value="strokeEraser"/>
    <xsd:enumeration value="instant"/>
  </xsd:restriction>
</xsd:simpleType>
```

See section 5.19 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.21.4.12   ST_PropertyValueUser

Target namespace: http://schemas.microsoft.com/office/powerpoint/2014/inkAction

Referenced by: ST_PropertyValue

This simple type<174> specifies a user action property value.

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

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

See section 5.19 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.22 http://schemas.microsoft.com/office/drawing/2014/chart

2.22.1 Elements

2.22.1.1   bubble3D

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chart

Referenced by: CT_CategoryFilterException

A **CT_Boolean** ([ISO/IEC29500-1:2012] section A.5.1) element<175> that specifies whether this data point has a 3D bubble.

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

```
<xsd:element name="bubble3D" type="c:CT_Boolean"/>
```

See section 5.20 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.22.1.2   categoryFilterExceptions

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chart

A CT_CategoryFilterExceptions element<176> that specifies exception data points for a filtered category in a series.

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

```
<xsd:element name="categoryFilterExceptions" type="CT_CategoryFilterExceptions"/>
```

See section 5.20 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.22.1.3   datapointuniqueidmap

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chart

A CT_ChartDataPointUniqueIDMap element<177> that specifies a mapping from each data point index to the unique ID of that data point entry, for a single series.

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

```
<xsd:element name="datapointuniqueidmap" type="CT_ChartDataPointUniqueIDMap"/>
```

See section 5.20 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.22.1.4   dLbl

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chart

Referenced by: CT_CategoryFilterException

A CT_DLbl ([ISO/IEC29500-1:2012] section A.5.1) element<178> that specifies the properties of the **Datalabel** (section 2.2.1.3) associated with this data point.

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

```
<xsd:element name="dLbl" type="c:CT_DLbl"/>
```

See section 5.20 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.22.1.5 explosion

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chart

Referenced by: CT_CategoryFilterException

A CT_UnsignedInt ([ISO/IEC29500-1:2012] section A.5.1) element<179> that specifies the amount this data point shall be moved from the center of the pie in a pie chart series.

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

```
<xsd:element name="explosion" type="c:CT_UnsignedInt"/>
```

See section 5.20 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.22.1.6 invertIfNegative

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chart

Referenced by: CT_CategoryFilterException

A **CT_Boolean** ([ISO/IEC29500-1:2012] section A.5.1) element<180> that specifies whether the invert color is shown when this data point has a negative value.

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

```
<xsd:element name="invertIfNegative" type="c:CT_Boolean"/>
```

See section 5.20 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.22.1.7 marker

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chart

Referenced by: CT_CategoryFilterException

A CT_Marker ([ISO/IEC29500-1:2012] section A.5.1) element<181> that specifies the properties of the line marker associated with this data point.

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

```
<xsd:element name="marker" type="c:CT_Marker"/>
```

See section 5.20 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.22.1.8 pivotOptions16

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chart

A CT_PivotOptions16 element<182> that specifies the pivot controls that appear on the chart ([ISO/IEC29500-1:2012] section 21.2).

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

```
<xsd:element name="pivotOptions16" type="CT_PivotOptions16"/>
```

See section 5.20 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.22.1.9   spPr

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chart

Referenced by: CT_CategoryFilterException

A CT_ShapeProperties ([ISO/IEC29500-1:2012] section A.4.1) element<183> that specifies the formatting (like fill or line properties) to be shown on this data point.

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

```
<xsd:element name="spPr" type="a:CT_ShapeProperties"/>
```

See section 5.20 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.22.2 Attributes

None.

2.22.3 Complex Types

2.22.3.1   CT_BooleanFalse

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chart

Referenced by: CT_PivotOptions16

A complex type<184> that specifies a Boolean value that defaults to FALSE**.**

Attributes:

val: A Boolean ([XMLSCHEMA2] section 3.2.2) attribute<185> that specifies the value of the property.

This MUST be set to one of the following: zero, 1, TRUE, or FALSE.

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

```
<xsd:complexType name="CT_BooleanFalse">
  <xsd:attribute name="val" type="xsd:boolean" use="optional" default="false"/>
</xsd:complexType>
```

See section 5.20 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.22.3.2 CT_CategoryFilterException

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chart

Referenced by: CT_CategoryFilterExceptions

A complex type<186> that specifies an exception data point for a filtered category in a series.

Child Elements:

uniqueId: A CT_ChartUniqueID element<187> that specifies the unique ID of a data point in the parent series. The exceptional properties stored in this complex type belong to that data point. The data point is filtered out from the chart series.

spPr: A CT_ShapeProperties ([ISO/IEC29500-1:2012] section A.4.1) element<188> that specifies the formatting (like fill or line properties) to be shown on this data point.

explosion: A CT_UnsignedInt ([ISO/IEC29500-1:2012] section A.5.1) element<189> that specifies the amount this data point shall be moved from the center of the pie in a pie chart series.

invertIfNegative: A **CT_Boolean** ([ISO/IEC29500-1:2012] section A.5.1) element<190> that specifies whether the invert color is shown when this data point has a negative value.

bubble3D: A **CT_Boolean** ([ISO/IEC29500-1:2012] section A.5.1) element<191> that specifies whether this data point has a 3D bubble.

marker: A CT_Marker ([ISO/IEC29500-1:2012] section A.5.1) element<192> that specifies the properties of the line marker associated with this data point

dLbl: A CT_DLbl ([ISO/IEC29500-1:2012] section A.5.1) element<193> that specifies the properties of the **Datalabel** (section 2.2.1.3) associated with this data point.

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

```
<xsd:complexType name="CT_CategoryFilterException">
  <xsd:sequence>
    <xsd:element name="uniqueId" type="CT_ChartUniqueID" minOccurs="1" maxOccurs="1"/>
    <xsd:element ref="spPr" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="explosion" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="invertIfNegative" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="bubble3D" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="marker" minOccurs="0" maxOccurs="1"/>
    <xsd:element ref="dLbl" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.20 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.22.3.3 CT_CategoryFilterExceptions

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chart

Referenced by: categoryFilterExceptions

A complex type<194> that specifies exception data points for a filtered category in a series.

Child Elements:

categoryFilterException: A CT_CategoryFilterException element<195> that specifies one exception data point for a filtered category in a series.

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

```
<xsd:complexType name="CT_CategoryFilterExceptions">
  <xsd:sequence>
    <xsd:element name="categoryFilterException" type="CT CategoryFilterException"
minOccurs="1" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.20 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.22.3.4   CT_ChartDataPointUniqueIDMap

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chart

Referenced by: datapointuniqueidmap

A complex type<196> that specifies a mapping from each data point index to the unique ID of that data point entry, for a single series. This mapping is stored as an extension to the chart series.

Child Elements:

ptentry: A CT_ChartDataPointUniqueIDMapEntry element<197> that specifies a mapping entry.

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

```
<xsd:complexType name="CT ChartDataPointUniqueIDMap">
  <xsd:sequence>
    <xsd:element name="ptentry" type="CT_ChartDataPointUniqueIDMapEntry" minOccurs="0"
maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.20 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.22.3.5   CT_ChartDataPointUniqueIDMapEntry

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chart

Referenced by: CT_ChartDataPointUniqueIDMap

A complex type<198> that specifies a single entry representing the datapoint index and its unique ID in a series. This is used to store unique IDs of filtered-out datapoints that have special properties, such as formatting, datalabels, markers, or pie explosion.

Child Elements:

ptidx: An **unsignedInt** ([XMLSCHEMA2] section 3.3.22) element<199> that specifies this data point index.

uniqueID: A CT_ChartUniqueID element<200> that specifies the unique ID of a data point.

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

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

```
    <xsd:sequence>
      <xsd:element name="ptidx" type="xsd:unsignedInt" minOccurs="1" maxOccurs="1"/>
      <xsd:element name="uniqueID" type="CT_ChartUniqueID" minOccurs="1" maxOccurs="1"/>
    </xsd:sequence>
  </xsd:complexType>
```

See section 5.20 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.22.3.6   CT_ChartUniqueID

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chart

Referenced by: CT_ChartDataPointUniqueIDMapEntry, CT_CategoryFilterException

A complex type<201> that specifies a unique identifier for a data point.

Attributes:

val: A string ([XMLSCHEMA2] section 3.2.1) attribute<202> that specifies the GUID of the data point.

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

```
  <xsd:complexType name="CT_ChartUniqueID">
    <xsd:attribute name="val" type="xsd:string" use="required"/>
  </xsd:complexType>
```

See section 5.20 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.22.3.7   CT_LiteralDataChart

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chart

A complex type<203> that specifies whether this chart was saved by an application that does not support formula references.<204> The chart data is stored as a set of literal values (numbers and strings) with the chart series.

Attributes:

val: A Boolean ([XMLSCHEMA2] section 3.2.2) attribute<205> that specifies whether this chart was saved by an application that does not support formula references.

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

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

See section 5.20 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.22.3.8   CT_MultiLvlStrFilteredLiteralCache

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chart

A complex type<206> that specifies a cached hierarchical data string for category labels of filtered data points in the chart. This type is stored for charts with literal data (the data contains no references) that have categories filtered out.

Child Elements:

multiLvlStrCache: A CT_MultiLvlStrData ([ISO/IEC29500-1:2012] section A.5.1) element<207> that specifies a cached hierarchical data string for category labels of filtered data points in the chart.

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

```
<xsd:complexType name="CT_MultiLvlStrFilteredLiteralCache">
  <xsd:sequence>
    <xsd:element name="multiLvlStrCache" type="c:CT MultiLvlStrData" minOccurs="1"
maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.20 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.22.3.9   CT_NumFilteredLiteralCache

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chart

A complex type<208> that specifies a cached value for charts with literal data (the data contains no references) that have categories filtered out.

Child Elements:

numCache: A CT_NumData ([ISO/IEC29500-1:2012] section A.5.1) element<209> that specifies a cached data value for a filtered data point in the chart.

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

```
<xsd:complexType name="CT_NumFilteredLiteralCache">
  <xsd:sequence>
    <xsd:element name="numCache" type="c:CT_NumData" minOccurs="1" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.20 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.22.3.10   CT_PivotOptions16

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chart

Referenced by: pivotOptions16

A complex type<210> that specifies additional pivot controls that may appear on the chart ([ISO/IEC29500-1:2012] section 21.2).

Child Elements:

showExpandCollapseFieldButtons: A CT_BooleanFalse element<211> that specifies whether two controls are visible on a **PivotChart**, an Expand Entire Field button and a Collapse Entire Field button,

when **pivotOptions:dropZonesVisible** is set to TRUE. MUST NOT exist if the parent **CT_ChartSpace** element does not have a child **CT_PivotSource** element.

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

```
<xsd:complexType name="CT PivotOptions16">
  <xsd:sequence>
    <xsd:element name="showExpandCollapseFieldButtons" type="CT BooleanFalse" minOccurs="0"
maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.20 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.22.3.11 CT_StrFilteredLiteralCache

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chart

A complex type<212> that specifies a cached data string for charts with literal data (the data contains no references) that have categories filtered out.

Child Elements:

strCache: A CT_StrData ([ISO/IEC29500-1:2012] section A.5.1) element<213> that specifies a cached data string for a filtered data point in the chart.

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

```
<xsd:complexType name="CT_StrFilteredLiteralCache">
  <xsd:sequence>
    <xsd:element name="strCache" type="c:CT StrData" minOccurs="1" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.20 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.22.4 Simple Types

None.

2.23 http://schemas.microsoft.com/office/drawing/2014/chart/ac

2.23.1 Elements

2.23.1.1 multiLvlStrLit

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chart/ac

A CT_MultiLvlStrData ([ISO/IEC29500-1:2012] section A.5.1) element<214> that specifies a cached data string for filtered data points in the chart.

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

```
<xsd:element name="multiLvlStrLit" type="c:CT_MultiLvlStrData"/>
```

See section [5.21](#) for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.23.2 Attributes

None.

2.23.3 Complex Types

None.

2.23.4 Simple Types

None.

2.24 http://schemas.microsoft.com/office/drawing/2014/chartex

2.24.1 Elements

2.24.1.1   chart

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

A [CT_RelId](#) element that specifies the relationship identifier for the relationship for this ChartEx part. The type of the relationship is ChartEx (section [2.1.5](#)).

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

```
<xsd:element name="chart" type="CT_RelId"/>
```

See section [5.22](#) for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.1.2   chartSpace

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

A [CT_ChartSpace](#) element that specifies the chart container object.

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

```
<xsd:element name="chartSpace" type="CT_ChartSpace"/>
```

See section [5.22](#) for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.2 Attributes

None.

2.24.3 Complex Types

2.24.3.1 CT_Address

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_GeoLocation

A complex type<215> that specifies geographical properties of the geographical entity of the geocoding result.

Attributes:

address1: A string ([XMLSCHEMA2] section 3.2.1) attribute<216> that specifies the name of the geographical entity of the geocoding result, in the language indicated by the cultureLanguage attribute of the CT_Geography complex type.

countryRegion: A string ([XMLSCHEMA2] section 3.2.1) attribute<217> that specifies the country or region of the geocoding result, in the language indicated by the cultureLanguage attribute of the CT_Geography complex type.

adminDistrict1: A string ([XMLSCHEMA2] section 3.2.1) attribute<218> that specifies the first order administrative subdivision of a country or region of the geographical entity of the geocoding result, such as a state or province. Specified in the language indicated by the cultureLanguage attribute of the CT_Geography complex type.

adminDistrict2: A string ([XMLSCHEMA2] section 3.2.1) attribute<219> that specifies the second order administrative subdivision of a country or region of the geographical entity of the geocoding result, such as a county. Specified in the language indicated by the cultureLanguage attribute of the CT_Geography complex type.

postalCode: A string ([XMLSCHEMA2] section 3.2.1) attribute<220> that specifies the post code, postal code, or ZIP Code of the geocoding result.

locality: A string ([XMLSCHEMA2] section 3.2.1) attribute<221> that specifies a geocoding result that is a populated place, such as a city, suburb, or neighborhood. Specified in the language indicated by the cultureLanguage attribute of the CT_Geography complex type.

isoCountryCode: A string ([XMLSCHEMA2] section 3.2.1) attribute<222> that specifies the ISO-3166-1 alpha 2 country code of the country or region of the geocoding result.

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

```
<xsd:complexType name="CT_Address">
  <xsd:attribute name="address1" type="xsd:string" use="optional"/>
  <xsd:attribute name="countryRegion" type="xsd:string" use="optional"/>
  <xsd:attribute name="adminDistrict1" type="xsd:string" use="optional"/>
  <xsd:attribute name="adminDistrict2" type="xsd:string" use="optional"/>
  <xsd:attribute name="postalCode" type="xsd:string" use="optional"/>
  <xsd:attribute name="locality" type="xsd:string" use="optional"/>
  <xsd:attribute name="isoCountryCode" type="xsd:string" use="optional"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.2 CT_Aggregation

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_SeriesLayoutProperties

A complex type<223> that specifies data aggregation properties.

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

```
<xsd:complexType name="CT_Aggregation"/>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.3 CT_Axis

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_PlotArea

A complex type<224> that specifies an axis.

Child Elements:

catScaling: A CT_CategoryAxisScaling element<225> that specifies the category axis scaling properties.

valScaling: A CT_ValueAxisScaling element<226> that specifies the value axis scaling properties.

title: A CT_AxisTitle element<227> that specifies the axis title.

units: A CT_AxisUnits element that specifies the axis display units.

majorGridlines: A CT_Gridlines element<228> that specifies the major gridlines.

minorGridlines: A CT_Gridlines element<229> that specifies the minor gridlines.

majorTickMarks: A CT_TickMarks element<230> that specifies the major tick marks.

minorTickMarks: A CT_TickMarks element<231> that specifies the minor tick marks.

tickLabels: A CT_TickLabels element<232> that specifies the tick labels.

numFmt: A CT_NumberFormat element<233> that specifies the number format information.

spPr: A **CT_ShapeProperties** ([ISO/IEC29500-4:2012] section A.4.1) element<234> that specifies the OfficeArt shape properties for the axis.

txPr: A **CT_TextBody** ([ISO/IEC29500-1:2012] section A.4.1) element<235> that specifies the OfficeArt text properties for the axis as a single paragraph with no text runs. Any further paragraphs, and any text runs in the first paragraph, are ignored.

extLst: A CT_ExtensionList element<236> that specifies an extensibility container.

Attributes:

id: An ST_AxisId attribute<237> that specifies the axis identifier.

hidden: A **boolean** ([XMLSCHEMA2] section 3.2.2) attribute<238> that specifies whether this axis is hidden (true) or not (false).

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

```
<xsd:complexType name="CT_Axis">
  <xsd:sequence>
    <xsd:choice minOccurs="1" maxOccurs="1">
      <xsd:element name="catScaling" type="CT_CategoryAxisScaling"/>
      <xsd:element name="valScaling" type="CT_ValueAxisScaling"/>
    </xsd:choice>
    <xsd:element name="title" type="CT_AxisTitle" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="units" type="CT_AxisUnits" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="majorGridlines" type="CT_Gridlines" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="minorGridlines" type="CT_Gridlines" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="majorTickMarks" type="CT_TickMarks" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="minorTickMarks" type="CT_TickMarks" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="tickLabels" type="CT_TickLabels" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="numFmt" type="CT_NumberFormat" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="txPr" type="a:CT_TextBody" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="id" type="ST_AxisId" use="required"/>
  <xsd:attribute name="hidden" type="xsd:boolean" use="optional" default="0"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.4   CT_AxisTitle

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_Axis

A complex type<239> that specifies an axis title.

Child Elements:

tx: A CT_Text element<240> that specifies the custom text.

spPr: A **CT_ShapeProperties** ([ISO/IEC29500-4:2012] section A.4.1) element<241> that specifies the OfficeArt shape properties for the axis title.

txPr: A **CT_TextBody** ([ISO/IEC29500-1:2012] section A.4.1) element<242> that specifies the OfficeArt text properties for the axis title as a single paragraph with no text runs. Any further paragraphs, and any text runs in the first paragraph, are ignored.

extLst: A CT_ExtensionList element<243> that specifies an extensibility container.

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

```
<xsd:complexType name="CT_AxisTitle">
  <xsd:sequence>
    <xsd:element name="tx" type="CT_Text" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="txPr" type="a:CT_TextBody" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.5 CT_AxisUnits

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_Axis

A complex type<244> that specifies axis display units.

Child Elements:

unitsLabel: A CT_AxisUnitsLabel element<245> that specifies the axis display units label.

extLst: A CT_ExtensionList element<246> that specifies an extensibility container.

Attributes:

unit: An ST_AxisUnit attribute<247> that specifies the display unit for the axis.

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

```
<xsd:complexType name="CT_AxisUnits">
  <xsd:sequence>
    <xsd:element name="unitsLabel" type="CT_AxisUnitsLabel" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="extLst" type="CT ExtensionList" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="unit" type="ST_AxisUnit" use="optional"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.6 CT_AxisUnitsLabel

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_AxisUnits

A complex type<248> that specifies the axis display units label.

Child Elements:

tx: A CT_Text element<249> that specifies custom label text.

spPr: A **CT_ShapeProperties** ([ISO/IEC29500-1:2012] section A.4.1) element<250> that specifies OfficeArt shape properties for the axit unit label.

txPr: A **CT_TextBody** ([ISO/IEC29500-1:2012] section A.4.1) element<251> that specifies OfficeArt text properties for the axis as a single paragraph with no text runs. Any further paragraphs, and any text runs in the first paragraph, are ignored.

extLst: A CT_ExtensionList element<252> that specifies an extensibility container.

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

```
<xsd:complexType name="CT AxisUnitsLabel">
  <xsd:sequence>
    <xsd:element name="tx" type="CT_Text" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="txPr" type="a:CT TextBody" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
```

```
        </xsd:sequence>
    </xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.7   CT_Binning

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_SeriesLayoutProperties

A complex type<253> that specifies data binning properties.

Child Elements:

binSize: A **double** ([XMLSCHEMA1] section 2.1) element<254> that specifies the binning by bin size.

binCount: An **unsignedInt** ([XMLSCHEMA2] section 3.3.22) element<255> that specifies the binning by bin count.

Attributes:

intervalClosed: An ST_IntervalClosedSide attribute<256> that specifies the interval closed side.

underflow: An ST_DoubleOrAutomatic attribute<257> that specifies the custom value for underflow bin, or an automatic value.

overflow: An ST_DoubleOrAutomatic attribute<258> that specifies the custom value for the overflow bin, or an automatic value.

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

```
    <xsd:complexType name="CT_Binning">
      <xsd:choice minOccurs="0" maxOccurs="1">
        <xsd:element name="binSize" type="xsd:double"/>
        <xsd:element name="binCount" type="xsd:unsignedInt"/>
      </xsd:choice>
      <xsd:attribute name="intervalClosed" type="ST_IntervalClosedSide" use="optional"/>
      <xsd:attribute name="underflow" type="ST_DoubleOrAutomatic" use="optional"/>
      <xsd:attribute name="overflow" type="ST_DoubleOrAutomatic" use="optional"/>
    </xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.8   CT_CategoryAxisScaling

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_Axis

A complex type<259> that specifies the category axis scaling properties.

Attributes:

gapWidth: An ST_GapWidthRatio attribute<260> that specifies the space between data points as a ratio of gap width over category width.

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

```
<xsd:complexType name="CT_CategoryAxisScaling">
  <xsd:attribute name="gapWidth" type="ST_GapWidthRatio" use="optional"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.9   CT_Chart

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_ChartSpace

A complex type<261> that specifies chart layout and formatting information.

Child Elements:

title: A CT_ChartTitle element<262> that specifies chart title data and formatting.

plotArea: A CT_PlotArea element<263> that specifies the plot area layout and formatting.

legend: A CT_Legend element<264> that specifies legend layout and formatting**.**

extLst: A CT_ExtensionList element<265> that specifies an extensibility container.

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

```
<xsd:complexType name="CT_Chart">
  <xsd:sequence>
    <xsd:element name="title" type="CT_ChartTitle" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="plotArea" type="CT_PlotArea" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="legend" type="CT_Legend" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.10   CT_ChartData

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_ChartSpace

A complex type<266> that specifies the data source for the chart object.

Child Elements:

externalData: A CT_ExternalData element that specifies the external data used for the chart.

This element specifies the relationship to the data for this chart. The data can be linked, pointing to a spreadsheet in another file. Alternately, the data can be embedded, contained in a separate part within the same XML package containing the chart. Embedded data is stored as an embedded Spreadsheet object in Office Open XML format.

This element is not used by a spreadsheet application, as the spreadsheet application can maintain its own reference to the data in the spreadsheet by using the CT_Formula element.

data: A CT_Data element<267> that specifies the data used for the chart.

extLst: A CT_ExtensionList element<268> that specifies an extensibility container.

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

```
<xsd:complexType name="CT_ChartData">
  <xsd:sequence>
    <xsd:element name="externalData" type="CT_ExternalData" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="data" type="CT_Data" minOccurs="1" maxOccurs="unbounded"/>
    <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.11   CT_ChartSpace

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: chartSpace

A complex type<269> that specifies the chart container object.

Child Elements:

chartData: A CT_ChartData element<270> that specifies the data for the chart.

chart: A CT_Chart element<271> that specifies chart layout and formatting information.

spPr: A **CT_ShapeProperties** ([ISO/IEC29500-1:2012] section A.4.1) element<272> that specifies OfficeArt shape properties for the entire chart.

txPr: A **CT_TextBody** ([ISO/IEC29500-1:2012] section A.4.1) element<273> that specifies OfficeArt text properties for the entire chart.

clrMapOvr: A **CT_ColorMapping** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the color mapping override for the entire chart. This is used to override the application's color mapping when the user has elected to keep the source formatting during a copy-and-paste.

fmtOvrs: A CT_FormatOverrides element<274> that specifies format overrides.

printSettings: A CT_PrintSettings element<275> that specifies print settings.

extLst: A CT_ExtensionList element<276> that specifies an extensibility container.

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

```
<xsd:complexType name="CT_ChartSpace">
  <xsd:sequence>
    <xsd:element name="chartData" type="CT_ChartData" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="chart" type="CT_Chart" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="txPr" type="a:CT_TextBody" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="clrMapOvr" type="a:CT_ColorMapping" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="fmtOvrs" type="CT_FormatOverrides" minOccurs="0" maxOccurs="1"/>
```

```
            <xsd:element name="printSettings" type="CT_PrintSettings" minOccurs="0" maxOccurs="1"/>
            <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
        </xsd:sequence>
    </xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.12   CT_ChartTitle

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_Chart

A complex type<277> that specifies a chart title.

Child Elements:

tx: A CT_Text element<278> that specifies the custom text.

spPr: A **CT_ShapeProperties** ([ISO/IEC29500-4:2012] section A.4.1) element<279> that specifies the OfficeArt shape properties for the chart title.

txPr: A **CT_TextBody** ([ISO/IEC29500-1:2012] section A.4.1) element<280> that specifies the OfficeArt text properties for the chart title as a single paragraph with no text runs. Any further paragraphs, and any text runs in the first paragraph, are ignored.

extLst: A CT_ExtensionList element<281> that specifies an extensibility container.

Attributes:

pos: An ST_SidePos attribute<282> that specifies the side position of the chart title.

align: An ST_PosAlign attribute<283> that specifies the alignment along the side position of the chart title.

overlay: A **boolean** ([XMLSCHEMA2] section 3.2.2) attribute<284> that specifies whether the chart title is floating on the chart area and excluded from normal layout (true), or not (false).

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

```
    <xsd:complexType name="CT_ChartTitle">
      <xsd:sequence>
        <xsd:element name="tx" type="CT_Text" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="txPr" type="a:CT_TextBody" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
      </xsd:sequence>
      <xsd:attribute name="pos" type="ST_SidePos" use="optional" default="t"/>
      <xsd:attribute name="align" type="ST_PosAlign" use="optional" default="ctr"/>
      <xsd:attribute name="overlay" type="xsd:boolean" use="optional" default="0"/>
    </xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.13   CT_Clear

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_GeoCache

A complex type<285> that specifies the geographic data for the geospatial series.

Child Elements:

geoLocationQueryResults: A CT_GeoLocationQueryResults element<286> that specifies geocoding query and results for data points in the geographical category of a geospatial series.

geoDataEntityQueryResults: A CT_GeoDataEntityQueryResults element<287> that specifies layout properties of the geographical polygons of a geospatial series.

geoDataPointToEntityQueryResults: A CT_GeoDataPointToEntityQueryResults element<288> that specifies a mapping between data points in the geographical category of a geospatial series and their respective geographical entity identifier.

geoChildEntitiesQueryResults: A CT_GeoChildEntitiesQueryResults element<289> that specifies the geographical lineage of the geographical entities of a geospatial series.

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

```
<xsd:complexType name="CT_Clear">
  <xsd:sequence>
    <xsd:element name="geoLocationQueryResults" type="CT GeoLocationQueryResults"
minOccurs="0" maxOccurs="1"/>
    <xsd:element name="geoDataEntityQueryResults" type="CT_GeoDataEntityQueryResults"
minOccurs="0" maxOccurs="1"/>
    <xsd:element name="geoDataPointToEntityQueryResults"
type="CT_GeoDataPointToEntityQueryResults" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="geoChildEntitiesQueryResults" type="CT GeoChildEntitiesQueryResults"
minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.14   CT_Copyrights

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_GeoData

A complex type<290> that specifies the set of entities that hold copyrights for a polygon in the composition of the returned geographic polygon.

Child Elements:

copyright: A string ([XMLSCHEMA2] section 3.2.1) element<291> that specifies an entity that holds the copyright for a polygon in the composition of the returned geographic polygon.

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

```
<xsd:complexType name="CT_Copyrights">
  <xsd:sequence>
    <xsd:element name="copyright" type="xsd:string" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.15 CT_Data

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_ChartData

A complex type<292> that specifies the number dimension and string dimension for the specified chart data.

Child Elements:

numDim: A CT_NumericDimension element<293> that specifies numeric dimension data.

strDim: A CT_StringDimension element<294> that specifies string dimension data.

extLst: A CT_ExtensionList element<295> that specifies an extensibility container.

Attributes:

id: An ST_DataId (section 2.24.4.4) attribute<296> that specifies the identifier of this data.

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

```
<xsd:complexType name="CT_Data">
  <xsd:sequence>
    <xsd:choice minOccurs="1" maxOccurs="unbounded">
      <xsd:element name="numDim" type="CT_NumericDimension" minOccurs="1" maxOccurs="1"/>
      <xsd:element name="strDim" type="CT_StringDimension" minOccurs="1" maxOccurs="1"/>
    </xsd:choice>
    <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="id" type="ST_DataId" use="required"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.16 CT_DataId

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_Series

A complex type<297> that specifies a data identifier.

Attributes:

val: An ST_DataId (section 2.24.4.4) attribute<298> that specifies the data identifier.

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

```
<xsd:complexType name="CT_DataId">
  <xsd:attribute name="val" type="ST_DataId" use="required"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.17   CT_DataLabel

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_DataLabels

A complex type<299> that specifies data label formatting.

Child Elements:

numFmt: A CT_NumberFormat element<300> that specifies the number format information.

spPr: A **CT_ShapeProperties** ([ISO/IEC29500-4:2012] section A.4.1) element<301> that specifies the OfficeArt shape properties for the data label.

txPr: A **CT_TextBody** ([ISO/IEC29500-1:2012] section A.4.1) element<302> that specifies the OfficeArt text properties for the data label.

visibility: A CT_DataLabelVisibilities element<303> that specifies the visibilities of data label sub-parts.

separator: A **string** ([XMLSCHEMA2] section 3.2.1) element<304> that specifies data label separator text.

extLst: A CT_ExtensionList element<305> that specifies an extensibility container.

Attributes:

idx: An **unsignedInt** ([XMLSCHEMA2] section 3.3.22) attribute<306> that specifies the index of the data point this label is for.

pos: An ST_DataLabelPos attribute<307> that specifies the position of the data labels.

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

```
<xsd:complexType name="CT DataLabel">
  <xsd:sequence>
    <xsd:element name="numFmt" type="CT_NumberFormat" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="txPr" type="a:CT TextBody" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="visibility" type="CT_DataLabelVisibilities" minOccurs="0"
maxOccurs="1"/>
    <xsd:element name="separator" type="xsd:string" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="idx" type="xsd:unsignedInt" use="required"/>
  <xsd:attribute name="pos" type="ST DataLabelPos" use="optional"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.18   CT_DataLabelHidden

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_DataLabels

A complex type<308> that specifies a hidden data label.

Attributes:

idx: An **unsignedInt** ([XMLSCHEMA2] section 3.3.22) attribute<309> that specifies the index of the data point this label is for.

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

```
<xsd:complexType name="CT DataLabelHidden">
  <xsd:attribute name="idx" type="xsd:unsignedInt" use="required"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.19   CT_DataLabels

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_Series

A complex type<310> that specifies the formatting for a data labels collection.

Child Elements:

numFmt: A CT_NumberFormat element<311> that specifies the number format information.

spPr: A **CT_ShapeProperties** ([ISO/IEC29500-4:2012] section A.4.1) element<312> that specifies the OfficeArt shape properties for the data labels collection.

txPr: A **CT_TextBody** ([ISO/IEC29500-1:2012] section A.4.1) element<313> that specifies the OfficeArt text properties for the data labels collection as a single paragraph with no text runs. Any further paragraphs, and any text runs in the first paragraph, are ignored.

visibility: A CT_DataLabelVisibilities element<314> that specifies the visibilities of data label sub-parts.

separator: A **string** ([XMLSCHEMA2] section 3.2.1) element<315> that specifies the data label separator text.

dataLabel: A CT_DataLabel element<316> that specifies the data label formatting.

dataLabelHidden: A CT_DataLabelHidden element<317> that specifies the hidden data labels.

extLst: A CT_ExtensionList element<318> that specifies an extensibility container.

Attributes:

pos: An ST_DataLabelPos attribute<319> that specifies the position of the data labels.

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

```
<xsd:complexType name="CT_DataLabels">
  <xsd:sequence>
    <xsd:element name="numFmt" type="CT_NumberFormat" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="spPr" type="a:CT ShapeProperties" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="txPr" type="a:CT TextBody" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="visibility" type="CT_DataLabelVisibilities" minOccurs="0"
maxOccurs="1"/>
    <xsd:element name="separator" type="xsd:string" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="dataLabel" type="CT DataLabel" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element name="dataLabelHidden" type="CT DataLabelHidden" minOccurs="0"
maxOccurs="unbounded"/>
```

```
        <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
    </xsd:sequence>
    <xsd:attribute name="pos" type="ST_DataLabelPos" use="optional"/>
  </xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.20   CT_DataLabelVisibilities

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_DataLabel, CT_DataLabels

A complex type<320> that specifies the visibilities of the parts of a data label.

Attributes:

seriesName: A Boolean ([XMLSCHEMA2] section 3.2.2) attribute<321> that specifies whether the series name in the data label is visible.

categoryName: A Boolean ([XMLSCHEMA2] section 3.2.2) attribute<322> that specifies whether the category name in the data label is visible.

value: A Boolean ([XMLSCHEMA2] section 3.2.2) attribute<323> that specifies whether the data point value in the data label is visible.

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

```
  <xsd:complexType name="CT_DataLabelVisibilities">
    <xsd:attribute name="seriesName" type="xsd:boolean" use="optional"/>
    <xsd:attribute name="categoryName" type="xsd:boolean" use="optional"/>
    <xsd:attribute name="value" type="xsd:boolean" use="optional"/>
  </xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.21   CT_DataPoint

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_Series

A complex type<324> that specifies a data point.

Child Elements:

spPr: A **CT_ShapeProperties** ([ISO/IEC29500-4:2012] section A.4.1) element<325> that specifies the OfficeArt shape properties for this data point.

extLst: A CT_ExtensionList element<326> that specifies an extensibility container.

Attributes:

idx: An **unsignedInt** ([XMLSCHEMA2] section 3.3.22) attribute<327> that specifies the index of this data point in the series.

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

```
<xsd:complexType name="CT_DataPoint">
  <xsd:sequence>
    <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="idx" type="xsd:unsignedInt" use="required"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.22   CT_Extension

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_ExtensionList

A complex type<328> that specifies an extensibility container.

Attributes:

uri: A **token** ([XMLSCHEMA2] section 3.3.2) attribute<329> that specifies the identifier for this extensibility container.

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

```
<xsd:complexType name="CT_Extension">
  <xsd:sequence>
    <xsd:any processContents="lax"/>
  </xsd:sequence>
  <xsd:attribute name="uri" type="xsd:token"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.23   CT_ExtensionList

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_Data, CT_ChartData, CT_ChartTitle, CT_AxisTitle, CT_AxisUnitsLabel, CT_AxisUnits, CT_Gridlines, CT_TickMarks, CT_TickLabels, CT_Axis, CT_SeriesLayoutProperties, CT_DataPoint, CT_DataLabel, CT_DataLabels, CT_Series, CT_Legend, CT_PlotSurface, CT_PlotAreaRegion, CT_PlotArea, CT_Chart, CT_FormatOverride, CT_ChartSpace

A complex type<330> that specifies a list of extensibility containers.

Child Elements:

ext: A CT_Extension element<331> that specifies an extensibility container.

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

```
<xsd:complexType name="CT_ExtensionList">
  <xsd:sequence>
```

```
        <xsd:element name="ext" type="CT_Extension" minOccurs="0" maxOccurs="unbounded"/>
    </xsd:sequence>
  </xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.24   CT_ExternalData

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_ChartData

A complex type<332> that specifies external data used for the chart.

Attributes:

r:id: An **ST_RelationshipId** ([ISO/IEC29500-1:2012] section 22.8.2.1) attribute<333> that specifies the relationship identifier for the relationship for this chart. The relationship explicitly targeted by this attribute MUST either be of type http://schemas.openxmlformats.org/officeDocument/2006/relationships/package, or http://schemas.openxmlformats.org/officeDocument/2006/relationships/oleObject.

autoUpdate: A **boolean** ([XMLSCHEMA2] section 3.2.2) attribute<334> that specifies whether the external link will automatically update (true) or not (false).

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

```
  <xsd:complexType name="CT_ExternalData">
    <xsd:attribute ref="r:id" use="required"/>
    <xsd:attribute name="autoUpdate" type="xsd:boolean" use="optional"/>
  </xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.25   CT_ExtremeValueColorPosition

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_ValueColorEndPosition

A complex type<335> that specifies a color position at an extreme end of the data range. This complex type specifies either the minimum or maximum value.

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

```
  <xsd:complexType name="CT_ExtremeValueColorPosition"/>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.26   CT_FormatOverride

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_FormatOverrides

A complex type<336> that specifies an override of a chart's data point color style format.

Child Elements:

spPr: A CT_ShapeProperties ([ISO/IEC29500-4:2012] section A.4.1) element<337> that specifies the shape properties to override the chart's color style format. A chart's color style assigns a unique color format per data point according to an index.

extLst: A CT_ExtensionList element<338> that specifies an extensibility container.

Attributes:

idx: An unsignedInt ([XMLSCHEMA2] section 3.3.22) attribute<339> that specifies the index of the color format being overridden.

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

```
<xsd:complexType name="CT_FormatOverride">
  <xsd:sequence>
    <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="idx" type="xsd:unsignedInt" use="required"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.27   CT_FormatOverrides

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_ChartSpace

A complex type<340> that specifies a set of format overrides of a chart's style format.

Child Elements:

fmtOvr: A CT_FormatOverride element<341> that specifies an override of a chart's style format.

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

```
<xsd:complexType name="CT_FormatOverrides">
  <xsd:sequence>
    <xsd:element name="fmtOvr" type="CT_FormatOverride" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.28   CT_Formula

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_StringDimension, CT_NumericDimension, CT_TextData

A complex type<342> that specifies a data reference (such as an Excel formula).

Attributes:

dir: An ST_FormulaDirection attribute<343> that specifies the orientation of the data reference.

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

```
<xsd:complexType name="CT Formula">
  <xsd:simpleContent>
    <xsd:extension base="xsd:string">
      <xsd:attribute name="dir" type="ST_FormulaDirection" use="optional" default="col"/>
    </xsd:extension>
  </xsd:simpleContent>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.29   CT_GeoCache

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_Geography

A complex type<344> that specifies the geographical data for the geospatial series.

Child Elements:

binary: A base64Binary ([XMLSCHEMA2] section 3.2.16) element<345> that specifies the geographic data for the geospatial series in base64binary.

clear: A CT_Clear element<346> that specifies the geographic data for the geospatial series.

Attributes:

provider: A string ([XMLSCHEMA2] section 3.2.1) attribute<347> that specifies a unique identifier for the provider or source of the geographical data for the geospatial series.

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

```
<xsd:complexType name="CT_GeoCache">
  <xsd:choice minOccurs="1" maxOccurs="unbounded">
    <xsd:element name="binary" type="xsd:base64Binary" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="clear" type="CT Clear" minOccurs="0" maxOccurs="1"/>
  </xsd:choice>
  <xsd:attribute name="provider" type="xsd:string" use="required"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.30   CT_GeoChildEntities

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_GeoChildEntitiesQueryResult

A complex type<348> that specifies the result of a query to obtain the geographical lineage of a geographical entity of a geospatial series.

Child Elements:

geoHierarchyEntity: A CT_GeoHierarchyEntity element<349> that specifies a descendant in the geographic hierarchy returned by this query.

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

```
<xsd:complexType name="CT_GeoChildEntities">
  <xsd:sequence>
    <xsd:element name="geoHierarchyEntity" type="CT_GeoHierarchyEntity " minOccurs="0"
maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.31   CT_GeoChildEntitiesQuery

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_GeoChildEntitiesQueryResult

A complex type<350> that specifies a query to obtain the geographical lineage of a geographical entity of a geospatial series.

Child Elements:

geoChildTypes: A CT_GeoChildTypes element<351> that specifies the geographical entity types which specify the types of descendants in the geographic hierarchy to be returned by this query.

Attributes:

entityId: A string ([XMLSCHEMA2] section 3.2.1) attribute<352> that specifies the geographical entity identifier of the geographical entity for which to obtain the geographical lineage of a geographical entity of a geospatial series. The value of this attribute is unique to a given geographical entity.

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

```
<xsd:complexType name="CT_GeoChildEntitiesQuery">
  <xsd:sequence>
    <xsd:element name="geoChildTypes" type="CT_GeoChildTypes" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="entityId" type="xsd:string" use="required"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.32   CT_GeoChildEntitiesQueryResult

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_GeoChildEntitiesQueryResults

A complex type<353> that specifies the geographical lineage of a geographical entity of a geospatial series.

Child Elements:

geoChildEntitiesQuery: A [CT_GeoChildEntitiesQuery](#) element[<354>](#) that specifies a query to obtain the geographical lineage of a geographical entity of a geospatial series.

geoChildEntities: A [CT_GeoChildEntities](#) element[<355>](#) that specifies the result of a query to obtain the geographical lineage of a geographical entity of a geospatial series.

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

```
<xsd:complexType name="CT_GeoChildEntitiesQueryResult">
  <xsd:sequence>
    <xsd:element name="geoChildEntitiesQuery" type="CT_GeoChildEntitiesQuery" minOccurs="0"
maxOccurs="1"/>
    <xsd:element name="geoChildEntities" type="CT GeoChildEntities" minOccurs="0"
maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section [5.22](#) for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.33 CT_GeoChildEntitiesQueryResults

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: [CT_Clear](#)

A complex type[<356>](#) that specifies the geographical lineage of the geographical entities of a geospatial series.

Child Elements:

geoChildEntitiesQueryResult: A [CT_GeoChildEntitiesQueryResult](#) element that specifies the geographical lineage of a geographical entity of a geospatial series.

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

```
<xsd:complexType name="CT_GeoChildEntitiesQueryResults">
  <xsd:sequence>
    <xsd:element name="geoChildEntitiesQueryResult" type="CT GeoChildEntitiesQueryResult"
minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

See section [5.22](#) for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.34 CT_GeoChildTypes

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: [CT_GeoChildEntitiesQuery](#)

A complex type that specifies the geographical entity type which specify the type of descendant in the geographic hierarchy to be returned by this query.

Child Elements:

entityType: An ST_EntityType element<357> that specifies a geographical entity type which specifies the type of descendants in the geographic hierarchy to be returned by this query.

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

```
<xsd:complexType name="CT GeoChildTypes">
  <xsd:sequence>
    <xsd:element name="entityType" type="ST EntityType" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.35   CT_GeoData

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_GeoDataEntityQueryResult

A complex type<358> that specifies the result of the query for the geographical polygon of a geospatial series.

Child Elements:

geoPolygons: A CT_GeoPolygons element<359> that specifies the set of polygons composing the returned geographical polygon.

copyrights: A CT_Copyrights element<360> that specifies the set of entities that hold copyrights for a polygon in the composition of the returned geographic polygon.

Attributes:

entityName: A string ([XMLSCHEMA2] section 3.2.1) attribute<361> that specifies the name of the geographic entity represented by the returned geographical polygon.

entityId: A string ([XMLSCHEMA2] section 3.2.1) attribute<362> that specifies the geographical entity identifier of the geographic entity represented by the returned geographical polygon. The value of this attribute is unique to a given geographical entity.

east: A double ([XMLSCHEMA2] section 3.2.1) attribute<363> that specifies the eastern longitude of the smallest bounding box, representing a rectangular area on the Earth, that fully encloses the returned geographical polygon.

west: A double ([XMLSCHEMA2] section 3.2.1) attribute<364> that specifies the western longitude of the smallest bounding box, representing a rectangular area on the Earth, that fully encloses the returned geographical polygon.

north: A double ([XMLSCHEMA2] section 3.2.1) attribute<365> that specifies the northern latitude of the smallest bounding box, representing a rectangular area on the Earth, that fully encloses the returned geographical polygon.

south: A double ([XMLSCHEMA2] section 3.2.1) attribute<366> that specifies the southern latitude of the smallest bounding box, representing a rectangular area on the Earth, that fully encloses the returned geographical polygon.

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

```
<xsd:complexType name="CT_GeoData">
  <xsd:sequence>
    <xsd:element name="geoPolygons" type="CT_GeoPolygons" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="copyrights" type="CT_Copyrights" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="entityName" type="xsd:string" use="required"/>
  <xsd:attribute name="entityId" type="xsd:string" use="required"/>
  <xsd:attribute name="east" type="xsd:double" use="required"/>
  <xsd:attribute name="west" type="xsd:double" use="required"/>
  <xsd:attribute name="north" type="xsd:double" use="required"/>
  <xsd:attribute name="south" type="xsd:double" use="required"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.36   CT_GeoDataEntityQuery

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_GeoDataEntityQueryResult

A complex type<367> that specifies the query for the geographical polygon of a geospatial series.

Attributes:

entityType: An ST_EntityType attribute<368> that specifies the classification of the geographical entity type of the queried geographical polygon of a geospatial series.

entityId: A string ([XMLSCHEMA2] section 3.2.1) attribute<369> that specifies the geographical entity identifier of the queried geographical polygon of a geospatial series. The value of this attribute is unique to a given geographical entity.

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

```
<xsd:complexType name="CT_GeoDataEntityQuery">
  <xsd:attribute name="entityType" type="ST EntityType" use="required"/>
  <xsd:attribute name="entityId" type="xsd:string" use="required"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.37   CT_GeoDataEntityQueryResult

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_GeoDataEntityQueryResults

A complex type<370> that specifies the layout properties of a geographical polygon of a geospatial series.

Child Elements:

geoDataEntityQuery: A CT_GeoDataEntityQuery element<371> that specifies the query for the geographical polygon of a geospatial series.

geoData: A CT_GeoData element<372> that specifies the result of the query for the geographical polygon of a geospatial series.

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

```
<xsd:complexType name="CT_GeoDataEntityQueryResult">
  <xsd:sequence>
    <xsd:element name="geoDataEntityQuery" type="CT GeoDataEntityQuery" minOccurs="0"
maxOccurs="1"/>
    <xsd:element name="geoData" type="CT GeoData" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.38   CT_GeoDataEntityQueryResults

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_Clear

A complex type<373> that specifies layout properties of the geographical polygons of a geospatial series.

Child Elements:

geoDataEntityQueryResult: A CT_GeoDataEntityQueryResult element<374> that specifies the layout properties of a geographical polygon of a geospatial series.

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

```
<xsd:complexType name="CT_GeoDataEntityQueryResults">
  <xsd:sequence>
    <xsd:element name="geoDataEntityQueryResult" type="CT_GeoDataEntityQueryResult"
minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.39   CT_GeoDataPointQuery

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_GeoDataPointToEntityQueryResult

A complex type<375> that specifies a query to establish a mapping between a data point in the geographical category of a geospatial series and its respective geographical entity identifier.

Attributes:

entityType: An ST_EntityType attribute<376> that specifies the classification of the geographical entity type of the data point in the geographical category.

latitude: A double ([XMLSCHEMA2] section 3.2.1) attribute<377> that specifies the latitude of a point that resides within the geographical entity represented by the data point in the geographical category of a geospatial series.

longitude: A double ([XMLSCHEMA2] section 3.2.1) attribute<378> that specifies the longitude of a point that resides within the geographical entity represented by the data point in the geographical category of a geospatial series.

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

```xsd
<xsd:complexType name="CT_GeoDataPointQuery">
  <xsd:attribute name="entityType" type="ST_EntityType" use="required"/>
  <xsd:attribute name="latitude" type="xsd:double" use="required"/>
  <xsd:attribute name="longitude" type="xsd:double" use="required"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.40   CT_GeoDataPointToEntityQuery

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_GeoDataPointToEntityQueryResult

A complex type<379> that specifies the result of a query to establish a mapping between a data point in the geographical category of a geospatial series and its respective geographical entity identifier.

Attributes:

entityType: An ST_EntityType attribute<380> that specifies the classification of the geographical entity type of the data point in the geographical category.

entityId: A string ([XMLSCHEMA2] section 3.2.1) attribute<381> that specifies the geographical entity identifier of the geographical entity represented by the data point in the geographical category**.** The value of this attribute is unique to a given geographical entity.

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

```xsd
<xsd:complexType name="CT_GeoDataPointToEntityQuery">
  <xsd:attribute name="entityType" type="ST_EntityType" use="required"/>
  <xsd:attribute name="entityId" type="xsd:string" use="required"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.41   CT_GeoDataPointToEntityQueryResult

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_GeoDataPointToEntityQueryResults

A complex type<382> that specifies a mapping between a data point in the geographical category of a geospatial series and its respective geographical entity identifier.

Child Elements:

geoDataPointQuery: A CT_GeoDataPointQuery element<383> that specifies a query to establish a mapping between a data point in the geographical category of a geospatial series and its respective geographical entity identifier.

geoDataPointToEntityQuery: A CT_GeoDataPointToEntityQuery element<384> that specifies the result of a query to establish a mapping between a data point in the geographical category of a geospatial series and its respective geographical entity identifier.

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

```
<xsd:complexType name="CT_GeoDataPointToEntityQueryResult">
  <xsd:sequence>
    <xsd:element name="geoDataPointQuery" type="CT_GeoDataPointQuery" minOccurs="0"
maxOccurs="1"/>
    <xsd:element name="geoDataPointToEntityQuery" type="CT_GeoDataPointToEntityQuery"
minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.42   CT_GeoDataPointToEntityQueryResults

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_Clear

A complex type<385> that specifies a mapping between data points in the geographical category of a geospatial series and their respective geographical entity identifier.

Child Elements:

geoDataPointToEntityQueryResult: A CT_GeoDataPointToEntityQueryResult element<386> that specifies a mapping between a data point in the geographical category of a geospatial series and its respective geographical entity identifier.

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

```
<xsd:complexType name="CT_GeoDataPointToEntityQueryResults">
  <xsd:sequence>
    <xsd:element name="geoDataPointToEntityQueryResult"
type="CT_GeoDataPointToEntityQueryResult" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.43   CT_Geography

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_SeriesLayoutProperties

A complex type<387> that specifies layout properties for a geospatial series.

Child Elements:

geoCache: A CT_GeoCache element<388> that specifies the geographical data for the geospatial series.

Attributes:

projectionType: An ST_GeoProjectionType attribute<389> that specifies the cartographic map projection for the geospatial series.

viewedRegionType: An ST_GeoMappingLevel attribute<390> that specifies the level of view for the geospatial series.

cultureLanguage: A language ([XMLSCHEMA2] section 3.4.3) attribute<391> that specifies the language of the geospatial series.

cultureRegion: A string ([XMLSCHEMA2] section 3.2.1) attribute<392> that specifies the ISO-3166-1 alpha 2 country code specifying the country/region of the geospatial series.

attribution: A string ([XMLSCHEMA2] section 3.2.1) attribute<393> that specifies the provider or source of the geographical data of the geospatial series.

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

```
<xsd:complexType name="CT_Geography">
  <xsd:sequence>
    <xsd:element name="geoCache" type="CT_GeoCache" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="projectionType" type="ST_GeoProjectionType" use="optional"/>
  <xsd:attribute name="viewedRegionType" type="ST GeoMappingLevel" use="optional"/>
  <xsd:attribute name="cultureLanguage" type="xsd:language" use="required"/>
  <xsd:attribute name="cultureRegion" type="xsd:string" use="required"/>
  <xsd:attribute name="attribution" type="xsd:string" use="required"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.44   CT_GeoHierarchyEntity

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_GeoChildEntities

A complex type<394> that specifies a descendant in the geographic hierarchy returned by this query.

Attributes:

entityName: A string ([XMLSCHEMA2] section 3.2.1) attribute<395> that specifies the name of the descendant returned by this query, in the language indicated by the cultureLanguage attribute of the CT_Geography complex type.

entityId: A string ([XMLSCHEMA2] section 3.2.1) attribute<396> that specifies the geographical entity identifier of the descendant returned by this query. The value of this attribute is unique to a given geographical entity.

entityType: An ST_EntityType attribute<397> that specifies the classification of the geographical entity type of the descendant returned by this query.

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

```
<xsd:complexType name="CT_GeoHierarchyEntity">
  <xsd:attribute name="entityName" type="xsd:string" use="required"/>
  <xsd:attribute name="entityId" type="xsd:string" use="required"/>
  <xsd:attribute name="entityType" type="ST_EntityType" use="required"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.45   CT_GeoLocation

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_GeoLocations

A complex type<398> that specifies the geocoding result of a data point in the geographical category of a geospatial series.

Child Elements:

address: A CT_Address element<399> that specifies geographical properties of the geographical entity of the geocoding result.

Attributes:

latitude: A double ([XMLSCHEMA2] section 3.2.1) attribute<400> that specifies the latitude of a point that resides within the geographical entity of the geocoding result.

longitude: A double ([XMLSCHEMA2] section 3.2.1) attribute<401> that specifies the longitude of a point that resides within the geographical entity of the geocoding result.

entityName: A string ([XMLSCHEMA2] section 3.2.1) attribute<402> that specifies the name of the geographical entity of the geocoding result, in the language indicated by the cultureLanguage attribute of the CT_Geography complex type.

entityType: An ST_EntityType attribute<403> that specifies the classification of the geographical entity type of the entity of the geocoding result.

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

```
<xsd:complexType name="CT GeoLocation">
  <xsd:sequence>
    <xsd:element name="address" type="CT_Address" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="latitude" type="xsd:double" use="optional"/>
  <xsd:attribute name="longitude" type="xsd:double" use="optional"/>
  <xsd:attribute name="entityName" type="xsd:string" use="required"/>
  <xsd:attribute name="entityType" type="ST EntityType" use="required"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.46   CT_GeoLocationQuery

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_GeoLocationQueryResult

A complex type<404> that specifies the geocoding query of a data point in the geographical category of a geospatial series.

Attributes:

countryRegion: A string ([XMLSCHEMA2] section 3.2.1) attribute<405> that specifies the name of a data point in the geographical category of a geospatial series. Exists if the data point has been deemed to be indicative of a country or region.

adminDistrict1: A string ([XMLSCHEMA2] section 3.2.1) attribute<406> that specifies the name of a data point in the geographical category of a geospatial series. Exists if the data point has been deemed to be indicative of a first order administrative subdivision of a country or region, such as a state or province.

adminDistrict2: A string ([XMLSCHEMA2] section 3.2.1) attribute<407> that specifies the name of a data point in the geographical category of a geospatial series. Exists if the data point has been deemed to be indicative of a second order administrative subdivision of a country or region, such as a county.

postalCode: A string ([XMLSCHEMA2] section 3.2.1) attribute<408> that specifies the name of a data point in the geographical category of a geospatial series. Exists if the data point has been deemed to be indicative of a post code, postal code, or ZIP Code of a country or region.

entityType: An ST_EntityType attribute<409> that specifies the classification of the geographical entity type of the data point in the geographical category of a geospatial series. The set of entity types are "countryRegion", "adminDistrict", "adminDistrict2", and "postalCode".

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

```
<xsd:complexType name="CT_GeoLocationQuery">
  <xsd:attribute name="countryRegion" type="xsd:string" use="optional"/>
  <xsd:attribute name="adminDistrict1" type="xsd:string" use="optional"/>
  <xsd:attribute name="adminDistrict2" type="xsd:string" use="optional"/>
  <xsd:attribute name="postalCode" type="xsd:string" use="optional"/>
  <xsd:attribute name="entityType" type="ST_EntityType" use="required"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.47   CT_GeoLocationQueryResult

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_GeoLocationQueryResults

A complex type<410> that specifies a geocoding query and result for a data point in the geographical category of a geospatial series.

Child Elements:

geoLocationQuery: A CT_GeoLocationQuery element<411> that specifies the geocoding query of a data point in the geographical category of a geospatial series.

geoLocations: A CT_GeoLocations element<412> that specifies the geocoding results of a data point in the geographical category of a geospatial series.

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

```
<xsd:complexType name="CT_GeoLocationQueryResult">
  <xsd:sequence>
    <xsd:element name="geoLocationQuery" type="CT GeoLocationQuery" minOccurs="0"
maxOccurs="1"/>
    <xsd:element name="geoLocations" type="CT GeoLocations" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.48   CT_GeoLocationQueryResults

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_Clear

A complex type<413> that specifies geocoding query and results for data points in the geographical category of a geospatial series.

Child Elements:

geoLocationQueryResult: A CT_GeoLocationQueryResult element<414> that specifies a geocoding query and result for a data point in the geographical category of a geospatial series.

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

```
<xsd:complexType name="CT_GeoLocationQueryResults">
  <xsd:sequence>
    <xsd:element name="geoLocationQueryResult" type="CT_GeoLocationQueryResult" minOccurs="0"
maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.49   CT_GeoLocations

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_GeoLocationQueryResult

A complex type<415> that specifies the geocoding results of a data point in the geographical category of a geospatial series.

Child Elements:

geoLocation: A CT_GeoLocation element<416> that specifies the geocoding result of a data point in the geographical category of a geospatial series.

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

```
<xsd:complexType name="CT_GeoLocations">
  <xsd:sequence>
    <xsd:element name="geoLocation" type="CT GeoLocation" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.50   CT_GeoPolygon

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_GeoPolygons

A complex type<417> that specifies a single polygon in the composition of the returned geographic polygon.

Attributes:

polygonId: A string ([XMLSCHEMA2] section 3.2.1) attribute<418> that specifies the identification of a polygon in the composition of the returned geographic polygon.

numPoints: An integer ([XMLSCHEMA2] section 3.2.1) attribute<419> that specifies the number of latitude and longitude pairs composing a polygon in the composition of the returned geographic polygon.

pcaRings: A string ([XMLSCHEMA2] section 3.2.1) attribute<420> that specifies a set of latitude and longitude pairs, compressed using Bing Point Compression Algorithm (https://msdn.microsoft.com/en-us/library/jj158958.aspx), that specifies a polygon in the composition of the returned geographic polygon.

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

```
<xsd:complexType name="CT_GeoPolygon">
  <xsd:attribute name="polygonId" type="xsd:string" use="required"/>
  <xsd:attribute name="numPoints" type="xsd:integer" use="required"/>
  <xsd:attribute name="pcaRings" type="xsd:string" use="required"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.51 CT_GeoPolygons

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_GeoData

A complex type<421> that specifies the set of polygons composing the returned geographical polygon.

Child Elements:

geoPolygon: A CT_GeoPolygon element<422> that specifies a single polygon in the composition of the returned geographic polygon.

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

```
<xsd:complexType name="CT_GeoPolygons">
  <xsd:sequence>
    <xsd:element name="geoPolygon" type="CT_GeoPolygon" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.52 CT_Gridlines

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_Axis

A complex type<423> that specifies gridlines.

Child Elements:

spPr: A **CT_ShapeProperties** element ([ISO/IEC29500-4:2012] section A.4.1) element<424> that specifies the OfficeArt shape properties for the gridlines.

extLst: A CT_ExtensionList element<425> that specifies an extensibility container.

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

```
<xsd:complexType name="CT_Gridlines">
  <xsd:sequence>
    <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.53   CT_HeaderFooter

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_PrintSettings

A complex type<426> that specifies page header and footer settings.

Child Elements:

oddHeader: A **string** ([XMLSCHEMA2] section 3.2.1) element<427> that specifies the odd page header string.

oddFooter: A **string** ([XMLSCHEMA2] section 3.2.1) element<428> that specifies the odd page footer string.

evenHeader: A **string** ([XMLSCHEMA2] section 3.2.1) element<429> that specifies the even page header string.

evenFooter: A **string** ([XMLSCHEMA2] section 3.2.1) element<430> that specifies the even page footer string.

firstHeader: A **string** ([XMLSCHEMA2] section 3.2.1) element<431> that specifies first page header string.

firstFooter: A **string** ([XMLSCHEMA2] section 3.2.1) element<432> that specifies the first page footer string.

Attributes:

alignWithMargins: A Boolean ([XMLSCHEMA2] section 3.2.2) attribute<433> that specifies whether to align the header and footer margins with the page margins.

differentOddEven: A Boolean ([XMLSCHEMA2] section 3.2.2) attribute<434> that specifies whether there are odd and even page headers and footers.

differentFirst: A Boolean ([XMLSCHEMA2] section 3.2.2) attribute<435> that specifies whether there is a first page header and footer.

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

```
<xsd:complexType name="CT_HeaderFooter">
  <xsd:sequence>
    <xsd:element name="oddHeader" type="xsd:string" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="oddFooter" type="xsd:string" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="evenHeader" type="xsd:string" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="evenFooter" type="xsd:string" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="firstHeader" type="xsd:string" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="firstFooter" type="xsd:string" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="alignWithMargins" type="xsd:boolean" use="optional" default="true"/>
  <xsd:attribute name="differentOddEven" type="xsd:boolean" use="optional" default="false"/>
  <xsd:attribute name="differentFirst" type="xsd:boolean" use="optional" default="false"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.54   CT_Legend

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_Chart

A complex type<436> that specifies a chart legend.

Child Elements:

spPr: A **CT_ShapeProperties** ([ISO/IEC29500-1:2012] section A.4.1) element<437> that specifies OfficeArt shape properties for the legend.

txPr: A **CT_TextBody** element ([ISO/IEC29500-1:2012] section A.4.1) element<438> that specifies OfficeArt text properties for the legend as a single paragraph with no text runs. Any runs in the first paragraph and paragraphs in addition to the first are ignored.

extLst: A CT_ExtensionList element<439> that specifies an extensibility container.

Attributes:

pos: An ST_SidePos attribute<440> that specifies the side position of the legend.

align: An ST_PosAlign attribute<441> that specifies the legend alignment along the side position.

overlay: A boolean ([XMLSCHEMA2] section 3.2.2) attribute<442> that specifies whether to overlay the legend on the chart.

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

```
<xsd:complexType name="CT_Legend">
  <xsd:sequence>
    <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="txPr" type="a:CT_TextBody" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="pos" type="ST_SidePos" use="optional" default="r"/>
  <xsd:attribute name="align" type="ST_PosAlign" use="optional" default="ctr"/>
  <xsd:attribute name="overlay" type="xsd:boolean" use="optional" default="0"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.55   CT_NumberColorPosition

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_ValueColorEndPosition, CT_ValueColorMiddlePosition

A complex type<443> that specifies a color position at a fixed data value, for composing a gradient expressing a range of data values as colors.

Attributes:

val: A double ([XMLSCHEMA2] section 3.2.1) attribute<444> that specifies the data value of the color position.

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

```
<xsd:complexType name="CT_NumberColorPosition">
  <xsd:attribute name="val" type="xsd:double" use="required"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.56   CT_NumberFormat

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_Axis, CT_DataLabel, CT_DataLabels

A complex type<445> that specifies custom number formatting.

Attributes:

formatCode: A string ([XMLSCHEMA2] section 3.2.1) attribute<446> that specifies the custom formatting information.

sourceLinked: A **boolean** ([XMLSCHEMA2] section 3.2.2) attribute<447> that specifies the format linked to the source data.

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

```
<xsd:complexType name="CT_NumberFormat">
  <xsd:attribute name="formatCode" type="xsd:string" use="required"/>
  <xsd:attribute name="sourceLinked" type="xsd:boolean" use="optional"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.57   CT_NumericDimension

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_Data

A complex type<448> that specifies numeric dimension data.

Child Elements:

f: A CT_Formula element<449> that specifies the data reference.

nf: A CT_Formula element that specifies dimension name reference**.**

lvl: A CT_NumericLevel element<450> that specifies the optional cached data.

lvl: A CT_NumericLevel element<451> that specifies the literal data.

Attributes:

type: An ST_NumericDimensionType attribute<452> that specifies the dimension data type.

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

```
<xsd:complexType name="CT_NumericDimension">
  <xsd:choice minOccurs="1" maxOccurs="1">
    <xsd:sequence>
      <xsd:element name="f" type="CT_Formula" minOccurs="1" maxOccurs="1"/>
      <xsd:element name="nf" type="CT_Formula" minOccurs="0" maxOccurs="1"/>
      <xsd:element name="lvl" type="CT_NumericLevel" minOccurs="0" maxOccurs="unbounded"/>
    </xsd:sequence>
    <xsd:element name="lvl" type="CT NumericLevel" minOccurs="1" maxOccurs="unbounded"/>
  </xsd:choice>
  <xsd:attribute name="type" type="ST_NumericDimensionType" use="required"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.58 CT_NumericLevel

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_NumericDimension

A complex type<453> that specifies one level of dimension data.

Child Elements:

pt: A CT_NumericValue element<454> that specifies the data values.

Attributes:

ptCount: An **unsignedInt** ([XMLSCHEMA2] section 3.3.22) attribute<455> that specifies the number of data values.

formatCode: A string ([XMLSCHEMA2] section 3.2.1) attribute<456> that specifies any custom formatting information.

name: A string ([XMLSCHEMA2] section 3.2.1) attribute that specifies the name of the level of dimension data**.**

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

```
<xsd:complexType name="CT_NumericLevel">
  <xsd:sequence>
```

```
        <xsd:element name="pt" type="CT_NumericValue" minOccurs="0" maxOccurs="unbounded"/>
    </xsd:sequence>
    <xsd:attribute name="ptCount" type="xsd:unsignedInt" use="required"/>
    <xsd:attribute name="formatCode" type="xsd:string" use="optional"/>
    <xsd:attribute name="name" type="xsd:string" use="optional"/>
  </xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.59   CT_NumericValue

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_NumericLevel

A complex type<457> that specifies a numeric data value.

Attributes:

idx: An **unsignedInt** ([XMLSCHEMA2] section 3.3.22) attribute<458> that specifies the index of this data value.

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

```
  <xsd:complexType name="CT_NumericValue">
    <xsd:simpleContent>
      <xsd:extension base="xsd:double">
        <xsd:attribute name="idx" type="xsd:unsignedInt" use="required"/>
      </xsd:extension>
    </xsd:simpleContent>
  </xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.60   CT_PageMargins

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_PrintSettings

A complex type<459> that specifies page margin settings.

Attributes:

l: A **double** ([XMLSCHEMA1] section 2.1) attribute<460> that specifies the left page margin in inches.

r: A **double** ([XMLSCHEMA1] section 2.1) attribute<461> that specifies the right page margin in inches.

t: A **double** ([XMLSCHEMA1] section 2.1) attribute<462> that specifies the top page margin in inches.

b: A **double** ([XMLSCHEMA1] section 2.1) attribute<463> that specifies the bottom page margin in inches.

header: A **double** ([XMLSCHEMA1] section 2.1) attribute<464> that specifies the header page margin in inches.

footer: A **double** ([XMLSCHEMA1] section 2.1) attribute<465> that specifies the footer page margin in inches.

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

```
<xsd:complexType name="CT_PageMargins">
  <xsd:attribute name="l" type="xsd:double" use="required"/>
  <xsd:attribute name="r" type="xsd:double" use="required"/>
  <xsd:attribute name="t" type="xsd:double" use="required"/>
  <xsd:attribute name="b" type="xsd:double" use="required"/>
  <xsd:attribute name="header" type="xsd:double" use="required"/>
  <xsd:attribute name="footer" type="xsd:double" use="required"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.61 CT_PageSetup

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_PrintSettings

A complex type<466> that specifies page setup settings.

Attributes:

paperSize: An **unsignedInt** ([XMLSCHEMA2] section 3.3.22) attribute<467> that specifies the paper size as defined by Windows.

firstPageNumber: An **unsignedInt** ([XMLSCHEMA2] section 3.3.22) attribute<468> that specifies the page number for the first printed page.

orientation: An ST_PageOrientation attribute<469> that specifies the page orientation.

blackAndWhite: A Boolean ([XMLSCHEMA2] section 3.2.2) attribute<470> that specifies whether to print in black and white (true) or in color (false).

draft: A Boolean ([XMLSCHEMA2] section 3.2.2) attribute<471> that specifies whether to print without including graphics (true), or print with graphics (false).

useFirstPageNumber: A Boolean ([XMLSCHEMA2] section 3.2.2) attribute<472> that specifies whether to use **firstPageNumber** and do not auto number (true), or start auto-numbering on the first page (false).

horizontalDpi: An **int** ([XMLSCHEMA2] section 3.3.17) attribute<473> that specifies the horizontal print resolution of the device in dots per inch.

verticalDpi: An **int** ([XMLSCHEMA2] section 3.3.17) attribute<474> that specifies the vertical print resolution of the device in dots per inch.

copies: An **unsignedInt** ([XMLSCHEMA2] section 3.3.22) attribute<475> that specifies the number of copies.

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

```
<xsd:complexType name="CT_PageSetup">
  <xsd:attribute name="paperSize" type="xsd:unsignedInt" use="optional" default="1"/>
  <xsd:attribute name="firstPageNumber" type="xsd:unsignedInt" use="optional" default="1"/>
```

```
      <xsd:attribute name="orientation" type="ST_PageOrientation" use="optional"
default="default"/>
      <xsd:attribute name="blackAndWhite" type="xsd:boolean" use="optional" default="false"/>
      <xsd:attribute name="draft" type="xsd:boolean" use="optional" default="false"/>
      <xsd:attribute name="useFirstPageNumber" type="xsd:boolean" use="optional"
default="false"/>
      <xsd:attribute name="horizontalDpi" type="xsd:int" use="optional" default="600"/>
      <xsd:attribute name="verticalDpi" type="xsd:int" use="optional" default="600"/>
      <xsd:attribute name="copies" type="xsd:unsignedInt" use="optional" default="1"/>
   </xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.62   CT_ParentLabelLayout

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_SeriesLayoutProperties

A complex type<476> that specifies the layout type for the parent labels.

Attributes:

val: An ST_ParentLabelLayout attribute<477> that specifies the layout type for the parent labels.

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

```
   <xsd:complexType name="CT_ParentLabelLayout">
     <xsd:attribute name="val" type="ST_ParentLabelLayout" use="required"/>
   </xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.63   CT_PercentageColorPosition

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_ValueColorEndPosition, CT_ValueColorMiddlePosition

A complex type<478> that specifies a color position at a fixed percentage value, for composing a gradient expressing a range of data values as colors.

Attributes:

val: A double ([XMLSCHEMA2] section 3.2.1) attribute<479> that specifies the percentage value.

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

```
   <xsd:complexType name="CT_PercentageColorPosition">
     <xsd:attribute name="val" type="xsd:double" use="required"/>
   </xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.64   CT_PlotArea

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_Chart

A complex type<480> that specifies the plot area layout and formatting.

Child Elements:

plotAreaRegion: A CT_PlotAreaRegion element<481> that specifies the region of plot area that can contain one or more series.

axis: A CT_Axis element<482> that specifies the axes used for the plot area.

spPr: A **CT_ShapeProperties** ([ISO/IEC29500-1:2012] section A.4.1) element<483> that specifies OfficeArt shape properties for the plot area.

extLst: A CT_ExtensionList element<484> that specifies an extensibility container.

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

```
<xsd:complexType name="CT_PlotArea">
  <xsd:sequence>
    <xsd:element name="plotAreaRegion" type="CT_PlotAreaRegion" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="axis" type="CT_Axis" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.65   CT_PlotAreaRegion

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_PlotArea

A complex type<485> that specifies a plot area region. The plot area region contains the series that is plotted within it.

Child Elements:

plotSurface: A CT_PlotSurface element<486> that specifies the canvas on which the series is plotted.

series: A CT_Series element<487> that specifies the series for this region of the chart.

extLst: A CT_ExtensionList element<488> that specifies an extensibility container.

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

```
<xsd:complexType name="CT_PlotAreaRegion">
  <xsd:sequence>
    <xsd:element name="plotSurface" type="CT_PlotSurface" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="series" type="CT_Series" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
```

```
            </xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.66   CT_PlotSurface

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_PlotAreaRegion

A complex type<489> that specifies the canvas on which the series are plotted.

Child Elements:

spPr: A **CT_ShapeProperties** element ([ISO/IEC29500-4:2012] section A.4.1) element<490> that specifies the OfficeArt shape properties for the plot surface.

extLst: A CT_ExtensionList element<491> that specifies an extensibility container.

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

```
    <xsd:complexType name="CT PlotSurface">
      <xsd:sequence>
        <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="extLst" type="CT ExtensionList" minOccurs="0" maxOccurs="1"/>
      </xsd:sequence>
    </xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.67   CT_PrintSettings

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_ChartSpace

A complex type<492> that specifies print settings.

Child Elements:

headerFooter: A CT_HeaderFooter element<493> that specifies the header and footer settings.

pageMargins: A CT_PageMargins element<494> that specifies the page margins settings.

pageSetup: A CT_PageSetup element<495> that specifies the page setup settings.

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

```
    <xsd:complexType name="CT_PrintSettings">
      <xsd:sequence>
        <xsd:element name="headerFooter" type="CT_HeaderFooter" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="pageMargins" type="CT_PageMargins" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="pageSetup" type="CT_PageSetup" minOccurs="0" maxOccurs="1"/>
      </xsd:sequence>
    </xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.68   CT_RegionLabelLayout

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_SeriesLayoutProperties

A complex type<496> that specifies the layout type for region labels of a geospatial series.

Attributes:

val: An ST_RegionLabelLayout attribute<497> that specifies the layout type for region labels of a geospatial series.

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

```
<xsd:complexType name="CT_RegionLabelLayout">
  <xsd:attribute name="val" type="ST_RegionLabelLayout" use="required"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.69   CT_RelId

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: chart

Defines a relationship identifier.

Attributes:

r:id: An **ST_RelationshipId** ([ISO/IEC29500-1:2012] section 22.8.2.1) attribute used to specify the identifier for this ChartEx part. The type of relationship needed is specified by the parent element.

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

```
<xsd:complexType name="CT_RelId">
  <xsd:attribute ref="r:id" use="required"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.70   CT_Series

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_PlotAreaRegion

A complex type<498> that specifies chart series layout and data reference information.

Child Elements:

tx: A CT_Text element<499> that specifies the series title.

spPr: A **CT_ShapeProperties** element ([ISO/IEC29500-4:2012] section A.4.1) element<500> that specifies the OfficeArt shape properties for the series.

valueColors: A CT_ValueColors element<501> that specifies the colors used to represent data values as a continuous gradient of colors.

valueColorPositions: A CT_ValueColorPositions element<502> that specifies the data values associated with colors at specific color stops within a continuous gradient of colors representing data values.

dataPt: A CT_DataPoint element<503> that specifies the formatting for an individual data point in the series.

dataLabels: A CT_DataLabels element<504> that specifies the formatting for the data labels on this series.

dataId: A CT_DataId element<505> that specifies the identifier of the data source for this series.

layoutPr: A CT_SeriesLayoutProperties element<506> that specifies the properties of the series layout.

axisId: An ST_AxisId element<507> that specifies the identifier of an axis for this series.

extLst: A CT_ExtensionList element<508> that specifies an extensibility container.

Attributes:

layoutId: An ST_SeriesLayout attribute<509> that specifies the layout type of this series.

hidden: A **boolean** ([XMLSCHEMA2] section 3.2.2) attribute<510> that specifies whether this series is hidden from layout.

ownerIdx: An **unsignedInt** ([XMLSCHEMA2] section 3.3.22) attribute<511> that specifies the index of the series that owns this series.

uniqueId: A **string** ([XMLSCHEMA2] section 3.2.1) attribute<512> that specifies a unique identifier for the series.

formatIdx: An **unsignedInt** ([XMLSCHEMA2] section 3.3.22) attribute<513> that specifies the index of the format to use for default styling of this series.

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

```
<xsd:complexType name="CT Series">
  <xsd:sequence>
    <xsd:element name="tx" type="CT_Text" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="valueColors" type="CT ValueColors" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="valueColorPositions" type="CT_ValueColorPositions" minOccurs="0"
maxOccurs="1"/>
    <xsd:element name="dataPt" type="CT_DataPoint" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element name="dataLabels" type="CT_DataLabels" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="dataId" type="CT_DataId" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="layoutPr" type="CT SeriesLayoutProperties" minOccurs="0"
maxOccurs="1"/>
    <xsd:element name="axisId" type="ST AxisId" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="layoutId" type="ST_SeriesLayout" use="required"/>
  <xsd:attribute name="hidden" type="xsd:boolean" use="optional" default="0"/>
  <xsd:attribute name="ownerIdx" type="xsd:unsignedInt" use="optional"/>
  <xsd:attribute name="uniqueId" type="xsd:string" use="optional"/>
```

```
            <xsd:attribute name="formatIdx" type="xsd:unsignedInt" use="optional"/>
        </xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.71   CT_SeriesElementVisibilities

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_SeriesLayoutProperties

A complex type<514> that specifies the visibilities of series sub-elements.

Attributes:

connectorLines: A **boolean** ([XMLSCHEMA2] section 3.2.2) attribute<515> that specifies the visibility of connector lines between data points.

meanLine: A **boolean** ([XMLSCHEMA2] section 3.2.2) attribute<516> that specifies the visibility of the line connecting all mean points.

meanMarker: A **boolean** ([XMLSCHEMA2] section 3.2.2) attribute<517> that specifies the visibility of markers denoting the mean.

nonoutliers: A **boolean** ([XMLSCHEMA2] section 3.2.2) attribute<518> that specifies the visibility of non-outlier data points.

outliers: A **boolean** ([XMLSCHEMA2] section 3.2.2) attribute<519> that specifies the visibility of outlier data points.

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

```
    <xsd:complexType name="CT_SeriesElementVisibilities">
      <xsd:attribute name="connectorLines" type="xsd:boolean" use="optional"/>
      <xsd:attribute name="meanLine" type="xsd:boolean" use="optional"/>
      <xsd:attribute name="meanMarker" type="xsd:boolean" use="optional"/>
      <xsd:attribute name="nonoutliers" type="xsd:boolean" use="optional"/>
      <xsd:attribute name="outliers" type="xsd:boolean" use="optional"/>
    </xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.72   CT_SeriesLayoutProperties

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_Series

A complex type<520> that specifies series layout properties.

Child Elements:

parentLabelLayout: A CT_ParentLabelLayout element<521> that specifies the layout type for the parent labels.

regionLabelLayout: A CT_RegionLabelLayout element<522> that specifies the layout type for region labels of a geospatial series.

visibility: A CT_SeriesElementVisibilities element<523> that specifies the visibilities of series sub-elements.

aggregation: A CT_Aggregation element<524> that specifies the data aggregation properties for the series.

binning: A CT_Binning element<525> that specifies the data binning properties for the series.

geography: A CT_Geography element<526> that specifies layout properties for a geospatial series.

statistics: A CT_Statistics element<527> that specifies the statistical properties for the series.

subtotals: A CT_Subtotals element<528> that specifies a list of subtotal data points.

extLst: A CT_ExtensionList element<529> that specifies an extensibility container.

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

```
<xsd:complexType name="CT_SeriesLayoutProperties">
  <xsd:sequence>
    <xsd:element name="parentLabelLayout" type="CT_ParentLabelLayout" minOccurs="0"
maxOccurs="1"/>
    <xsd:element name="regionLabelLayout" type="CT_RegionLabelLayout" minOccurs="0"
maxOccurs="1"/>
    <xsd:element name="visibility" type="CT_SeriesElementVisibilities" minOccurs="0"
maxOccurs="1"/>
    <xsd:choice minOccurs="0" maxOccurs="1">
      <xsd:element name="aggregation" type="CT_Aggregation" minOccurs="0" maxOccurs="1"/>
      <xsd:element name="binning" type="CT_Binning" minOccurs="0" maxOccurs="1"/>
    </xsd:choice>
    <xsd:element name="geography" type="CT_Geography" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="statistics" type="CT_Statistics" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="subtotals" type="CT_Subtotals" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.73   CT_Statistics

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_SeriesLayoutProperties

A complex type<530> that specifies statistical properties.

Attributes:

quartileMethod: An ST_QuartileMethod attribute<531> that specifies the quartile calculation method.

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

```
<xsd:complexType name="CT_Statistics">
  <xsd:attribute name="quartileMethod" type="ST_QuartileMethod" use="optional"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.74 CT_StringDimension

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_Data

A complex type<532> that specifies string dimension data.

Child Elements:

f: A CT_Formula element<533> that specifies the data reference.

nf: A CT_Formula element that specifies the dimension name reference**.**

lvl: A CT_StringLevel element<534> that specifies the optional cached data.

lvl: A CT_StringLevel element<535> that specifies the literal data.

Attributes:

type: An ST_StringDimensionType attribute<536> that specifies the dimension data type.

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

```
<xsd:complexType name="CT_StringDimension">
  <xsd:choice minOccurs="1" maxOccurs="1">
    <xsd:sequence>
      <xsd:element name="f" type="CT_Formula" minOccurs="1" maxOccurs="1"/>
      <xsd:element name="nf" type="CT_Formula" minOccurs="0" maxOccurs="1"/>
      <xsd:element name="lvl" type="CT_StringLevel" minOccurs="0" maxOccurs="unbounded"/>
    </xsd:sequence>
    <xsd:element name="lvl" type="CT_StringLevel" minOccurs="1" maxOccurs="unbounded"/>
  </xsd:choice>
  <xsd:attribute name="type" type="ST_StringDimensionType" use="required"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.75 CT_StringLevel

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_StringDimension

A complex type<537> that specifies one level of dimension data.

Child Elements:

pt: A CT_StringValue element<538> that specifies the data values.

Attributes:

ptCount: An **unsignedInt** ([XMLSCHEMA2] section 3.3.22) attribute<539> that specifies the number of data values.

name: A string ([XMLSCHEMA2] section 3.2.1) attribute that specifies the name of the level of dimension data**.**

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

```
<xsd:complexType name="CT_StringLevel">
  <xsd:sequence>
    <xsd:element name="pt" type="CT_StringValue" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
  <xsd:attribute name="ptCount" type="xsd:unsignedInt" use="required"/>
  <xsd:attribute name="name" type="xsd:string" use="optional"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.76   CT_StringValue

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_StringLevel

A complex type<540> that specifies a string data value.

Attributes:

idx: An **unsignedInt** ([XMLSCHEMA2] section 3.3.22) attribute<541> that specifies the index of this data value.

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

```
<xsd:complexType name="CT_StringValue">
  <xsd:simpleContent>
    <xsd:extension base="xsd:string">
      <xsd:attribute name="idx" type="xsd:unsignedInt" use="required"/>
    </xsd:extension>
  </xsd:simpleContent>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.77   CT_Subtotals

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_SeriesLayoutProperties

A complex type<542> that specifies a list of indices of subtotal data points.

Child Elements:

idx: An **unsignedInt** ([XMLSCHEMA2] section 3.3.22) element<543> that specifies the index of a subtotal data point.

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

```
<xsd:complexType name="CT_Subtotals">
  <xsd:sequence>
    <xsd:element name="idx" type="xsd:unsignedInt" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.78   CT_Text

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_ChartTitle, CT_AxisTitle, CT_AxisUnitsLabel, CT_Series

A complex type<544> that specifies text used on the chart. The text can be represented by data (and the data can itself be represented by a formula), or an OfficeArt TextBody.

Child Elements:

txData: A CT_TextData element<545> that specifies the text.

rich: A **CT_TextBody** ([ISO/IEC29500-1:2012] section A.4.1) element<546> that specifies literal text and formatting.

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

```
<xsd:complexType name="CT_Text">
  <xsd:sequence>
    <xsd:choice minOccurs="1" maxOccurs="1">
      <xsd:element name="txData" type="CT_TextData" minOccurs="1" maxOccurs="1"/>
      <xsd:element name="rich" type="a:CT_TextBody" minOccurs="1" maxOccurs="1"/>
    </xsd:choice>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.79   CT_TextData

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_Text

A complex type<547> that specifies text data.

Child Elements:

f: A CT_Formula element<548> that specifies a data reference.

v: A string ([XMLSCHEMA2] section 3.2.1) element<549> that specifies the cached text.

v: A string ([XMLSCHEMA2] section 3.2.1) element<550> that specifies the literal text.

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

```
<xsd:complexType name="CT_TextData">
  <xsd:choice minOccurs="1" maxOccurs="1">
    <xsd:sequence>
      <xsd:element name="f" type="CT_Formula" minOccurs="1" maxOccurs="1"/>
      <xsd:element name="v" type="xsd:string" minOccurs="0" maxOccurs="1"/>
    </xsd:sequence>
    <xsd:element name="v" type="xsd:string" minOccurs="1" maxOccurs="1"/>
  </xsd:choice>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.80   CT_TickLabels

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_Axis

A complex type<551> that specifies tick labels, which describe tick marks (see CT_TickMarksSection_4daa8c60a65e4cad97d65c92c81f6029).

Child Elements:

extLst: A CT_ExtensionList element<552> that specifies an extensibility container.

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

```
<xsd:complexType name="CT_TickLabels">
  <xsd:sequence>
    <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.81   CT_TickMarks

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_Axis

A complex type<553> that specifies axis tick marks. Tick marks indicate intervals on an axis.

Child Elements:

extLst: A CT_ExtensionList element<554> that specifies an extensibility container.

Attributes:

type: An ST_TickMarksType attribute<555> that specifies the layout type for tick marks.

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

```
<xsd:complexType name="CT_TickMarks">
  <xsd:sequence>
    <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="type" type="ST_TickMarksType" use="optional"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.82   CT_ValueAxisScaling

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_Axis

A complex type<556> that specifies value axis scaling properties. For example, given a **max** value of 10, and a **min** value of 0, when **majorUnit** is 5 and **minorUnit** is 1, major ticks will be on unit values 0, 5, and 10, and minor ticks will be on unit values 1, 2, 3, 4, 6, 7, 8, and 9.

Attributes:

max: An ST_DoubleOrAutomatic attribute<557> that specifies the maximum value of the scale.

min: An ST_DoubleOrAutomatic attribute<558> that specifies the minimum value of the scale.

majorUnit: An ST_ValueAxisUnit attribute<559> that specifies the unit interval amount for major ticks.

minorUnit: An ST_ValueAxisUnit attribute<560> that specifies the unit interval amount for minor ticks.

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

```
<xsd:complexType name="CT_ValueAxisScaling">
  <xsd:attribute name="max" type="ST_DoubleOrAutomatic" use="optional"/>
  <xsd:attribute name="min" type="ST_DoubleOrAutomatic" use="optional"/>
  <xsd:attribute name="majorUnit" type="ST_ValueAxisUnit" use="optional"/>
  <xsd:attribute name="minorUnit" type="ST_ValueAxisUnit" use="optional"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.83   CT_ValueColorEndPosition

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_ValueColorPositions

A complex type<561> that specifies the position of either the minimum or maximum stop of a gradient for representing data values as color.

Child Elements:

extremeValue: A CT_ExtremeValueColorPosition element<562> that specifies whether the position is the minimum or maximum stop of the gradient.

number: A CT_NumberColorPosition element<563> that specifies that the position's location on the gradient is determined by a fixed numerical value.

percent: A CT_PercentageColorPosition element<564> that specifies that the position's location on the gradient is determined by a fixed percent value of the data value range represented by the gradient. The minimum percent value is 0, the maximum is 100.

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

```
<xsd:complexType name="CT_ValueColorEndPosition">
  <xsd:choice minOccurs="1" maxOccurs="1">
    <xsd:element name="extremeValue" type="CT_ExtremeValueColorPosition"/>
    <xsd:element name="number" type="CT_NumberColorPosition"/>
    <xsd:element name="percent" type="CT_PercentageColorPosition"/>
  </xsd:choice>
```

```
      </xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.84   CT_ValueColorMiddlePosition

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_ValueColorPositions

A complex type<565> that specifies the position of the stop of a gradient between the minimum and maximum for representing data values as color.

Child Elements:

number: A CT_NumberColorPosition element<566> that specifies that the position's location on the gradient is determined by a fixed numerical value.

percent: A CT_PercentageColorPosition element<567> that specifies that the position's location on the gradient is determined by a fixed percent value of the data value range represented by the gradient. The minimum percent value is 0, the maximum is 100.

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

```
    <xsd:complexType name="CT_ValueColorMiddlePosition">
      <xsd:choice minOccurs="1" maxOccurs="1">
        <xsd:element name="number" type="CT_NumberColorPosition"/>
        <xsd:element name="percent" type="CT_PercentageColorPosition"/>
      </xsd:choice>
    </xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.85   CT_ValueColorPositions

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_Series

A complex type<568> that specifies the positions of individual stops composing a gradient for representing data values as color.

Child Elements:

min: A CT_ValueColorEndPosition element<569> that specifies the position of the lowest data value represented by the gradient. If this element is not specified, it is equal to the lowest value of the data value range.

mid: A CT_ValueColorMiddlePosition element<570> that specifies the position between the lowest and highest data values represented by the gradient. If this element is not specified, it is equal to the midpoint value between the lowest and highest data values represented by the gradient.

max: A CT_ValueColorEndPosition element<571> that specifies the position of the highest data value represented by the gradient. If this element is not specified, it is equal to the highest value of the data value range.

Attributes:

count: An ST_ValueColorPositionCount attribute<572> that specifies the number of stops in the gradient. If the value is equal to 2, then the mid element is ignored.

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

```
<xsd:complexType name="CT ValueColorPositions">
  <xsd:sequence>
    <xsd:element name="min" type="CT ValueColorEndPosition" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="mid" type="CT_ValueColorMiddlePosition" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="max" type="CT_ValueColorEndPosition" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="count" type="ST ValueColorPositionCount" use="optional" default="2"/>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.3.86   CT_ValueColors

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_Series

A complex type<573> that specifies the color of individual stops composing a gradient for representing data values as color.

Child Elements:

minColor: A **CT_SolidColorFillProperties** ([ISO/IEC29500-4:2012] section A.4.1) element<574> that specifies the color of the lowest position of the gradient.

midColor: A **CT_SolidColorFillProperties** ([ISO/IEC29500-4:2012] section A.4.1) element<575> that specifies the color of the position between the lowest and highest positions of the gradient.

maxColor: A **CT_SolidColorFillProperties** ([ISO/IEC29500-4:2012] section A.4.1) element<576> that specifies the color of the highest position of the gradient.

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

```
<xsd:complexType name="CT_ValueColors">
  <xsd:sequence>
    <xsd:element name="minColor" type="a:CT SolidColorFillProperties" minOccurs="0"
maxOccurs="1"/>
    <xsd:element name="midColor" type="a:CT_SolidColorFillProperties" minOccurs="0"
maxOccurs="1"/>
    <xsd:element name="maxColor" type="a:CT SolidColorFillProperties" minOccurs="0"
maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.4 Simple Types

2.24.4.1   ST_AxisId

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_Axis, CT_Series

This simple type<577> specifies an axis identifier.

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

```
<xsd:simpleType name="ST AxisId">
  <xsd:restriction base="xsd:unsignedInt"/>
</xsd:simpleType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.4.2   ST_AxisUnit

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_AxisUnits

This simple type<578> specifies the display units for an axis.

Value	Meaning
hundreds	The values on the chart shall be divided by 100.
thousands	The values on the chart shall be divided by 1,000.
tenThousands	The values on the chart shall be divided by 10,000.
hundredThousands	The values on the chart shall be divided by 100,000.
millions	The values on the chart shall be divided by 1,000,000.
tenMillions	The values on the chart shall be divided by 10,000,000.
hundredMillions	The values on the chart shall be divided by 100,000,000.
billions	The values on the chart shall be divided by 1,000,000,000.
trillions	The values on the chart shall be divided by 1,000,000,000,000.
percentage	The values on the chart shall be divided by 0.01.

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

```
<xsd:simpleType name="ST_AxisUnit">
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="hundreds"/>
    <xsd:enumeration value="thousands"/>
    <xsd:enumeration value="tenThousands"/>
    <xsd:enumeration value="hundredThousands"/>
    <xsd:enumeration value="millions"/>
    <xsd:enumeration value="tenMillions"/>
    <xsd:enumeration value="hundredMillions"/>
    <xsd:enumeration value="billions"/>
    <xsd:enumeration value="trillions"/>
    <xsd:enumeration value="percentage"/>
  </xsd:restriction>
```

```
      </xsd:simpleType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.4.3   ST_DataId

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_DataId, CT_Data

This simple type<579> specifies a data identifier. The identifier MUST be unique in a chart's XML file.

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

```
<xsd:simpleType name="ST_DataId">
  <xsd:restriction base="xsd:unsignedInt"/>
</xsd:simpleType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.4.4   ST_DataLabelPos

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_DataLabel, CT_DataLabels

This simple type<580> specifies data label position options. Possible values are described in the following table.

Value	Meaning
bestFit	(Best Fit) Specifies that data labels shall be displayed in the best position.
b	(Bottom) Specifies that data labels shall be displayed below the data marker.
ctr	(Center) Specifies that data labels shall be displayed centered on the data marker.
inBase	(Inside Base) Specifies that data labels shall be displayed inside the base of the data marker.
inEnd	(Inside End) Specifies that data labels shall be displayed inside the end of the data marker.
l	(Left) Specifies that data labels shall be displayed to the left of the data marker.
outEnd	(Outside End) Specifies that data labels shall be displayed outside the end of the data marker.
r	(Right) Specifies that data labels shall be displayed to the right of the data marker.
t	(Top) Specifies that data labels shall be displayed above the data marker.

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

```
<xsd:simpleType name="ST_DataLabelPos">
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="bestFit"/>
```

```
            <xsd:enumeration value="b"/>
            <xsd:enumeration value="ctr"/>
            <xsd:enumeration value="inBase"/>
            <xsd:enumeration value="inEnd"/>
            <xsd:enumeration value="l"/>
            <xsd:enumeration value="outEnd"/>
            <xsd:enumeration value="r"/>
            <xsd:enumeration value="t"/>
        </xsd:restriction>
    </xsd:simpleType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.4.5   ST_DoubleOrAutomatic

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_ValueAxisScaling, CT_Binning

This simple type<581> specifies a value as either a double value, or the enumeration "auto" to indicate automatic valuing.

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

```
    <xsd:simpleType name="ST_DoubleOrAutomatic">
      <xsd:union memberTypes="xsd:double">
        <xsd:simpleType>
          <xsd:restriction base="xsd:string">
            <xsd:enumeration value="auto"/>
          </xsd:restriction>
        </xsd:simpleType>
      </xsd:union>
    </xsd:simpleType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.4.6   ST_EntityType

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_GeoLocationQuery, CT_GeoLocation, CT_GeoDataEntityQuery, CT_GeoDataPointQuery, CT_GeoDataPointToEntityQuery, CT_GeoChildTypes, CT_GeoHierarchyEntity

This simple type<582> specifies a geographical classification of a geographical entity.

Value	Meaning
Address	Specifies that the geographical entity is of type address.
AdminDistrict	Specifies that the geographical entity is the first order administrative subdivision of a country or region, such as a state or province.
AdminDistrict2	Specifies that the geographical entity is the second order administrative subdivision of a country or region, such as a county.
AdminDistrict3	Specifies that the geographical entity is the third order administrative subdivision of a country or region.

Value	Meaning
Continent	Specifies that the geographical entity is of type continent.
CountryRegion	Specifies that the geographical entity is of type country/region.
Locality	Specifies that the geographical entity is of type locality, such as a city or town.
Ocean	Specifies that the geographical entity is of type ocean, such as the Atlantic Ocean.
Planet	Specifies that the geographical entity is of type planet, such as Earth.
PostalCode	Specifies that the geographical entity is of type postal code.
Region	Specifies that the geographical entity is of type region.
Unsupported	Specifies that the geographical entity is of an unsupported type.

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

```
<xsd:simpleType name="ST_EntityType">
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="Address"/>
    <xsd:enumeration value="AdminDistrict"/>
    <xsd:enumeration value="AdminDistrict2"/>
    <xsd:enumeration value="AdminDistrict3"/>
    <xsd:enumeration value="Continent"/>
    <xsd:enumeration value="CountryRegion"/>
    <xsd:enumeration value="Locality"/>
    <xsd:enumeration value="Ocean"/>
    <xsd:enumeration value="Planet"/>
    <xsd:enumeration value="PostalCode"/>
    <xsd:enumeration value="Region"/>
    <xsd:enumeration value="Unsupported"/>
  </xsd:restriction>
</xsd:simpleType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.4.7 ST_FormulaDirection

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_Formula

This simple type<583> specifies data reference orientations, such as for an Excel formula. Possible values are described in the following table.

Value	Meaning
col	The formula is interpreted as producing dimensions column-wise.
row	The formula is interpreted as producing dimensions row-wise.

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

```
<xsd:simpleType name="ST_FormulaDirection">
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="col"/>
    <xsd:enumeration value="row"/>
  </xsd:restriction>
</xsd:simpleType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.4.8 ST_GapWidthRatio

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_CategoryAxisScaling

This simple type<584> specifies the gap width ratio, which is the space between data points as a ratio of gap width over category width.

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

```
<xsd:simpleType name="ST_GapWidthRatio">
  <xsd:union>
    <xsd:simpleType>
      <xsd:restriction base="xsd:double">
        <xsd:minInclusive value="0"/>
      </xsd:restriction>
    </xsd:simpleType>
    <xsd:simpleType>
      <xsd:restriction base="xsd:string">
        <xsd:enumeration value="auto"/>
      </xsd:restriction>
    </xsd:simpleType>
  </xsd:union>
</xsd:simpleType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.4.9 ST_GeoMappingLevel

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_Geography

This simple type<585> specifies the level of view for the geospatial series.

Value	Meaning
dataOnly	Specifies that only regions which correspond to data points in the geographical category of a geospatial series should be in view.
postalCode	Specifies that the level of view for the geospatial series is set to the postal code level.
county	Specifies that the level of view for the geospatial series is set to the county level.
state	Specifies that the level of view for the geospatial series is set to the state or province level.

Value	Meaning
countryRegion	Specifies that the level of view for the geospatial series is set to the country/region level.
countryRegionList	Specifies that the level of view for the geospatial series is set to the continent level.
world	Specifies that the level of view for the geospatial series is set to the world.

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

```
<xsd:simpleType name="ST_GeoMappingLevel">
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="dataOnly"/>
    <xsd:enumeration value="postalCode"/>
    <xsd:enumeration value="county"/>
    <xsd:enumeration value="state"/>
    <xsd:enumeration value="countryRegion"/>
    <xsd:enumeration value="countryRegionList"/>
    <xsd:enumeration value="world"/>
  </xsd:restriction>
</xsd:simpleType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.4.10   ST_GeoProjectionType

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_Geography

This simple type<586> specifies the cartographic map projection for a geospatial series.

Value	Meaning
mercator	Specifies a Mercator projection for the geospatial series.
miller	Specifies a Miller cylindrical projection for the geospatial series.
robinson	Specifies a Robinson projection for the geospatial series.
albers	Specifies an Albers equal-area conic projection for the geospatial series.

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

```
<xsd:simpleType name="ST_GeoProjectionType">
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="mercator"/>
    <xsd:enumeration value="miller"/>
    <xsd:enumeration value="robinson"/>
    <xsd:enumeration value="albers"/>
  </xsd:restriction>
</xsd:simpleType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.4.11   ST_IntervalClosedSide

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_Binning

This simple type<587> specifies the interval closed side. Possible values are described in the following table.

Value	Meaning
l	The interval is closed on the left side.
r	The inerval is closed on the right side.

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

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

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.4.12   ST_NumericDimensionType

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_NumericDimension

This simple type<588> specifies numeric dimension data types. Possible values are described in the following table.

Value	Meaning
val	The dimension is a value.
x	The dimension is an x-coordinate.
y	The dimension is a y-coordinate.
size	The dimension is a size.
colorVal	The dimension is a value determining a color.

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

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

```
            <xsd:enumeration value="val"/>
            <xsd:enumeration value="x"/>
            <xsd:enumeration value="y"/>
            <xsd:enumeration value="size"/>
            <xsd:enumeration value="colorVal"/>
        </xsd:restriction>
    </xsd:simpleType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.4.13   ST_PageOrientation

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_PageSetup

This simple type<589> specifies an enumeration of page orientations. Possible values are described in the following table.

Value	Meaning
default	The orientation is not specified, use the default.
portrait	Portrait orientation.
landscape	Landscape orientation.

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

```
    <xsd:simpleType name="ST_PageOrientation">
      <xsd:restriction base="xsd:string">
        <xsd:enumeration value="default"/>
        <xsd:enumeration value="portrait"/>
        <xsd:enumeration value="landscape"/>
      </xsd:restriction>
    </xsd:simpleType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.4.14   ST_ParentLabelLayout

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_ParentLabelLayout

This simple type<590> specifies parent label layout types. Possible values are described in the following table.

Value	Meaning
none	No parent labels are shown.
banner	The parent label layout is a banner above the category.
overlapping	The parent label is laid out within the category.

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

```
<xsd:simpleType name="ST_ParentLabelLayout">
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="none"/>
    <xsd:enumeration value="banner"/>
    <xsd:enumeration value="overlapping"/>
  </xsd:restriction>
</xsd:simpleType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.4.15   ST_PosAlign

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_ChartTitle, CT_Legend

This simple type<591> specifies the side position alignment of a chart element. The side is specified by the ST_SidePos simple type. Possible values of **ST_PosAlign** are described in the following table.

Value	Meaning
min	The chart element is positioned at the top of the side.
ctr	The chart element is positioned at the center of the side.
max	The chart element is positioned at the bottom of the side.

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

```
<xsd:simpleType name="ST_PosAlign">
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="min"/>
    <xsd:enumeration value="ctr"/>
    <xsd:enumeration value="max"/>
  </xsd:restriction>
</xsd:simpleType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.4.16   ST_QuartileMethod

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_Statistics

This simple type<592> specifies quartile calculation methods. Possible values are described in the following table.

Value	Meaning
inclusive	The quartile calculation includes the median when splitting the dataset into quartiles.
exclusive	The qartile calculation excludes the median when splitting the dataset into quartiles.

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

```
<xsd:simpleType name="ST_QuartileMethod">
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="inclusive"/>
    <xsd:enumeration value="exclusive"/>
  </xsd:restriction>
</xsd:simpleType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.4.17   ST_RegionLabelLayout

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_RegionLabelLayout

This simple type<593> specifies the layout type for region labels of a geospatial series.

Value	Meaning
none	Specifies that no region labels appear in a geospatial series.
bestFitOnly	Specifies that region labels only appear if they can fit in their respective containing geometries in a geospatial series.
showAll	Specifies that all region labels appear.

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

```
<xsd:simpleType name="ST_RegionLabelLayout">
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="none"/>
    <xsd:enumeration value="bestFitOnly"/>
    <xsd:enumeration value="showAll"/>
  </xsd:restriction>
</xsd:simpleType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.4.18   ST_SeriesLayout

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_Series

This simple type<594> specifies series layout types. Possible values are described in the following table.

Value	Meaning
boxWhisker	The series is laid out as box and whisker.
clusteredColumn	The series is laid out as clustered columns.
funnel	This series is laid out as a funnel.
paretoLine	The series is laid out as pareto lines.
regionMap	This series is laid out as a region-based map, also known as a choropleth map.
sunburst	The series is laid out as a sunburst.
treemap	The series is laid out as a treemap.
waterfall	The series is laid out as a waterfall.

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

```
<xsd:simpleType name="ST_SeriesLayout">
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="boxWhisker"/>
    <xsd:enumeration value="clusteredColumn"/>
    <xsd:enumeration value="funnel"/>
    <xsd:enumeration value="paretoLine"/>
    <xsd:enumeration value="regionMap"/>
    <xsd:enumeration value="sunburst"/>
    <xsd:enumeration value="treemap"/>
    <xsd:enumeration value="waterfall"/>
  </xsd:restriction>
</xsd:simpleType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.4.19   ST_SidePos

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_ChartTitle, CT_Legend

This simple type<595> specifies an enumeration of side positions. Possible values are described in the following table.

Value	Meaning
l	The title or legend is on the left side.
t	The title or legend is on the top.
r	The title or legend is on the right side.
b	The title or legend is on the bottom.

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

```
<xsd:simpleType name="ST_SidePos">
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="l"/>
    <xsd:enumeration value="t"/>
    <xsd:enumeration value="r"/>
    <xsd:enumeration value="b"/>
  </xsd:restriction>
</xsd:simpleType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.4.20   ST_StringDimensionType

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_StringDimension

This simple type<596> specifies an enumeration of string dimension data types. Possible values are described in the following table.

Value	Meaning
cat	Specifies the category string dimension data type.
colorStr	Specifies the string dimension associated with a color.

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

```
<xsd:simpleType name="ST StringDimensionType">
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="cat"/>
    <xsd:enumeration value="colorStr"/>
  </xsd:restriction>
</xsd:simpleType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.4.21   ST_TickMarksType

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_TickMarks

This simple type<597> specifies an enumeration of layout types for tick marks. Possible values are described in the following table.

Value	Meaning
in	The tick marks are inside the plot area.
out	The tick marks are outside the plot area.

Value	Meaning
cross	The tick marks cross the axis.
none	There are no tick marks.

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

```
<xsd:simpleType name="ST_TickMarksType">
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="in"/>
    <xsd:enumeration value="out"/>
    <xsd:enumeration value="cross"/>
    <xsd:enumeration value="none"/>
  </xsd:restriction>
</xsd:simpleType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.4.22   ST_ValueAxisUnit

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_ValueAxisScaling

This simple type<598> specifies the value axis unit.

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

```
<xsd:simpleType name="ST_ValueAxisUnit">
  <xsd:union>
    <xsd:simpleType>
      <xsd:restriction base="xsd:double">
        <xsd:minExclusive value="0"/>
      </xsd:restriction>
    </xsd:simpleType>
    <xsd:simpleType>
      <xsd:restriction base="xsd:string">
        <xsd:enumeration value="auto"/>
      </xsd:restriction>
    </xsd:simpleType>
  </xsd:union>
</xsd:simpleType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.24.4.23   ST_ValueColorPositionCount

Target namespace: http://schemas.microsoft.com/office/drawing/2014/chartex

Referenced by: CT_ValueColorPositions

A simple type<599> that specifies the number of color stops composing a gradient for representing data values as color

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

```
<xsd:simpleType name="ST_ValueColorPositionCount">
  <xsd:restriction base="xsd:int">
    <xsd:minInclusive value="2"/>
    <xsd:maxInclusive value="3"/>
  </xsd:restriction>
</xsd:simpleType>
```

See section 5.22 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.25 http://schemas.microsoft.com/office/drawing/2014/main

2.25.1 Elements

2.25.1.1 colId

Target namespace: http://schemas.microsoft.com/office/drawing/2014/main

A CT_Identifier element<600> which is used to distinguish a column uniquely.

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

```
<xsd:element name="colId" type="CT_Identifier"/>
```

See section 5.23 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.25.1.2 creationId

Target namespace: http://schemas.microsoft.com/office/drawing/2014/main

A CT_CreationId element specifies the creation ID for a given element.

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

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

See section 5.23 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.25.1.3 cxnDERefs

Target namespace: http://schemas.microsoft.com/office/drawing/2014/main

A CT_ConnectableReferences element that specifies the connected drawing elements for a connector.

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

```
<xsd:element name="cxnDERefs" type="CT_ConnectableReferences"/>
```

See section 5.23 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.25.1.4 predDERef

Target namespace: http://schemas.microsoft.com/office/drawing/2014/main

A CT_PredecessorDrawingElementReference element that specifies the preceding sibling for a drawing element.

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

```
<xsd:element name="predDERef" type="CT_PredecessorDrawingElementReference"/>
```

See section 5.23 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.25.1.5 rowId

Target namespace: http://schemas.microsoft.com/office/drawing/2014/main

A CT_Identifier element<601> which is used to distinguish a row uniquely.

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

```
<xsd:element name="rowId" type="CT_Identifier"/>
```

See section 5.23 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.25.2 Attributes

None.

2.25.3 Complex Types

2.25.3.1 CT_Identifier

Target namespace: http://schemas.microsoft.com/office/drawing/2014/main

Referenced by: rowId, colId

A complex type<602> that specifies a unique identifier for a row or column.

Attributes:

val: An **unsignedInt** ([XMLSCHEMA2] section 3.3.22) attribute<603> that specifies a unique identifier created by a random number generator.

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

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

See section 5.23 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.25.3.2 CT_CreationId

Target namespace: http://schemas.microsoft.com/office/drawing/2014/main

Referenced by: creationId

A complex type that specifies an identifier for a drawing element.

Attributes:

id: An ST_Guid ([ISO/IEC29500-1:2012] section 22.9.2.4) attribute that is used to identify a drawing element.

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

```
<xsd:complexType name="CT_CreationId">
  <xsd:attribute name="id" type="a:ST_Guid" use="optional"/>
</xsd:complexType>
```

See section 5.23 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.25.3.3 CT_ConnectableReferences

Target namespace: http://schemas.microsoft.com/office/drawing/2014/main

Referenced by: cxnDERefs

Defines a connection by the creationId of the shapes.

Attributes:

st: An ST_Guid ([ISO/IEC29500-1:2012] section 22.9.2.4) attribute that specifies the id value of the creationId of the shape for the start of the connection.

end: An ST_Guid ([ISO/IEC29500-1:2012] section 22.9.2.4) attribute that specifies the id value of the creationId of the shape for the end of the connection.

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

```
<xsd:complexType name="CT_ConnectableReferences">
  <xsd:attribute name="st" type="a:ST_Guid" use="optional"/>
  <xsd:attribute name="end" type="a:ST_Guid" use="optional"/>
</xsd:complexType>
```

See section 5.23 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.25.3.4 CT_PredecessorDrawingElementReference

Target namespace: http://schemas.microsoft.com/office/drawing/2014/main

Referenced by: predDERef

Defines the preceding drawing element by creationId.

Attributes:

pred: An ST_Guid ([ISO/IEC29500-1:2012] section 22.9.2.4) attribute that specifies the id value of the creationId of the preceding drawing element.

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

```
<xsd:complexType name="CT_PredecessorDrawingElementReference">
  <xsd:attribute name="pred" type="a:ST_Guid" use="optional"/>
</xsd:complexType>
```

See section 5.23 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.25.4 Simple Types

None.

2.26 http://schemas.microsoft.com/office/drawing/2016/SVG/main

2.26.1 Elements

2.26.1.1   svgBlip

Target namespace: http://schemas.microsoft.com/office/drawing/2016/SVG/main

A CT_SVGBlip element that specifies a graphic element in Scalable Vector Graphics (SVG) format.

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

```
<xsd:element name="svgBlip" type="CT_SVGBlip"/>
```

See section 5.24 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.26.2 Attributes

None.

2.26.3 Complex Types

2.26.3.1   CT_SVGBlip

Target namespace: http://schemas.microsoft.com/office/drawing/2016/SVG/main

Referenced by: svgBlip

A complex type<604> that identifies an SVG resource.

Attributes:

r:embed: An ST_RelationshipId ([ISO/IEC29500-1:2012] section 22.8.2.1) attribute that specifies the identification information for an embedded binary object that resides locally within the file.

r:link: An ST_RelationshipId ([ISO/IEC29500-1:2012] section 22.8.2.1) attribute that specifies the identification information for a binary object. This attribute is used to specify an object that does not reside within this file.

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

```
<xsd:complexType name="CT_SVGBlip">
  <xsd:attributeGroup ref="a:AG_Blob"/>
</xsd:complexType>
```

See section 5.24 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.26.4 Simple Types

None.

2.27 http://schemas.microsoft.com/office/drawing/2016/11/main

2.27.1 Elements

2.27.1.1 picAttrSrcUrl

Target namespace: http://schemas.microsoft.com/office/drawing/2016/11/main

A CT_PictureAttributionSourceURL element that specifies the page URL of the picture source.

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

```
<xsd:element name="picAttrSrcUrl" type="CT_PictureAttributionSourceURL"/>
```

See section 5.25 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.27.2 Attributes

None.

2.27.3 Complex Types

2.27.3.1 CT_PictureAttributionSourceURL

Target namespace: http://schemas.microsoft.com/office/drawing/2016/11/main

Referenced by: picAttrSrcUrl, CT_Model3D

A complex type<605> that defines the page URL of the picture source.

Attributes:

r:id: An ST_RelationshipId ([ISO/IEC29500-1:2012] section 22.8.2.1) attribute that specifies the relationship identifier to a content part which contains the URL.

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

```
<xsd:complexType name="CT_PictureAttributionSourceURL">
  <xsd:attribute ref="r:id" use="required"/>
</xsd:complexType>
```

See section 5.25 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.27.4 Simple Types

None.

2.28 http://schemas.microsoft.com/office/drawing/2016/11/diagram

2.28.1 Elements

2.28.1.1 autoBuNodeInfoLst

Target namespace: http://schemas.microsoft.com/office/drawing/2016/11/diagram

A CT_NumberDiagramInfoList element that specifies auto number information for the diagram.

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

```
<xsd:element name="autoBuNodeInfoLst" type="CT_NumberDiagramInfoList"/>
```

See section 5.26 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.28.2 Attributes

None.

2.28.3 Complex Types

2.28.3.1 CT_DiagramAutoBullet

Target namespace: http://schemas.microsoft.com/office/drawing/2016/11/diagram

Referenced by: CT_NumberDiagramInfo

A complex type that specifies the type of auto number.

Child Elements:

buNone: A CT_TextNoBullet<606> ([ISO/IEC-29500-1] section A.4.1) element that represents no auto number.

buAutoNum: A CT_TextAutonumberBullet ([ISO/IEC-29500-1] section A.4.1) element that specifies the auto number type to be applied for transition elements.

buChar: A CT_TextCharBullet<607> ([ISO/IEC-29500-1] section A.4.1) element specifies that a character be applied to the auto number.

buBlip: A CT_TextBlipBullet<608> ([ISO/IEC-29500-1] section A.4.1) element specifies that a picture be applied to the auto number.

Attributes:

prefix: A string ([XMLSCHEMA2] section 3.2.1) attribute that specifies the prefix for the auto number.

leadZeros: A boolean ([XMLSCHEMA2] section 3.2.2) attribute that specifies whether to show leading zeros for Arabic numbers below 10.

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

```
<xsd:complexType name="CT_DiagramAutoBullet" o:cname="DiagramAutoBullet"
o:cwrap="DiagramAutoBulletMethods">
  <xsd:group ref="a:EG_TextBullet" minOccurs="1" maxOccurs="1"/>
  <xsd:attribute name="prefix" type="xsd:string" o:cname="prefix" use="optional"/>
  <xsd:attribute name="leadZeros" type="xsd:boolean" o:cname="leadZeros" use="optional"/>
</xsd:complexType>
```

See section 5.26 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.28.3.2   CT_NumberDiagramInfo

Target namespace: http://schemas.microsoft.com/office/drawing/2016/11/diagram

Referenced by: CT_NumberDiagramInfoList

A complex type that specifies the properties of auto number for one level of transition element.

Child Elements:

buPr: A CT_DiagramAutoBullet element that specifies the type of auto number.

Attributes:

lvl: An unsignedInt ([XMLSCHEMA2] section 3.3.22) attribute that specifies the level of the transition element.

ptType: An ST_STorageType attribute that specifies which transition element to store the auto number.

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

```
<xsd:complexType name="CT_NumberDiagramInfo" o:cname="NumberDiagramInfo"
o:cwrap="NumberDiagramInfoMethods">
  <xsd:sequence>
    <xsd:element name="buPr" type="CT_DiagramAutoBullet" minOccurs="1" maxOccurs="1"
o:cname="bulletProps"/>
  </xsd:sequence>
  <xsd:attribute name="lvl" type="xsd:unsignedInt" o:cname="lvl" use="required"/>
  <xsd:attribute name="ptType" type="ST_STorageType" o:cname="ptType" use="required"/>
</xsd:complexType>
```

See section 5.26 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.28.3.3   CT_NumberDiagramInfoList

Target namespace: http://schemas.microsoft.com/office/drawing/2016/11/diagram

Referenced by: autoBuNodeInfoLst

A complex type that holds auto number information for multiple levels of diagram nodes.

Child Elements:

autoBuNodeInfo: A CT_NumberDiagramInfo element that specifies auto number information for one level of nodes.

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

```
<xsd:complexType name="CT_NumberDiagramInfoList" o:cname="NumberDiagramInfoList"
o:cwrap="noTemplate">
  <xsd:sequence>
    <xsd:element name="autoBuNodeInfo" type="CT_NumberDiagramInfo"
o:cname="autoBulletNodeInfo" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.26 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.28.4 Simple Types

2.28.4.1   ST_STorageType

Target namespace: http://schemas.microsoft.com/office/drawing/2016/11/diagram

Referenced by: CT_NumberDiagramInfo

A simple type that specifies where the auto number is stored.

Value	Meaning
sibTrans	Specifies the auto number to be stored in a sibling transition element.
parTrans	Specifies the auto number to be stored in a parent transition element.

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

```
<xsd:simpleType name="ST STorageType" o:cname="StoreType">
  <xsd:restriction base="xsd:token">
    <xsd:enumeration value="sibTrans"/>
    <xsd:enumeration value="parTrans"/>
  </xsd:restriction>
</xsd:simpleType>
```

See section 5.26 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29 http://schemas.microsoft.com/office/drawing/2013/main/command

2.29.1 Elements

2.29.1.1 cxnSpMkLst

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

A CT_ConnectorMonikerList element that specifies a content moniker for a connector.

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

```
<xsd:element name="cxnSpMkLst" type="CT_ConnectorMonikerList"/>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.1.2 graphicFrameMkLst

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

A CT_GraphicFrameMonikerList element that specifies a content moniker for a graphic frame.

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

```
<xsd:element name="graphicFrameMkLst" type="CT_GraphicFrameMonikerList"/>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.1.3 grpMkLst

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

A CT_GroupShapeMonikerList element that specifies a content moniker for a group shape.

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

```
<xsd:element name="grpMkLst" type="CT_GroupShapeMonikerList"/>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.1.4 inkMkLst

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

A CT_InkMonikerList element that specifies a content moniker for an ink object.

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

```
<xsd:element name="inkMkLst" type="CT_InkMonikerList"/>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.1.5   picMkLst

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

A CT_PictureMonikerList element that specifies a content moniker for a picture.

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

```
<xsd:element name="picMkLst" type="CT_PictureMonikerList"/>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.1.6   spMkLst

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

A CT_ShapeMonikerList element that specifies a content moniker for a shape.

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

```
<xsd:element name="spMkLst" type="CT_ShapeMonikerList"/>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.2 Attributes

None.

2.29.3 Complex Types

2.29.3.1   CT_ChangesData

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

Referenced by: CT_ShapeChanges, CT_GroupShapeChanges, CT_ConnectorChanges, CT_PictureChanges, CT_InkChanges, CT_GraphicFrameChanges

A complex type that specifies general information about a change made to the content model by a person.

Child Elements:

extLst: A CT_OfficeArtExtensionList ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the extension list in which all future extensions of element type **ext** are defined. The extension list, along with corresponding future extensions, is used to extend the storage capabilities of the DrawingML framework. This enables new types of data to be stored natively within the framework.

Attributes:

name: A string ([XMLSCHEMA2] section 3.2.1) attribute that specifies the display name of the person that made the change.

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

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

clId: A string ([XMLSCHEMA2] section 3.2.1) attribute that specifies a unique identifier for the device used by the person to make the change.

email: A string ([XMLSCHEMA2] section 3.2.1) attribute that specifies the e-mail address of the person who made the change.

dt: A dateTime ([XMLSCHEMA2] section 3.2.7) attribute that specifies the date and time at which the change was made.

v: An unsignedInt ([XMLSCHEMA2] section 3.3.22) attribute that specifies a unique identifier for the change made by the person on the device. A change that is more recent than another change should have a greater v value than the other change.

id: An ST_Guid ([ISO/IEC29500-1:2012] section 22.9.2.4) attribute that specifies a unique identifier for the change made by the person.

actId: An int ([XMLSCHEMA2] section 3.3.17) attribute that specifies a unique identifier for the user action that made the change.

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

```
<xsd:complexType name="CT_ChangesData">
  <xsd:sequence>
    <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attributeGroup ref="AG_ChangesUser"/>
  <xsd:attributeGroup ref="AG_ChangesVersion"/>
  <xsd:attribute name="actId" type="xsd:int" use="optional"/>
</xsd:complexType>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.3.2   CT_ConnectorChanges

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

A complex type that specifies the metadata that describes edits to a connector.

Child Elements:

chgData: A CT_ChangesData element that specifies metadata common to content model changes.

cxnSpMkLst: A CT_ConnectorMonikerList element that specifies a content moniker that identifies the edited connector.

extLst: A **CT_OfficeArtExtensionList** ([ISO/IEC29500-1:2012] section A.4.1) that specifies the extension list in which all future extensions of element type **ext** are defined. The extension list, along with corresponding future extensions, is used to extend the storage capabilities of the DrawingML framework. This enables various new types of data to be stored natively in the framework.

Attributes:

chg: An ST_ConnectorChangesBits attribute that specifies the types of edits made to the connector.

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

```
<xsd:complexType name="CT_ConnectorChanges">
  <xsd:sequence>
    <xsd:element name="chgData" type="CT_ChangesData" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="cxnSpMkLst" type="CT_ConnectorMonikerList" minOccurs="1"
maxOccurs="1"/>
    <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="chg" type="ST_ConnectorChangesBits" use="required"/>
</xsd:complexType>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.3.3   CT_ConnectorMoniker

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

A complex type that specifies the content moniker information associated with a connector.

Attributes:

id: An ST_DrawingElementId ([ISO/IEC29500-1:2011] section 20.1.10.21) attribute that specifies the identifier of the shape drawing element.

creationId: An ST_Guid ([ISO/IEC29500-1:2012] section 22.9.2.4) attribute that specifies a unique creation ID of the shape.

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

```
<xsd:complexType name="CT_ConnectorMoniker">
  <xsd:attributeGroup ref="AG_DrawingElementId"/>
</xsd:complexType>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.3.4   CT_ConnectorMonikerList

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

Referenced by: cxnSpMkLst, CT_ConnectorChanges

A complex type that specifies a list of content monikers that together uniquely identifies a connector in a document. The sequence of child elements MUST be a valid CONNECTORMONIKERLIST as specified in the following ABNF (specified in [RFC5234]) grammar.

CONNECTORMONIKERLIST = DRAWINGMONIKERLIST CONNECTORMONIKER

DRAWINGMONIKERLIST = SLIDEBASEMONIKERLIST ([MS-PPTX] section 2.12.3.15)

CONNECTORMONIKER = ac:cxnSpMk (section 2.29.3.3)

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

```
<xsd:complexType name="CT_ConnectorMonikerList">
  <xsd:sequence>
    <xsd:any minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.3.5 CT_GraphicFrameMoniker

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

A complex type that specifies the content moniker information associated with a graphic frame.

Attributes:

id: An ST_DrawingElementId ([ISO/IEC29500-1:2011] section 20.1.10.21) attribute that specifies the identifier of the shape drawing element.

creationId: An ST_Guid ([ISO/IEC29500-1:2012] section 22.9.2.4) attribute that specifies a unique creation ID of the shape.

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

```
<xsd:complexType name="CT_GraphicFrameMoniker">
  <xsd:attributeGroup ref="AG_DrawingElementId"/>
</xsd:complexType>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.3.6 CT_GraphicFrameMonikerList

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

Referenced by: graphicFrameMkLst, CT_GraphicFrameChanges

A complex type that specifies a list of content monikers that together uniquely identifies a graphic frame in a document. The sequence of child elements MUST be a valid GRAPHICFRAMEMONIKERLIST as specified in the following ABNF (specified in [RFC5234]) grammar.

GRAPHICFRAMEMONIKERLIST = DRAWINGMONIKERLIST (section 2.29.3.4) GRAPHICFRAMEMONIKER

GRAPHICFRAMEMONIKER = ac:graphicFrameMk (section 2.29.3.5)

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

```
<xsd:complexType name="CT_GraphicFrameMonikerList">
  <xsd:sequence>
    <xsd:any minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.3.7 CT_GroupShapeChanges

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

A complex type that specifies the metadata that describes edits to a group shape.

Child Elements:

chgData: A CT_ChangesData element that specifies metadata common to content model changes.

grpSpMkLst: A CT_GroupShapeMonikerList element that specifies a content moniker that identifies the edited group shape.

extLst: A **CT_OfficeArtExtensionList** ([ISO/IEC29500-1:2012] section A.4.1) that specifies the extension list in which all future extensions of element type **ext** are defined. The extension list, along with corresponding future extensions, is used to extend the storage capabilities of the DrawingML framework. This enables various new types of data to be stored natively in the framework.

Attributes:

chg: An ST_GroupShapeChangesBits attribute that specifies the types of edits made to the group shape.

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

```
<xsd:complexType name="CT GroupShapeChanges">
  <xsd:sequence>
    <xsd:element name="chgData" type="CT_ChangesData" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="grpSpMkLst" type="CT_GroupShapeMonikerList" minOccurs="1"
maxOccurs="1"/>
    <xsd:element name="extLst" type="a:CT OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="chg" type="ST_GroupShapeChangesBits" use="required"/>
</xsd:complexType>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.3.8 CT_GroupShapeMoniker

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

A complex type that specifies the content moniker information associated with a group shape.

Attributes:

id: An ST_DrawingElementId ([ISO/IEC29500-1:2011] section 20.1.10.21) attribute that specifies the identifier of the shape drawing element.

creationId: An ST_Guid ([ISO/IEC29500-1:2012] section 22.9.2.4) attribute that specifies a unique creation ID of the shape.

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

```
<xsd:complexType name="CT_GroupShapeMoniker">
  <xsd:attributeGroup ref="AG DrawingElementId"/>
</xsd:complexType>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.3.9   CT_GroupShapeMonikerList

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

Referenced by: grpMkLst, CT_GroupShapeChanges

A complex type that specifies a list of content monikers that together uniquely identifies a group shape in a document. The sequence of child elements MUST be a valid GROUPSHAPEMONIKERLIST as specified in the following ABNF (specified in [RFC5234]) grammar.

GROUPSHAPEMONIKERLIST = DRAWINGMONIKERLIST (section 2.29.3.4) GROUPSHAPEMONIKER

GROUPSHAPEMONIKER = ac:grpMk (section 2.29.3.8)

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

```
<xsd:complexType name="CT_GroupShapeMonikerList">
  <xsd:sequence>
    <xsd:any minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.3.10   CT_InkChanges

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

A complex type that specifies the metadata that describes edits to an ink object.

Child Elements:

chgData: A CT_ChangesData element that specifies metadata common to content model changes.

inkMkLst: A CT_InkMonikerList element that specifies a content moniker that identifies the edited ink object.

extLst: A **CT_OfficeArtExtensionList** ([ISO/IEC29500-1:2012] section A.4.1) that specifies the extension list in which all future extensions of element type **ext** are defined. The extension list, along with corresponding future extensions, is used to extend the storage capabilities of the DrawingML framework. This enables various new types of data to be stored natively in the framework.

Attributes:

chg: An ST_InkChangesBits attribute that specifies the types of edits made to the ink object.

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

```
<xsd:complexType name="CT_InkChanges">
  <xsd:sequence>
    <xsd:element name="chgData" type="CT_ChangesData" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="inkMkLst" type="CT_InkMonikerList" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="chg" type="ST_InkChangesBits" use="required"/>
```

```
    </xsd:complexType>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.3.11   CT_InkMoniker

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

A complex type that specifies the content moniker information associated with an ink object.

Attributes:

id: An ST_DrawingElementId ([ISO/IEC29500-1:2011] section 20.1.10.21) attribute that specifies the identifier of the shape drawing element.

creationId: An ST_Guid ([ISO/IEC29500-1:2012] section 22.9.2.4) attribute that specifies a unique creation ID of the shape.

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

```
    <xsd:complexType name="CT_InkMoniker">
      <xsd:attributeGroup ref="AG_DrawingElementId"/>
    </xsd:complexType>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.3.12   CT_InkMonikerList

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

Referenced by: inkMkLst, CT_InkChanges

A complex type that specifies a list of content monikers that together uniquely identifies an ink object in a document. The sequence of child elements MUST be a valid INKMONIKERLIST as specified in the following ABNF (specified in [RFC5234]) grammar.

INKMONIKERLIST = DRAWINGMONIKERLIST (section 2.29.3.4) INKMONIKER

INKMONIKER = ac:inkMk (section 2.29.3.11)

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

```
    <xsd:complexType name="CT_InkMonikerList">
      <xsd:sequence>
        <xsd:any minOccurs="0" maxOccurs="unbounded"/>
      </xsd:sequence>
    </xsd:complexType>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.3.13   CT_PictureChanges

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

A complex type that specifies the metadata that describes edits to a picture.

Child Elements:

chgData: A CT_ChangesData element that specifies metadata common to content model changes.

picMkLst: A CT_PictureMonikerList element that specifies a content moniker that identifies the edited picture.

extLst: A **CT_OfficeArtExtensionList** ([ISO/IEC29500-1:2012] section A.4.1) that specifies the extension list in which all future extensions of element type **ext** are defined. The extension list, along with corresponding future extensions, is used to extend the storage capabilities of the DrawingML framework. This enables various new types of data to be stored natively in the framework.

Attributes:

chg: An ST_PictureChangesBits attribute that specifies the types of edits made to the picture.

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

```
<xsd:complexType name="CT_PictureChanges">
  <xsd:sequence>
    <xsd:element name="chgData" type="CT_ChangesData" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="picMkLst" type="CT_PictureMonikerList" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="chg" type="ST_PictureChangesBits" use="required"/>
</xsd:complexType>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.3.14   CT_PictureMoniker

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

A complex type that specifies the content moniker information associated with a picture.

Attributes:

id: An ST_DrawingElementId ([ISO/IEC29500-1:2011] section 20.1.10.21) attribute that specifies the identifier of the shape drawing element.

creationId: An ST_Guid ([ISO/IEC29500-1:2012] section 22.9.2.4) attribute that specifies a unique creation ID of the shape.

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

```
<xsd:complexType name="CT_PictureMoniker">
  <xsd:attributeGroup ref="AG_DrawingElementId"/>
</xsd:complexType>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.3.15   CT_PictureMonikerList

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

Referenced by: picMkLst, CT_PictureChanges

A complex type that specifies a list of content monikers that together uniquely identifies a picture in a document. The sequence of child elements MUST be a valid PICTUREMONIKERLIST as specified in the following ABNF (specified in [RFC5234]) grammar.

PICTUREMONIKERLIST = DRAWINGMONIKERLIST (section 2.29.3.4) PICTUREMONIKER

PICTUREMONIKER = ac:picMk (section 2.29.3.14)

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

```
<xsd:complexType name="CT_PictureMonikerList">
  <xsd:sequence>
    <xsd:any minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.3.16   CT_ShapeChanges

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

A complex type that specifies the metadata that describes edits to a shape.

Child Elements:

chgData: A CT_ChangesData element that specifies metadata common to content model changes.

spMkLst: A CT_ShapeMonikerList element that specifies a content moniker that identifies the edited shape.

extLst: A **CT_OfficeArtExtensionList** ([ISO/IEC29500-1:2012] section A.4.1) that specifies the extension list in which all future extensions of element type **ext** are defined. The extension list, along with corresponding future extensions, is used to extend the storage capabilities of the DrawingML framework. This enables various new types of data to be stored natively in the framework.

Attributes:

chg: An ST_ShapeChangesBits attribute that specifies the types of edits made to a shape.

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

```
<xsd:complexType name="CT_ShapeChanges">
  <xsd:sequence>
    <xsd:element name="chgData" type="CT_ChangesData" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="spMkLst" type="CT_ShapeMonikerList" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="chg" type="ST_ShapeChangesBits" use="required"/>
</xsd:complexType>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.3.17 CT_ShapeMoniker

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

A complex type that specifies the content moniker information associated with a shape.

Attributes:

id: An ST_DrawingElementId ([ISO/IEC29500-1:2011] section 20.1.10.21) attribute that specifies the identifier of the shape drawing element.

creationId: An ST_Guid ([ISO/IEC29500-1:2012] section 22.9.2.4) attribute that specifies a unique creation ID of the shape.

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

```
<xsd:complexType name="CT ShapeMoniker">
  <xsd:attributeGroup ref="AG_DrawingElementId"/>
</xsd:complexType>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.3.18 CT_ShapeMonikerList

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

Referenced by: spMkLst, CT_ShapeChanges

A complex type that specifies a list of content monikers that together uniquely identifies a shape in a document. The sequence of child elements MUST be a valid SHAPEMONIKERLIST as specified in the following ABNF (specified in [RFC5234]) grammar.

SHAPEMONIKERLIST = DRAWINGMONIKERLIST (section 2.29.3.4) SHAPEMONIKER

SHAPEMONIKER = ac:spMk (section 2.29.3.17)

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

```
<xsd:complexType name="CT_ShapeMonikerList">
  <xsd:sequence>
    <xsd:any minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.3.19 CT_GraphicFrameChanges

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

A complex type that specifies the metadata about edits to a graphic frame.

Child Elements:

chgData: A CT_ChangesData element that specifies metadata common to content model changes.

graphicFrameMkLst: A CT_GraphicFrameMonikerList element that specifies a content moniker that identifies the edited graphic frame.

extLst: A **CT_OfficeArtExtensionList** ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the extension list in which all future extensions of element type **ext** are defined. The extension list, along with corresponding future extensions, is used to extend the storage capabilities of the DrawingML framework. This enables various new types of data to be stored natively in the framework.

Attributes:

chg: An ST_GraphicFrameChangesBits attribute that specifies the types of edits made to the graphic frame.

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

```
<xsd:complexType name="CT_GraphicFrameChanges">
  <xsd:sequence>
    <xsd:element name="chgData" type="CT_ChangesData" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="graphicFrameMkLst" type="CT GraphicFrameMonikerList" minOccurs="1"
maxOccurs="1"/>
    <xsd:element name="extLst" type="a:CT OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="chg" type="ST_GraphicFrameChangesBits" use="required"/>
</xsd:complexType>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.4 Simple Types

2.29.4.1 ST_ConnectorChangeBit

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

Referenced by: ST_ConnectorChangesBits

A simple type that specifies the types of edits that has been made to a connector. Possible values are described in the following table.

Value	Meaning
add	The connector was added.
del	The connector was deleted.
mod	The connector was modified.
ord	The z-order of the connector was changed.
topLvl	The connector became a top-level object on a drawing canvas, e.g. it was part of a group shape that got ungrouped.
modVis	The visibility of the connector was modified.
replST	The tag value associated with the connector was replaced.
delST	The tag value associated with the connector was deleted.
replId	The ID of the connector was changed.

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

```
<xsd:simpleType name="ST_ConnectorChangeBit">
  <xsd:restriction base="xsd:token">
    <xsd:enumeration value="add"/>
    <xsd:enumeration value="del"/>
    <xsd:enumeration value="mod"/>
    <xsd:enumeration value="ord"/>
    <xsd:enumeration value="topLvl"/>
    <xsd:enumeration value="modVis"/>
    <xsd:enumeration value="replST"/>
    <xsd:enumeration value="delST"/>
    <xsd:enumeration value="replId"/>
  </xsd:restriction>
</xsd:simpleType>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.4.2   ST_ConnectorChangesBits

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

Referenced by: CT_ConnectorChanges

A simple type that specifies a list of **ST_ConnectorChangeBit** (section 2.29.4.1) values. It can be used for describing one or more types of changes on a connector.

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

```
<xsd:simpleType name="ST_ConnectorChangesBits">
  <xsd:list itemType="ST_ConnectorChangeBit"/>
</xsd:simpleType>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.4.3   ST_GroupShapeChangeBit

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

Referenced by: ST_GroupShapeChangesBits

A simple type that specifies the types of edits that has been made to a group shape. Possible values are described in the following table.

Value	Meaning
add	The group shape was added.
del	The group shape was deleted.
mod	The group shape was modified.
ord	The z-order of the group shape was changed.
topLvl	The group shape became a top-level object on a drawing canvas, e.g. it was part of another group

Value	Meaning
	shape that got ungrouped.
modVis	The visibility of the group shape was modified.
replST	The tag value associated with the group shape was replaced.
delST	The tag value associated with the group shape was deleted.
replId	The ID of the group shape was changed.

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

```
<xsd:simpleType name="ST_GroupShapeChangeBit">
  <xsd:restriction base="xsd:token">
    <xsd:enumeration value="add"/>
    <xsd:enumeration value="del"/>
    <xsd:enumeration value="mod"/>
    <xsd:enumeration value="ord"/>
    <xsd:enumeration value="topLvl"/>
    <xsd:enumeration value="modVis"/>
    <xsd:enumeration value="replST"/>
    <xsd:enumeration value="delST"/>
    <xsd:enumeration value="replId"/>
  </xsd:restriction>
</xsd:simpleType>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.4.4   ST_GroupShapeChangesBits

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

Referenced by: CT_GroupShapeChanges

A simple type that specifies a list of **ST_GroupShapeChangeBit** (section 2.29.4.3) values. It can be used for describing one or more types of changes on a group shape.

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

```
<xsd:simpleType name="ST_GroupShapeChangesBits">
  <xsd:list itemType="ST_GroupShapeChangeBit"/>
</xsd:simpleType>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.4.5   ST_InkChangeBit

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

Referenced by: ST_InkChangesBits

A simple type that specifies the types of edits that have been made to an ink object. Possible values are described in the following table.

Value	Meaning
add	The ink object was added.
del	The ink object was deleted.
mod	The ink object was modified.
ord	The z-order of the ink object was changed.
topLvl	The ink object became a top-level object on a drawing canvas; for example, it was part of a group shape that got ungrouped.
modVis	The visibility of the ink object was modified.
replST	The tag value associated with the ink object was replaced.
delST	The tag value associated with the ink object was deleted.
replId	The ID of the ink object was changed.
reco	New ink was added as a result of an ink analysis.
modStrokes	Ink strokes in the object were modified.

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

```
<xsd:simpleType name="ST_InkChangeBit">
  <xsd:restriction base="xsd:token">
    <xsd:enumeration value="add"/>
    <xsd:enumeration value="del"/>
    <xsd:enumeration value="mod"/>
    <xsd:enumeration value="ord"/>
    <xsd:enumeration value="topLvl"/>
    <xsd:enumeration value="modVis"/>
    <xsd:enumeration value="replST"/>
    <xsd:enumeration value="delST"/>
    <xsd:enumeration value="replId"/>
    <xsd:enumeration value="reco"/>
    <xsd:enumeration value="modStrokes"/>
  </xsd:restriction>
</xsd:simpleType>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.4.6   ST_InkChangesBits

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

Referenced by: CT_InkChanges

A simple type that specifies a list of **ST_InkChangeBit** (section 2.29.4.5) values. It can be used for describing one or more types of changes on an ink object.

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

```
<xsd:simpleType name="ST_InkChangesBits">
```

```
        <xsd:list itemType="ST_InkChangeBit"/>
    </xsd:simpleType>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.4.7   ST_PictureChangeBit

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

Referenced by: ST_PictureChangesBits

A simple type that specifies the types of edits that have been made to a picture. Possible values are described in the following table.

Value	Meaning
add	The picture was added.
del	The picture was deleted.
mod	The picture was modified.
ord	The z-order of the picture was changed.
topLvl	The picture became a top-level object on a drawing canvas; for example, it was part of a group shape that got ungrouped.
modVis	The visibility of the picture was modified.
replST	The tag value associated with the picture was replaced.
delST	The tag value associated with the picture was deleted.
replId	The ID of the picture was changed.
modCrop	The picture's crop settings were modified.

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

```
    <xsd:simpleType name="ST_PictureChangeBit">
      <xsd:restriction base="xsd:token">
        <xsd:enumeration value="add"/>
        <xsd:enumeration value="del"/>
        <xsd:enumeration value="mod"/>
        <xsd:enumeration value="ord"/>
        <xsd:enumeration value="topLvl"/>
        <xsd:enumeration value="modVis"/>
        <xsd:enumeration value="replST"/>
        <xsd:enumeration value="delST"/>
        <xsd:enumeration value="replId"/>
        <xsd:enumeration value="modCrop"/>
      </xsd:restriction>
    </xsd:simpleType>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.4.8   ST_PictureChangesBits

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

Referenced by: CT_PictureChanges

A simple type that specifies a list of **ST_PictureChangeBit** (section 2.29.4.7) values. It can be used for describing one or more types of changes on a picture.

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

```
<xsd:simpleType name="ST_PictureChangesBits">
  <xsd:list itemType="ST PictureChangeBit"/>
</xsd:simpleType>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.4.9   ST_ShapeChangeBit

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

Referenced by: ST_ShapeChangesBits

A simple type that specifies the types of edits that have been made to a shape. Possible values are described in the following table.

Value	Meaning
add	The shape was added.
del	The shape was deleted.
mod	The shape was modified.
ord	The z-order of the shape was changed.
topLvl	The shape became a top-level object on a drawing canvas; for example, it was part of a group shape that got modified.
modVis	The visibility of the shape was modified.
replST	The tag value associated with the shape was replaced.
delST	The tag value associated with the shape was deleted.
replId	The ID of the shape was changed.
modCrop	The crop settings of the picture fill on the shape were modified.

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

```
<xsd:simpleType name="ST ShapeChangeBit">
  <xsd:restriction base="xsd:token">
    <xsd:enumeration value="add"/>
    <xsd:enumeration value="del"/>
    <xsd:enumeration value="mod"/>
```

```
            <xsd:enumeration value="ord"/>
            <xsd:enumeration value="topLvl"/>
            <xsd:enumeration value="modVis"/>
            <xsd:enumeration value="replST"/>
            <xsd:enumeration value="delST"/>
            <xsd:enumeration value="replId"/>
            <xsd:enumeration value="modCrop"/>
        </xsd:restriction>
    </xsd:simpleType>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.4.10   ST_ShapeChangesBits

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

Referenced by: CT_ShapeChanges

A simple type that specifies a list of **ST_ShapeChangeBit** (section 2.29.4.9) values. It can be used for describing one or more types of changes on a shape.

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

```
    <xsd:simpleType name="ST ShapeChangesBits">
      <xsd:list itemType="ST_ShapeChangeBit"/>
    </xsd:simpleType>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.4.11   ST_GraphicFrameChangeBit

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

Referenced by: ST_GraphicFrameChangesBits

A simple type that specifies the types of edits that have been made to a graphic frame. Possible values are described in the following table.

Value	Meaning
add	The graphic frame was added.
del	The graphic frame was deleted.
mod	The graphic frame was modified.
ord	The z-order of the graphic frame was changed.
topLvl	The graphic frame became a top-level object on a drawing canvas.
modVis	The visibility of the graphic frame was modified.
replST	The tag value associated with the graphic frame was replaced.
delST	The tag value associated with the graphic frame was deleted.
replId	The ID of the graphic frame was changed.

Value	Meaning
modGraphic	The content of the graphic frame was modified.

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

```
<xsd:simpleType name="ST GraphicFrameChangeBit">
  <xsd:restriction base="xsd:token">
    <xsd:enumeration value="add"/>
    <xsd:enumeration value="del"/>
    <xsd:enumeration value="mod"/>
    <xsd:enumeration value="ord"/>
    <xsd:enumeration value="topLvl"/>
    <xsd:enumeration value="modVis"/>
    <xsd:enumeration value="replST"/>
    <xsd:enumeration value="delST"/>
    <xsd:enumeration value="replId"/>
    <xsd:enumeration value="modGraphic"/>
  </xsd:restriction>
</xsd:simpleType>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.29.4.12   ST_GraphicFrameChangesBits

Target namespace: http://schemas.microsoft.com/office/drawing/2013/main/command

Referenced by: CT_GraphicFrameChanges

A simple type that specifies a list of **ST_GraphicFrameChangeBit** (section 2.29.4.11) values. It can be used for describing one or more types of changes on a graphic frame.

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

```
<xsd:simpleType name="ST_GraphicFrameChangesBits">
  <xsd:list itemType="ST GraphicFrameChangeBit"/>
</xsd:simpleType>
```

See section 5.27 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.30 http://schemas.microsoft.com/office/drawing/2016/ink

2.30.1 Elements

None.

2.30.2 Attributes

None.

2.30.3 Complex Types

None.

2.30.4 Simple Types

2.30.4.1   ST_ExtendedBrushPropertyName

Target namespace: http://schemas.microsoft.com/office/drawing/2016/ink

ST_ExtendedBrushPropertyName extends inkml:brushProperty element ([InkML] section 4.3.2)

The **brushProperty** element provides a mechanism for the storage of named properties of brushes. The **inkEffects**, **anchorX**, **anchorY**, and **scaleFactor** are **ExtendedBrushPropertyName**, which are used to describe the attributes of the ink effect texture applied to the brush.

Value	Meaning
inkEffects	The type of effects applied to the ink: pencil, rainbow, galaxy, gold, silver, lava, ocean, rose gold, or bronze (and future pen types yet to be designed). If none, no ink effect in the brush. If pencil, use pencil texture for the brush and etc. The default is none.
anchorX	The horizontal offset relative to the left edge of the ink effect texture in High Metric Units. The default is 0.
anchorY	The vertical offset relative to the top edge of the ink effect texture in High Metric Units. The default is 0.
scaleFactor	The zoom factor of the ink effect texture (1.0 = 100%). The default is 0.5.

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

```
<xsd:simpleType name="ST_ExtendedBrushPropertyName">
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="inkEffects"/>
    <xsd:enumeration value="anchorX"/>
    <xsd:enumeration value="anchorY"/>
    <xsd:enumeration value="scaleFactor"/>
  </xsd:restriction>
</xsd:simpleType>
```

See section 5.28 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.30.4.2   ST_InkEffectsType

Target namespace: http://schemas.microsoft.com/office/drawing/2016/ink

The ink custom pen effect type.

Value	Meaning
none	No effect texture in the ink stroke.
pencil	Specifies a preset ink effect texture; pencil. Texture shall be designed to match the figure below.
rainbow	Specifies a preset ink effect texture; rainbow. Texture shall be designed to match the figure below.
galaxy	Specifies a preset ink effect texture; galaxy. Texture shall be designed to match the figure below.
gold	Specifies a preset ink effect texture; gold. Texture shall be designed to match the figure below.
silver	Specifies a preset ink effect texture; silver. Texture shall be designed to match the figure below.
lava	Specifies a preset ink effect texture; lava. Texture shall be designed to match the figure below.
ocean	Specifies a preset ink effect texture; ocean. Texture shall be designed to match the figure below.

Value	Meaning
rosegold	Specifies a preset ink effect texture; rosegold. Texture shall be designed to match the figure below.
bronze	Specifies a preset ink effect texture; bronze. Texture shall be designed to match the figure below.

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

```
<xsd:simpleType name="ST_InkEffectsType">
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="none"/>
    <xsd:enumeration value="pencil"/>
    <xsd:enumeration value="rainbow"/>
    <xsd:enumeration value="galaxy"/>
    <xsd:enumeration value="gold"/>
    <xsd:enumeration value="silver"/>
    <xsd:enumeration value="lava"/>
    <xsd:enumeration value="ocean"/>
    <xsd:enumeration value="rosegold"/>
    <xsd:enumeration value="bronze"/>
  </xsd:restriction>
</xsd:simpleType>
```

See section 5.28 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.31 http://schemas.microsoft.com/office/drawing/2017/model3d

2.31.1 Elements

2.31.1.1 model3D

Target namespace: http://schemas.microsoft.com/office/drawing/2017/model3d

A CT_Model3D element that specifies data about the inserted **3D Model**.

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

```
<xsd:element name="model3D" type="CT_Model3D"/>
```

See section 5.29 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.31.2 Attributes

None.

2.31.3 Complex Types

2.31.3.1 CT_AmbientLight

Target namespace: http://schemas.microsoft.com/office/drawing/2017/model3d

Referenced by: CT_Model3D

Represents an omni-directional, fixed-intensity, and fixed-color light source in the **3D Model**.

Child Elements:

clr: A CT_Color ([MS-DOCX] section 2.6.3.3) element that specifies the color values of the ambient light.

illuminance: A CT_PositiveRatio ([MS-ODRAWXML] section 2.31.3.16) element that specifies the total luminous flux on a surface per unit area. The units used are lux (lumen per meter squared).

extLst: A CT_OfficeArtExtensionList ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the extension list in which all future extensions of element type **ext** are defined. The extension list, along with corresponding future extensions, is used to extend the storage capabilities of the DrawingML framework. This enables various new types of data to be stored natively in the framework.

Attributes:

enabled: A boolean ([XMLSCHEMA2] section 3.2.2) attribute that specifies whether the light is on.

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

```
<xsd:complexType name="CT_AmbientLight">
  <xsd:sequence>
    <xsd:element name="clr" type="a:CT_Color" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="illuminance" type="CT_PositiveRatio" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="enabled" type="xsd:boolean" use="optional" default="true"/>
</xsd:complexType>
```

See section 5.29 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.31.3.2 CT_DirectionalLight

Target namespace: http://schemas.microsoft.com/office/drawing/2017/model3d

Referenced by: CT_Model3D

Represents a light which illuminates all surfaces of a **3D Model** equally from a given direction.

Child Elements:

clr: A CT_Color ([MS-DOCX] section 2.6.3.3) element that specifies the color values of the directional light.

illuminance: A CT_PositiveRatio ([MS-ODRAWXML] section 2.31.3.16) element that specifies the total luminous flux on a surface per unit area. The units used are lux (lumen per meter squared).

pos: A CT_Point3D ([ISO/IEC-29500-1] section A.4.1) element that specifies the position of the light. The output of a directional light is not affected by position. The position is purely for a visual representation of the light for convenience.

lookAt: A CT_Point3D ([ISO/IEC-29500-1] section A.4.1) element that specifies the point at which the light is directed to.

extLst: A CT_OfficeArtExtensionList ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the extension list in which all future extensions of element type **ext** are defined. The extension list, along with corresponding future extensions, is used to extend the storage capabilities of the DrawingML framework. This enables various new types of data to be stored natively in the framework.

Attributes:

enabled: A boolean ([XMLSCHEMA2] section 3.2.2) attribute that specifies whether the light is on.

angularRad: An ST_AngularRadius attribute that specifies the angular radius of the light. A value of zero implies all light rays are parallel, making the shadow edges sharp. Values greater than zero soften the shadow edges.

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

```
<xsd:complexType name="CT DirectionalLight">
  <xsd:sequence>
    <xsd:element name="clr" type="a:CT_Color" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="illuminance" type="CT_PositiveRatio" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="pos" type="a:CT Point3D" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="lookAt" type="a:CT_Point3D" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="extLst" type="a:CT OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="enabled" type="xsd:boolean" use="optional" default="true"/>
  <xsd:attribute name="angularRad" type="ST AngularRadius" use="required"/>
</xsd:complexType>
```

See section 5.29 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.31.3.3   CT_Model3D

Target namespace: http://schemas.microsoft.com/office/drawing/2017/model3d

Referenced by: model3D

Represents the data used to create a **3D Model**.

Child Elements:

spPr: A CT_ShapeProperties [[ISO/IEC-29500-1]](#) section A.4.1] element that specifies the visual properties that can be applied to a 3D model.

camera: A [CT_Model3DCamera](#) element that specifies the camera properties of the 3D Model.[Section_01642db443c34799bd2b6cc21e61f0aa](#)

trans: A [CT_Model3DTransform](#) element that specifies the transform properties of the 3D Model.

attrSrcUrl: A [CT_PictureAttributionSourceURL](#) element that specifies the page URL of the 3D Model source.

raster: A [CT_Model3DRaster](#) element that specifies the relationship ID of a rasterized image of the 3D Model and information about the renderer used to create that image.

extLst: A CT_OfficeArtExtensionList [[ISO/IEC29500-1:2012]](#) section A.4.1] element that specifies the extension list in which all future extensions of element type **ext** are defined. The extension list, along with corresponding future extensions, is used to extend the storage capabilities of the DrawingML framework. This enables various new types of data to be stored natively in the framework.

objViewport: A [CT_ObjectViewport](#) element that specifies viewport properties of the 3D Model while in object mode.

winViewport: A [CT_WindowViewport](#) element that specifies viewport properties of the 3D Model while in window mode.

ambientLight: A [CT_AmbientLight](#) element that specifies ambient light properties of the 3D Model.

ptLight: A [CT_PointLight](#) element that specifies the properties of a point light of the 3D Model.

spotLight: A [CT_SpotLight](#) element that specifies the properties of a spot light of the 3D Model.

dirLight: A [CT_DirectionalLight](#) element that specifies the properties of a directional light of the 3D Model.

unkLight: A [CT_UnknownLight](#) element that specifies the properties of a yet to be defined light of the 3D Model.

Attributes:

r:embed: An ST_RelationshipId ([ISO/IEC29500-1:2012] section 22.8.2.1) attribute that specifies the identification information for an embedded binary object that resides locally within the file.

r:link: An ST_RelationshipId ([ISO/IEC29500-1:2012] section 22.8.2.1) attribute that specifies the identification information for a binary object. This attribute is used to specify an object that does not reside within this file.

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

```
<xsd:complexType name="CT_Model3D">
  <xsd:sequence>
    <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="camera" type="CT_Model3DCamera" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="trans" type="CT_Model3DTransform" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="attrSrcUrl" type="a1611:CT_PictureAttributionSourceURL" minOccurs="0"
maxOccurs="1"/>
    <xsd:element name="raster" type="CT_Model3DRaster" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
    <xsd:choice minOccurs="1" maxOccurs="1">
      <xsd:element name="objViewport" type="CT_ObjectViewport"/>
      <xsd:element name="winViewport" type="CT_WindowViewport"/>
    </xsd:choice>
```

```
        <xsd:element name="ambientLight" type="CT_AmbientLight" minOccurs="0" maxOccurs="1"/>
        <xsd:choice minOccurs="0" maxOccurs="unbounded">
          <xsd:element name="ptLight" type="CT_PointLight"/>
          <xsd:element name="spotLight" type="CT_SpotLight"/>
          <xsd:element name="dirLight" type="CT_DirectionalLight"/>
          <xsd:element name="unkLight" type="CT_UnknownLight"/>
        </xsd:choice>
      </xsd:sequence>
      <xsd:attributeGroup ref="a:AG_Blob"/>
    </xsd:complexType>
```

See section 5.29 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.31.3.4   CT_Model3DCamera

Target namespace: http://schemas.microsoft.com/office/drawing/2017/model3d

Referenced by: CT_Model3D

Represents position and orientation of the camera, and the volume of space the camera sees.

Child Elements:

pos: A CT_Point3D [[ISO/IEC-29500-1] section A.4.1] element that specifies the position of the camera relative to the origin of the **3D Model**.

up: A CT_Vector3D [[ISO/IEC-29500-1] section A.4.1] element that specifies the up vector of the camera in world space.

lookAt: A CT_Point3D [[ISO/IEC-29500-1] section A.4.1] element that specifies the point at which the camera is aimed in world space.

orthographic: A CT_OrthographicProjection element that specifies the projection of the camera if it is orthographic.

perspective: A CT_PerspectiveProjection element that specifies the projection of the camera if it is perspective.

extLst: A CT_OfficeArtExtensionList [[ISO/IEC29500-1:2012] section A.4.1] element that specifies the extension list in which all future extensions of element type **ext** are defined. The extension list, along with corresponding future extensions, is used to extend the storage capabilities of the DrawingML framework. This enables various new types of data to be stored natively in the framework.

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

```
    <xsd:complexType name="CT_Model3DCamera">
      <xsd:sequence>
        <xsd:element name="pos" type="a:CT_Point3D" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="up" type="a:CT_Vector3D" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="lookAt" type="a:CT_Point3D" minOccurs="1" maxOccurs="1"/>
        <xsd:choice minOccurs="1" maxOccurs="1">
          <xsd:element name="orthographic" type="CT_OrthographicProjection"/>
          <xsd:element name="perspective" type="CT_PerspectiveProjection"/>
        </xsd:choice>
        <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
    maxOccurs="1"/>
      </xsd:sequence>
    </xsd:complexType>
```

See section 5.29 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.31.3.5 CT_Model3DRaster

Target namespace: http://schemas.microsoft.com/office/drawing/2017/model3d

Referenced by: CT_Model3D

Contains the rasterized image of the **3D Model** and information about the renderer used to generate it, so that the 3D model can be drawn without loading the 3D viewer.

Child Elements:

blip: A CT_Blip [[ISO/IEC-29500-1] section A.4.1] element that specifies the relationship ID of a rasterized image of a 3D Model.

Attributes:

rName: A string [[XMLSCHEMA2] section 3.2.1] attribute that specifies the name of the renderer at the time the image was last updated.

rVer: A string [[XMLSCHEMA2] section 3.2.1] attribute that specifies the version of the renderer at the time the image was last updated.

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

```
<xsd:complexType name="CT_Model3DRaster">
  <xsd:sequence>
    <xsd:element name="blip" type="a:CT_Blip" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="rName" type="xsd:string" use="required"/>
  <xsd:attribute name="rVer" type="xsd:string" use="required"/>
</xsd:complexType>
```

See section 5.29 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.31.3.6 CT_Model3DTransform

Target namespace: http://schemas.microsoft.com/office/drawing/2017/model3d

Referenced by: CT_Model3D

Contains transform information required to correctly represent the model in 3D space. The transformation happens in the following order: **preTrans**, **scale**, **rotate**, **postTrans**. **preTrans** and **postTrans** are both required to allow for the center of rotation and the origin to be different.

Child Elements:

meterPerModelUnit: A CT_PositiveRatio ([MS-ODRAWXML] section 2.31.3.16) element that specifies the ratio of meters to units used in the **3D Model**.

preTrans: A CT_Vector3D ([ISO/IEC-29500-1] section A.4.1) element that specifies the first translation that occurs. This is to change the center of rotation of the 3D Model.

scale: A CT_Scale3D element that specifies the scale of the 3D Model.

rot: A CT_Rotate3D element that specifies the rotation of the model about the center of rotation specified by **preTrans**.

postTrans: A CT_Vector3D ([ISO/IEC-29500-1] section A.4.1) element that specifies the second translation that occurs. This is to change the origin of the 3D Model.

extLst: A CT_OfficeArtExtensionList ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the extension list in which all future extensions of element type **ext** are defined. The extension list, along with corresponding future extensions, is used to extend the storage capabilities of the DrawingML framework. This enables various new types of data to be stored natively in the framework.

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

```
<xsd:complexType name="CT_Model3DTransform">
  <xsd:sequence>
    <xsd:element name="meterPerModelUnit" type="CT PositiveRatio" minOccurs="0"
maxOccurs="1"/>
    <xsd:element name="preTrans" type="a:CT_Vector3D" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="scale" type="CT_Scale3D" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="rot" type="CT_Rotate3D" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="postTrans" type="a:CT_Vector3D" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="extLst" type="a:CT OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.29 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.31.3.7   CT_ObjectViewport

Target namespace: http://schemas.microsoft.com/office/drawing/2017/model3d

Referenced by: CT_Model3D

Represents the viewport properties of a **3D Model** which is set to object mode. In object mode, the size of the frame is updated automatically to fit the visible part of the 3D Model scene. Due to this, frame and projection information are recalculated whenever the model is rotated. In this mode, the viewport center and the graphics frame center are the same. This is the default behavior mode.

Child Elements:

extLst: A CT_OfficeArtExtensionList ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the extension list in which all future extensions of element type **ext** are defined. The extension list, along with corresponding future extensions, is used to extend the storage capabilities of the DrawingML framework. This enables various new types of data to be stored natively in the framework.

Attributes:

viewportSz: An ST_PositiveCoordinate ([ISO/IEC-29500-1] section A.4.1) attribute that specifies the size of the square viewport that contains the full field of view. The size of the viewport is used to update the size of the **graphicFrame** to fit the visible portions of the scene. This viewport is centered around the look-at point.

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

```
<xsd:complexType name="CT_ObjectViewport">
  <xsd:sequence>
    <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="viewportSz" type="a:ST_PositiveCoordinate" use="required"/>
```

```
    </xsd:complexType>
```

See section 5.29 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.31.3.8 CT_OrthographicProjection

Target namespace: http://schemas.microsoft.com/office/drawing/2017/model3d

Referenced by: CT_Model3DCamera

Represents an orthographic camera projection.

Child Elements:

sz: A CT_PositiveRatio ([MS-ODRAWXML] section 2.31.3.16) element that specifies the size of one unit object relative to the viewport height.

extLst: A CT_OfficeArtExtensionList ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the extension list in which all future extensions of element type **ext** are defined. The extension list, along with corresponding future extensions, is used to extend the storage capabilities of the DrawingML framework. This enables various new types of data to be stored natively in the framework.

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

```
    <xsd:complexType name="CT_OrthographicProjection">
      <xsd:sequence>
        <xsd:element name="sz" type="CT_PositiveRatio" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="extLst" type="a:CT OfficeArtExtensionList" minOccurs="0"
    maxOccurs="1"/>
      </xsd:sequence>
    </xsd:complexType>
```

See section 5.29 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.31.3.9 CT_PerspectiveProjection

Target namespace: http://schemas.microsoft.com/office/drawing/2017/model3d

Referenced by: CT_Model3DCamera

Represents a perspective camera projection.

Child Elements:

extLst: A CT_OfficeArtExtensionList ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the extension list in which all future extensions of element type **ext** are defined. The extension list, along with corresponding future extensions, is used to extend the storage capabilities of the DrawingML framework. This enables various new types of data to be stored natively in the framework.

Attributes:

fov: An ST_FOVAngle ([ISO/IEC-29500-1] section A.4.1) attribute that specifies the vertical field of view angle for perspective projection. The range MUST be (0, 180).

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

```
<xsd:complexType name="CT_PerspectiveProjection">
  <xsd:sequence>
    <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="fov" type="a:ST_FOVAngle" use="required"/>
</xsd:complexType>
```

See section 5.29 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.31.3.10   CT_PointLight

Target namespace: http://schemas.microsoft.com/office/drawing/2017/model3d

Referenced by: CT_Model3D

Represents an omni-directional point light of the **3D Model**.

Child Elements:

clr: A CT_Color ([MS-DOCX] section 2.6.3.3) element that specifies the color values of the point light.

intensity: A CT_PositiveRatio ([MS-ODRAWXML] section 2.31.3.16) element that specifies the intensity of the point light, represented in Candela.

pos: A CT_Point3D ([ISO/IEC-29500-1] section A.4.1) element that specifies the position of the point light of the 3D Model.

extLst: A CT_OfficeArtExtensionList ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the extension list in which all future extensions of element type **ext** are defined. The extension list, along with corresponding future extensions, is used to extend the storage capabilities of the DrawingML framework. This enables various new types of data to be stored natively in the framework.

Attributes:

enabled: A boolean ([XMLSCHEMA2] section 3.2.2) attribute that specifies whether the light is on or off.

rad: An ST_PositiveCoordinate ([ISO/IEC-29500-1] section A.4.1) attribute that specifies the length of the radius of the light in **EMUs**.

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

```
<xsd:complexType name="CT_PointLight">
  <xsd:sequence>
    <xsd:element name="clr" type="a:CT_Color" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="intensity" type="CT_PositiveRatio" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="pos" type="a:CT_Point3D" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="enabled" type="xsd:boolean" use="optional" default="true"/>
  <xsd:attribute name="rad" type="a:ST_PositiveCoordinate" use="required"/>
</xsd:complexType>
```

See section 5.29 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.31.3.11   CT_Rotate3D

Target namespace: http://schemas.microsoft.com/office/drawing/2017/model3d

Referenced by: CT_Model3DTransform

Represents a 3D Euler-angle rotation.

Attributes:

ax: An ST_Angle ([ISO/IEC-29500-1] section A.4.1) attribute that specifies a rotation about the x-axis.

ay: An ST_Angle ([ISO/IEC-29500-1] section A.4.1) attribute that specifies a rotation about the y-axis.

az: An ST_Angle ([ISO/IEC-29500-1] section A.4.1) attribute that specifies a rotation about the z-axis.

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

```
<xsd:complexType name="CT_Rotate3D">
  <xsd:attribute name="ax" type="a:ST_Angle" use="optional" default="0"/>
  <xsd:attribute name="ay" type="a:ST_Angle" use="optional" default="0"/>
  <xsd:attribute name="az" type="a:ST_Angle" use="optional" default="0"/>
</xsd:complexType>
```

See section 5.29 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.31.3.12   CT_Scale3D

Target namespace: http://schemas.microsoft.com/office/drawing/2017/model3d

Referenced by: CT_Model3DTransform

Represents a 3D scaling transformation.

Child Elements:

sx: A CT_Ratio ([ISO/IEC-29500-1] section A.4.1) element that specifies the multiplier to apply to the x-axis.

sy: A CT_Ratio ([ISO/IEC-29500-1] section A.4.1) element that specifies the multiplier to apply to the y-axis.

sz: A CT_Ratio ([ISO/IEC-29500-1] section A.4.1) element that specifies the multiplier to apply to the z-axis.

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

```
<xsd:complexType name="CT_Scale3D">
  <xsd:sequence>
    <xsd:element name="sx" type="a:CT_Ratio" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="sy" type="a:CT_Ratio" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="sz" type="a:CT_Ratio" minOccurs="1" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.29 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.31.3.13   CT_SpotLight

Target namespace: http://schemas.microsoft.com/office/drawing/2017/model3d

Referenced by: CT_Model3D

Represents a spot light in the CT_3DModel element.

Child Elements:

clr: A CT_Color ([MS-DOCX] section 2.6.3.3) element that specifies the color values of the spot light.

intensity: A CT_PositiveRatio ([MS-ODRAWXML] section 2.31.3.16) element that specifies the intensity of the spot light, represented in Candela.

pos: A CT_Point3D ([ISO/IEC-29500-1] section A.4.1) element that specifies the position of the spot light in world space.

lookAt: A CT_Point3D ([ISO/IEC-29500-1] section A.4.1) element that specifies the position the spot light points to in the world space.

extLst: A CT_OfficeArtExtensionList ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the extension list in which all future extensions of element type **ext** are defined. The extension list, along with corresponding future extensions, is used to extend the storage capabilities of the DrawingML framework. This enables various new types of data to be stored natively in the framework.

Attributes:

enabled: A boolean ([XMLSCHEMA2] section 3.2.2) attribute that specifies whether the light is on or off.

rad: An ST_PositiveCoordinate ([ISO/IEC-29500-1] section A.4.1) attribute that specifies the radius, or distance, of the light, represented in **EMUs**.

spotAng: An ST_FOVAngle ([ISO/IEC-29500-1] section A.4.1) attribute that specifies the angle of the spot light.

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

```
<xsd:complexType name="CT_SpotLight">
  <xsd:sequence>
    <xsd:element name="clr" type="a:CT_Color" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="intensity" type="CT_PositiveRatio" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="pos" type="a:CT_Point3D" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="lookAt" type="a:CT_Point3D" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="enabled" type="xsd:boolean" use="optional" default="true"/>
  <xsd:attribute name="rad" type="a:ST_PositiveCoordinate" use="required"/>
  <xsd:attribute name="spotAng" type="a:ST_FOVAngle" use="required"/>
</xsd:complexType>
```

See section 5.29 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.31.3.14   CT_UnknownLight

Target namespace: http://schemas.microsoft.com/office/drawing/2017/model3d

Referenced by: CT_Model3D

The storage representation of an unknown light source for future extension.

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

```
<xsd:complexType name="CT_UnknownLight"/>
```

See section 5.29 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.31.3.15   CT_WindowViewport

Target namespace: http://schemas.microsoft.com/office/drawing/2017/model3d

Referenced by: CT_Model3D

Represents that the model is in window mode. In this mode, the size of the frame is manually modifiable and is preserved. The camera can also be panned, causing the model to potentially be clipped by the edge of the frame. If the camera is panned, the look at point is updated to a point of the model in the center of the frame.

Child Elements:

extLst: A CT_OfficeArtExtensionList ([ISO/IEC29500-1:2012] section A.4.1) element that specifies the extension list in which all future extensions of element type **ext** are defined. The extension list, along with corresponding future extensions, is used to extend the storage capabilities of the DrawingML framework. This enables various new types of data to be stored natively in the framework.

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

```
<xsd:complexType name="CT_WindowViewport">
  <xsd:sequence>
    <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section 5.29 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.31.3.16   CT_PositiveRatio

Target namespace: http://schemas.microsoft.com/office/drawing/2017/model3d

Referenced by: CT_Model3DTransform, CT_OrthographicProjection, CT_AmbientLight, CT_PointLight, CT_SpotLight, CT_DirectionalLight

Represents an absolute scaling factor as a positive rational number.

Attributes:

n: An unsignedLong ([XMLSCHEMA2] section 3.3.21) attribute that specifies the numerator of the ratio. This MUST be greater than or equal to 0.

d: An unsignedLong ([XMLSCHEMA2] section 3.3.21) attribute that specifies the denominator of the ratio. This MUST be greater than 0.

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

```
<xsd:complexType name="CT_PositiveRatio">
  <xsd:attribute name="n" type="xsd:unsignedLong" use="required"/>
  <xsd:attribute name="d" type="xsd:unsignedLong" use="required"/>
</xsd:complexType>
```

See section 5.29 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

2.31.4 Simple Types

2.31.4.1 ST_AngularRadius

Target namespace: http://schemas.microsoft.com/office/drawing/2017/model3d

Referenced by: CT_DirectionalLight

Represents a positive angle with units being 1/60000th of a degree. The range is from [0, 90] degrees.

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

```
<xsd:simpleType name="ST_AngularRadius">
  <xsd:restriction base="a:ST_Angle">
    <xsd:minInclusive value="0"/>
    <xsd:maxInclusive value="5400000"/>
  </xsd:restriction>
</xsd:simpleType>
```

See section 5.29 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

3 Structure Examples

3.1 Chart

3.1.1 Chart Style

The following code example illustrates the relationship between **CT_Style** and **CT_Style** ([ISO/IEC29500-1:2012] section A.5.1), in particular how the **val** (in the example: 102) of the **CT_Style** must be set to 100 plus the **val** (in the example: 2) of the **CT_Style** ([ISO/IEC29500-1:2012] section A.5.1).

```
<mc:AlternateContent
  xmlns:mc="http://schemas.openxmlformats.org/markup-compatibility/2006">
  <mc:Choice
    xmlns:c14="http://schemas.microsoft.com/office/drawing/2007/8/2/chart"
    Requires="c14">
    <c14:style val="102"/>
  </mc:Choice>
  <mc:Fallback>
    <c:style val="2"/>
  </mc:Fallback>
</mc:AlternateContent>
```

3.2 Content Parts and Ink

Figure 31: Sample ink shape

The following code example represents the Ink content part that describes the example ink shown in the preceding figure. The **brush** definitions specify its size, shape, color, and coordinate space. Traces are gathered into a **traceGroup** hierarchy of **writingRegion**, **paragraph**, **line**, and **inkWord**, with the **inkWord** containing the results of ink recognition that was generated at runtime.

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<inkml:ink xmlns:inkml="http://www.w3.org/2003/InkML">
  <inkml:definitions>
    <inkml:context xml:id="ctx0">
      <inkml:inkSource xml:id="inkSrc0">
        <inkml:traceFormat>
          <inkml:channel name="X" type="integer" max="9600" units="cm"/>
          <inkml:channel name="Y" type="integer" max="7200" units="cm"/>
          <inkml:channel name="F" type="integer" max="256" units="dev"/>
        </inkml:traceFormat>
        <inkml:channelProperties>
          <inkml:channelProperty channel="X" name="resolution" value="367.8161"
units="1/cm"/>
          <inkml:channelProperty channel="Y" name="resolution" value="440.36697"
units="1/cm"/>
          <inkml:channelProperty channel="F" name="resolution" value="0" units="1/dev"/>
        </inkml:channelProperties>
      </inkml:inkSource>
      <inkml:timestamp xml:id="ts0" timeString="2010-01-10T13:10:12.822"/>
```

```
      </inkml:context>
    <inkml:brush xml:id="br0">
      <inkml:brushProperty name="width" value="0.06667" units="cm"/>
      <inkml:brushProperty name="height" value="0.06667" units="cm"/>
      <inkml:brushProperty name="color" value="#FF0000"/>
      <inkml:brushProperty name="fitToCurve" value="1"/>
    </inkml:brush>
  </inkml:definitions>
  <inkml:traceGroup>
    <inkml:annotationXML>
      <emma:emma xmlns:emma="http://www.w3.org/2003/04/emma" version="1.0">
        <emma:interpretation id="{8646EB18-6E67-4FFA-8739-E20C3C1A0F80}"
emma:medium="tactile" emma:mode="ink">
          <msink:context xmlns:msink="http://schemas.microsoft.com/ink/2010/main"
type="writingRegion" rotatedBoundingBox="4334,2653 13237,2575 13262,5384 4359,5462"/>
        </emma:interpretation>
      </emma:emma>
    </inkml:annotationXML>
    <inkml:traceGroup>
      <inkml:annotationXML>
        <emma:emma xmlns:emma="http://www.w3.org/2003/04/emma" version="1.0">
          <emma:interpretation id="{4A0797F9-1386-486A-B2BA-709708E24147}"
emma:medium="tactile" emma:mode="ink">
            <msink:context xmlns:msink="http://schemas.microsoft.com/ink/2010/main"
type="paragraph" rotatedBoundingBox="4334,2653 13237,2575 13262,5384 4359,5462"
alignmentLevel="1"/>
          </emma:interpretation>
        </emma:emma>
      </inkml:annotationXML>
      <inkml:traceGroup>
        <inkml:annotationXML>
          <emma:emma xmlns:emma="http://www.w3.org/2003/04/emma" version="1.0">
            <emma:interpretation id="{0430FEDC-2E4E-4A32-91D8-87424D412245}"
emma:medium="tactile" emma:mode="ink">
              <msink:context xmlns:msink="http://schemas.microsoft.com/ink/2010/main"
type="line" rotatedBoundingBox="4334,2653 13237,2575 13262,5384 4359,5462"/>
            </emma:interpretation>
          </emma:emma>
        </inkml:annotationXML>
        <inkml:traceGroup>
          <inkml:annotationXML>
            <emma:emma xmlns:emma="http://www.w3.org/2003/04/emma" version="1.0">
              <emma:interpretation id="{583A8050-3462-4BC6-915B-A797D921D61F}"
emma:medium="tactile" emma:mode="ink">
                <msink:context xmlns:msink="http://schemas.microsoft.com/ink/2010/main"
type="inkWord" rotatedBoundingBox="4334,2653 13237,2575 13262,5384 4359,5462"/>
              </emma:interpretation>
              <emma:one-of disjunction-type="recognition" id="oneOf0">
                <emma:interpretation id="interp0" emma:lang="en-US" emma:confidence="1">
                  <emma:literal>hello</emma:literal>
                </emma:interpretation>
                <emma:interpretation id="interp1" emma:lang="en-US" emma:confidence="0.5">
                  <emma:literal>hello </emma:literal>
                </emma:interpretation>
                <emma:interpretation id="interp2" emma:lang="en-US" emma:confidence="0.5">
                  <emma:literal> hello</emma:literal>
                </emma:interpretation>
                <emma:interpretation id="interp3" emma:lang="en-US" emma:confidence="0.5">
                  <emma:literal>he 11 o</emma:literal>
                </emma:interpretation>
                <emma:interpretation id="interp4" emma:lang="en-US" emma:confidence="0.5">
                  <emma:literal>he 110</emma:literal>
                </emma:interpretation>
              </emma:one-of>
            </emma:emma>
          </inkml:annotationXML>
          <inkml:trace contextRef="#ctx0" brushRef="#br0">-2 0 43,'0'0'14,"0"0"-6,0 0 1,8 23
2,-16 12-3,16 7 3,17 18-4,9 28-7,-9 0 4,8 14 3,-8 10 3,25 18-2,-17 18-1,1-18-1,6 18-2,18 24
0,-16 6-1,-9-1 0,-8 1 0,0-19-1,0-17 0,0-5 0,-8-8-1,0-16 0,8-30 0,-17 5 0,-8-34-1,0-12 1,0-25-
```

```
1,8 13 0,-8-36 0,9-30 0,-1-17 1,-16-6 0,8-24 1,8 6-1,-16 6 0,16-1 0,9-5-1,-1-17 1,9 0 0,16 4-
1,17 2 2,17 5 1,8 12-3,9 12 1,-17 18 0,7 5 0,1 12 1,9 24-1,-17 19 0,0 15 0,-10 32 0,2 22 0,-
25 13 0,-1 0 0,1-6 0,-9-13 0,9 1-1,-17-6-1,0-12-7,-8 7-10</inkml:trace>
            <inkml:trace contextRef="#ctx0" brushRef="#br0">2375 1858 106,'0'0'0,"0"0"4,0 0
4,48 11-1,-15 2 0,26 4-1,-1 7-1,17 5 0,9-11-1,7 5-1,-9-4-1,10 4 0,-17-11-2,0-12 0,0-18-2,-10-
11 0,2-13 0,-17-11-1,8 0 1,-25 6 0,1-19 1,-26 14 0,-8-2 1,-25 1-2,0 6 0,-17 5 1,1 18 0,-1-6
0,-8 30 1,8 6-1,-23 24 1,7 6 0,0 16 0,-9 2 0,-17 18 0,1 3 2,1 15 2,-1 10 1,33-5 0,17-12 1,7
0-1,10 0-2,32-1 0,35 1 1,24-17 1,25-1 0,23-12-2,-6-17-1,25-14-3,23-9-4,1-31-6,25-35-
9</inkml:trace>
            <inkml:trace contextRef="#ctx0" brushRef="#br0">4591 295 72,'0'0'4,"0"0"5,0 0-1,0 0
0,-8 6 0,8-6 1,8 24 1,1 23-1,7 7 0,9 22 0,-16 19 0,24 24 0,0 11-2,1-6-1,16 24-1,0 12-1,8-18-
1,-1 12-1,1-13 0,-8 2 0,0-19 0,0-36-1,0 2-2,-8-7-5,0-19-7,-9-4-12</inkml:trace>
            <inkml:trace contextRef="#ctx0" brushRef="#br0">5730 212 81,'0'0'1,"0"0"8,0 0 4,9
42-1,7 18-1,1 10 1,0 19 0,-1 30-1,16 16-2,-7 8 0,25-2-1,0 19-2,9-6-1,7 0-1,9-6-1,7 0-1,-7-7-
1,-8-28-2,0-12-5,-9-18-6,9-18-14</inkml:trace>
            <inkml:trace contextRef="#ctx0" brushRef="#br0">8281 1189 93,'0'0'3,"0"0"5,0 0 2,-
25-6-1,0-6-1,25 19-2,-34-7-1,9-19-1,8 31-1,-8-24 0,-41 12-1,16 12 0,-9 12-1,-6 11 1,15 13 1,0
6 0,-8 4 3,-1 8 0,9 11-1,-8 0 0,16 5-1,11 7 0,14 5-1,17 7 0,25-7 0,7-4-1,26 4 0,9 13-2,25-13
0,24-11 0,-1-12 0,2-18 0,0-12 0,-25-11-1,-19-30 0,10-23 0,9-31-1,0-28 0,-17-18 1,-2-13-1,-6-
18 1,-34-4 1,-8 5 0,-25 4 2,-16 8 0,-18 24 0,-24-7 1,1 12 0,-18 12 0,0 24-1,0 6-1,-17 12-3,-6
23-5,-36 12-16</inkml:trace>
          </inkml:traceGroup>
        </inkml:traceGroup>
      </inkml:traceGroup>
    </inkml:traceGroup>
</inkml:ink>
```

The following example shows a Document Part reference to the previous content part as used in a **PresentationML** slide.

```
<mc:AlternateContent xmlns:mc="http://schemas.openxmlformats.org/markup-compatibility/2006">
  <mc:Choice xmlns:p14="http://schemas.microsoft.com/office/powerpoint/2010/main"
Requires="p14">
    <p:contentPart p14:bwMode="auto" r:id="rId2">
      <p14:nvContentPartPr>
        <p14:cNvPr id="8" name="Ink 7"/>
        <p14:cNvContentPartPr/>
        <p14:nvPr/>
      </p14:nvContentPartPr>
      <p14:xfrm>
        <a:off x="1561526" y="971040"/>
        <a:ext cx="3210480" cy="1010160"/>
      </p14:xfrm>
    </p:contentPart>
  </mc:Choice>
  <mc:Fallback>
    <p:pic>
      <p:nvPicPr>
        <p:cNvPr id="8" name="Ink 7"/>
        <p:cNvPicPr/>
        <p:nvPr/>
      </p:nvPicPr>
      <p:blipFill>
        <a:blip r:embed="rId3"/>
        <a:stretch>
          <a:fillRect/>
        </a:stretch>
      </p:blipFill>
      <p:spPr>
        <a:xfrm>
          <a:off x="1561526" y="971040"/>
          <a:ext cx="3210480" cy="1010160"/>
        </a:xfrm>
        <a:prstGeom prst="rect">
          <a:avLst/>
        </a:prstGeom>
      </p:spPr>
```

```
        </p:pic>
    </mc:Fallback>
  </mc:AlternateContent>
  ...
```

3.3 Pictures

In the binary large image or picture (BLIP) element ([ISO/IEC29500-1:2012] section 20.1.8.13) is an extension list that enables applications to store the original image and processing parameters for corrections and artistic effects applied to a picture. The following code example shows the XML specifying that an artistic effect, sharpen and soften effect, color temperature effect, saturation effect, and brightness and contrast effect are applied to a picture.

The part specified by the relationship **rId2** of the **blip** element is embedded. (This does not apply to linked BLIPs.) This bitmap is the result of performing operations on the original image specified by the related part **rId3** in JPEG XR format. (This does not apply to metafile BLIPs.)

```
    <a:blip r:embed="rId2">
        <a:extLst>
            <a:ext uri="BEBA8EAE-BF5A-486c-A8C5-ECC9F3942E4B">
                <a14:imgProps xmlns:a14="http://schemas.microsoft.com/office/drawing/2010/main">
                    <a14:imgLayer r:embed="rId3">
                        <a14:imgEffect>
                            <a14:artisticLineDrawing trans="75000" pencilSize="15"/>
                        </a14:imgEffect>
                        <a14:imgEffect>
                            <a14:sharpenSoften amount="25000"/>
                        </a14:imgEffect>
                        <a14:imgEffect>
                            <a14:colorTemperature colorTemp="7200"/>
                        </a14:imgEffect>
                        <a14:imgEffect>
                            <a14:saturation sat="200000"/>
                        </a14:imgEffect>
                        <a14:imgEffect>
                            <a14:brightnessContrast bright="20000" contrast="-20000"/>
                        </a14:imgEffect>
                    </a14:imgLayer>
                </a14:imgProps>
            </a:ext>
            <a:ext uri="28A0092B-C50C-407e-A947-70E740481C1C">
                <a14:useLocalDpi
    xmlns:a14="http://schemas.microsoft.com/office/drawing/2010/main" val="0"/>
            </a:ext>
        </a:extLst>
    </a:blip>
```

3.4 Diagrams

3.4.1 Diagram Layout

The **spTree** element is comprised of multiple pieces. The **nvGrpSpPr** element defines non-visual shape properties that are applied to the entire group. The **grpSpPr** element defines visual shape properties that are applied to the group. The individual shapes and their properties are defined in the **sp** element.

```
    <dsp:drawing xmlns:dsp="http://schemas.microsoft.com/office/drawing/2008/diagram"
      <dsp:spTree>
        <dsp:nvGrpSpPr>
          ...
```

```
      </dsp:nvGrpSpPr>
      <dsp:grpSpPr/>
      <dsp:sp modelId="{9DA1CD8D-C37F-4B77-84FB-F4D9D8E23A09}">
         ...
      </dsp:sp>
      <dsp:sp modelId="{8B78E849-5558-46E7-8E95-CEE131C38F3A}">
         ...
      </dsp:sp>
      <dsp:sp modelId="{8539B2C2-4636-4F97-BB0D-CD82F4D09B18}">
         ...
      </dsp:sp>
   </dsp:spTree>
</dsp:drawing>
```

3.4.2 Image Recoloring

The following code example demonstrates the structure of the data model for a **SmartArt** diagram.
The **recolorImg** element is set to TRUE and causes the images associated with the **SmartArt**
diagram to be recolored according to the assigned color scheme and theme.

```
<dgm:dataModel xmlns:dgm="http://schemas.openxmlformats.org/drawingml/2006/diagram"
xmlns:a="http://schemas.openxmlformats.org/drawingml/2006/main">
  <dgm:ptLst>
...
  </dgm:ptLst>
...
  <dgm:whole/>
  <dgm:extLst>
    <a:ext uri="http://schemas.microsoft.com/office/drawing/2008/diagram">
      <dsp:dataModelExt xmlns:dsp="http://schemas.microsoft.com/office/drawing/2008/diagram"
relId="rId6" minVer="http://schemas.openxmlformats.org/drawingml/2006/diagram"/>
    </a:ext>
    <a:ext uri="C62137D5-CB1D-491b-B009-E17868A290BF">
      <dgm14:recolorImg
xmlns:dgm14="http://schemas.microsoft.com/office/drawing/2010/diagram" val="1"/>
    </a:ext>
  </dgm:extLst>
</dgm:dataModel>
```

3.5 Math

The following code example demonstrates the use of an **AlternateContent** element ([ISO/IEC29500-3:2012] section 10.2.1) to wrap an equation and the fallback image of that equation. The following
XML shows the contents of a **shape** containing an equation that is the letter pi:

```
<p:cSld>
    <p:spTree>
   ...
       <mc:AlternateContent xmlns:mc="http://schemas.openxmlformats.org/markup-
compatibility/2006">
          <mc:Choice
xmlns:a14="http://schemas.microsoft.com/office/drawing/2010/main" Requires="a14">
             <p:sp>
                ...
               <p:txBody>
                  ...
                  <a:p>
                     <a14:m>
                        <m:oMathPara
xmlns:m="http://schemas.openxmlformats.org/officeDocument/2006/math">
                           <m:oMath
xmlns:m="http://schemas.openxmlformats.org/officeDocument/2006/math">
```

```
                                    <m:r>
                                        <a:rPr>
                                            <a:latin typeface="Cambria Math"/>
                                        </a:rPr>
                                        <m:t>□</m:t>
                                    </m:r>
                                </m:oMath>
                            </m:oMathPara>
                        </a14:m>
                    </a:p>
                </p:txBody>
            </p:sp>
        </mc:Choice>
        <mc:Fallback>
            <p:sp>
                ...
                <p:spPr>
                    ...
                    <a:blipFill>
                        <a:blip r:embed="rId2"/>
                    </a:blipFill>
                </p:spPr>
            </p:sp>
        </mc:Fallback>
    </mc:AlternateContent>
  </p:spTree>
 </p:cSld>
</p:sld>
```

3.6   SpreadsheetML Drawing

3.6.1   Camera Tool

The following code example shows usage of an extended element to specify that a picture is a camera tool and is linked to a cell range. See 2.2.6.1 for more information. The following XML shows the contents of a camera tool object specified by a **pic** element ([ISO/IEC29500-1:2012] section 20.5.2.25).

```
<xdr:pic>
  <xdr:nvPicPr>
    <xdr:cNvPr id="1025" name="Picture 1"/>
    <xdr:cNvPicPr>
      <a:picLocks noChangeAspect="1" noChangeArrowheads="1"/>
      <a:extLst>
        <a:ext uri="84589F7E-364E-4c9e-8A38-B11213B215E9">
          <a14:cameraTool cellRange="$A$1:$E$12" spid="_x0000_s1026"/>
        </a:ext>
      </a:extLst>
    </xdr:cNvPicPr>
  </xdr:nvPicPr>
  <xdr:blipFill>
    …
  </xdr:blipFill>
  <xdr:spPr bwMode="auto">
    …
  </xdr:spPr>
</xdr:pic>
```

The camera tool properties are specified by the **cameraTool** element as an extension of the **nvPicPr** element ([ISO/IEC29500-1:2012] section 20.5.2.22). The value of the **cellRange** attribute in the **cameraTool** element is in the A1 cell range reference style, not the R1C1 cell range reference style.

3.6.2 Legacy Object Wrapper

The following code example shows usage of an extended element to specify a legacy VML drawing object. See 2.2.6.2 for more information. The following XML shows the contents of a legacy object wrapper specified by an **sp** element ([ISO/IEC29500-1:2012] section 20.5.2.29).

```xml
<xdr:sp macro="" textlink="">
  <xdr:nvSpPr>
    <xdr:cNvPr id="1025" name="Button 1" hidden="1">
      <a:extLst>
        <a:ext uri="63B3BB69-23CF-44e3-9099-C40C66FF867C">
          <a14:compatExt spid="_x0000_s1025"/>
        </a:ext>
      </a:extLst>
    </xdr:cNvPr>
    <xdr:cNvSpPr/>
  </xdr:nvSpPr>
  <xdr:spPr>
  …
  </xdr:spPr>
  <xdr:txBody>
  …
  </xdr:txBody>
</xdr:sp>
```

The linked legacy object is specified by the **compatExt** element as an extension of the **cNvPr** element ([ISO/IEC29500-1:2012] section 20.5.2.8).

3.7 WordprocessingML Drawing

3.7.1 Grouped Graphical Objects

The following code example illustrates a **SmartArt** diagram grouped with a picture.

```xml
<a:graphic xmlns:a="http://schemas.openxmlformats.org/drawingml/2006/main">
    <a:graphicData
uri="http://schemas.microsoft.com/office/word/2010/wordprocessingGroup">
        <wpg:wgp>
            <wpg:cNvGrpSpPr/>
            <wpg:grpSpPr>
                …
            </wpg:grpSpPr>
            <pic:pic
xmlns:pic="http://schemas.openxmlformats.org/drawingml/2006/picture">
                <pic:nvPicPr>
                    <pic:cNvPr id="7" name="Picture 7"/>
                    …
                </pic:nvPicPr>
                …
            </pic:pic>
            <wpg:graphicFrame>
                <wpg:cNvPr id="6" name="Diagram 6"/>
                <wpg:cNvFrPr/>
```

```
            …
            <a:graphic>
                <a:graphicData
uri="http://schemas.openxmlformats.org/drawingml/2006/diagram">
                    <dgm:relIds
xmlns:dgm="http://schemas.openxmlformats.org/drawingml/2006/diagram"
xmlns:r="http://schemas.openxmlformats.org/officeDocument/2006/relationships"
r:dm="rId8" r:lo="rId9" r:qs="rId10" r:cs="rId11"/>
                </a:graphicData>
            </a:graphic>
        </wpg:graphicFrame>
    </wpg:wgp>
</a:graphicData>
</a:graphic>
```

3.7.2 Group and Linked Shapes within a Canvas

The following code example illustrates a **drawing canvas** that contains a **shape** and a group, which contains a picture and a shape. The two shapes are linked and share a **text box story**.

```
<a:graphic xmlns:a="http://schemas.openxmlformats.org/drawingml/2006/main">
    <a:graphicData uri="http://schemas.microsoft.com/office/word/2010/wordprocessingCanvas">
        <wpc:wpc>
            <wpc:bg/>
            <wpc:whole/>
            <wps:wsp>
                <wps:cNvPr id="3" name="Text Box 3"/>
                <wps:cNvSpPr txBox="1"/>
                <wps:spPr>
                    …
                </wps:spPr>
                <wps:style>
                    …
                </wps:style>
                <wps:txbx id="1">
                    <w:txbxContent>
                        …
                    </w:txbxContent>
                </wps:txbx>
                <wps:bodyPr … >
                    …
                </wps:bodyPr>
            </wps:wsp>
            <wpg:wgp>
                <wpg:cNvPr id="5" name="Group 5"/>
                <wpg:cNvGrpSpPr/>
                <wpg:grpSpPr>
                </wpg:grpSpPr>
                <pic:pic
xmlns:pic="http://schemas.openxmlformats.org/drawingml/2006/picture">
                    <pic:nvPicPr>
                        <pic:cNvPr id="2" name="Picture 2"/>
                        …
                    </pic:nvPicPr>
                    …
                </pic:pic>
                <wps:wsp>
                    <wps:cNvPr id="4" name="Text Box 4"/>
                    <wps:cNvSpPr txBox="1"/>
                    <wps:spPr>
                        …
                    </wps:spPr>
                    <wps:style>
                        …
```

```
                           </wps:style>
                           <wps:linkedTxbx id="1" seq="1"/>
                           <wps:bodyPr … >
                                   …
                           </wps:bodyPr>
                   </wps:wsp>
             </wpg:wgp>
         </wpc:wpc>
    </a:graphicData>
 </a:graphic>
```

4 Security

4.1 Security Considerations for Implementers

None.

4.2 Index of Security Fields

None.

5 Appendix A: Full XML Schemas

For ease of implementation, this section provides the full XML schemas for the new elements, attributes, complex types, and simple types specified in the preceding sections. Any schema references to namespaces included in [ISO/IEC29500:2012] refer specifically to the transitional schemas as described in [ISO/IEC29500-4:2012].

Schema name	Prefix	Section
http://schemas.microsoft.com/office/drawing/2010/main Schema	a14	5.1
http://schemas.microsoft.com/office/drawing/2013/main/command Schema	ac	5.27
http://schemas.microsoft.com/office/thememl/2012/main Schema	None.	5.17
http://schemas.microsoft.com/ink/2010/main Schema	msink	5.7
http://schemas.microsoft.com/office/drawing/2016/ink Schema	None.	5.28
http://schemas.microsoft.com/office/drawing/2010/chartDrawing Schema	None.	5.8
http://schemas.microsoft.com/office/drawing/2012/chart Schema	None.	5.13
http://schemas.microsoft.com/office/drawing/2014/chart Schema	None.	5.20
http://schemas.microsoft.com/office/drawing/2014/chart/ac Schema	None.	5.21
http://schemas.microsoft.com/office/drawing/2007/8/2/chart Schema	None.	5.10
http://schemas.microsoft.com/office/drawing/2014/chartex Schema	None.	5.22
http://schemas.microsoft.com/office/drawing/2014/main Schema	None.	5.23
http://schemas.microsoft.com/office/drawing/2012/chartStyle Schema	None.	5.15
http://schemas.microsoft.com/office/drawing/2010/diagram Schema	None.	5.16
http://schemas.microsoft.com/office/drawing/2008/diagram Schema	None.	5.6
http://schemas.microsoft.com/office/drawing/2012/main Schema	None.	5.14
http://schemas.microsoft.com/office/word/2010/wordprocessingShape Schema	None.	5.2
http://schemas.microsoft.com/office/drawing/2010/picture Schema	None.	5.12
http://schemas.microsoft.com/office/word/2010/wordml Schema	None.	5.3
http://schemas.microsoft.com/office/word/2010/wordprocessingGroup Schema	None.	5.4
http://schemas.microsoft.com/office/word/2010/wordprocessingCanvas Schema	None.	5.5
http://schemas.microsoft.com/office/word/2010/wordprocessingDrawing Schema	None.	5.11
http://schemas.microsoft.com/office/word/2012/wordprocessingDrawing Schema	None.	5.18
http://schemas.microsoft.com/office/excel/2010/spreadsheetDrawing Schema	None.	5.9
http://schemas.microsoft.com/office/powerpoint/2014/inkAction Schema	iact	5.19
http://schemas.microsoft.com/office/drawing/2016/SVG/main Schema	None.	5.24
http://schemas.microsoft.com/office/drawing/2016/11/main Schema	None.	5.25
http://schemas.microsoft.com/office/drawing/2016/11/diagram Schema	None.	5.26

Schema name	Prefix	Section
http://schemas.microsoft.com/office/drawing/2017/model3d Schema	am3d	5.29

5.1 http://schemas.microsoft.com/office/drawing/2010/main Schema

```
<xsd:schema targetNamespace="http://schemas.microsoft.com/office/drawing/2010/main"
elementFormDefault="qualified" xmlns="http://schemas.microsoft.com/office/drawing/2010/main"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:a="http://schemas.openxmlformats.org/drawingml/2006/main"
xmlns:a14="http://schemas.microsoft.com/office/drawing/2010/main"
xmlns:m="http://schemas.openxmlformats.org/officeDocument/2006/math"
xmlns:r="http://schemas.openxmlformats.org/officeDocument/2006/relationships">
  <xsd:import namespace="http://schemas.openxmlformats.org/drawingml/2006/main"
schemaLocation="oartdocprop.xsd"/>
  <xsd:import namespace="http://schemas.openxmlformats.org/officeDocument/2006/relationships"
schemaLocation="orel.xsd"/>
  <xsd:import schemaLocation="oartsp3dstyles.xsd"
namespace="http://schemas.openxmlformats.org/drawingml/2006/main"/>
  <xsd:import schemaLocation="oartsp3dscene.xsd"
namespace="http://schemas.openxmlformats.org/drawingml/2006/main"/>
  <xsd:import schemaLocation="oartspeffects.xsd"
namespace="http://schemas.openxmlformats.org/drawingml/2006/main"/>
  <xsd:import schemaLocation="oartsplineproperties.xsd"
namespace="http://schemas.openxmlformats.org/drawingml/2006/main"/>
  <xsd:import namespace="http://schemas.openxmlformats.org/drawingml/2006/main"
schemaLocation="oartbasetypes.xsd"/>
  <xsd:simpleType name="ST_LegacySpreadsheetColorIndex">
    <xsd:restriction base="xsd:int">
      <xsd:minInclusive value="0"/>
      <xsd:maxInclusive value="80"/>
    </xsd:restriction>
  </xsd:simpleType>
  <xsd:attribute name="legacySpreadsheetColorIndex" type="ST_LegacySpreadsheetColorIndex"/>
  <xsd:complexType name="CT_TextMath"/>
  <xsd:element name="m" type="CT_TextMath"/>
  <xsd:complexType name="CT_ContentPartLocking">
    <xsd:sequence>
      <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
    </xsd:sequence>
    <xsd:attributeGroup ref="a:AG_Locking"/>
  </xsd:complexType>
  <xsd:complexType name="CT_NonVisualInkContentPartProperties">
    <xsd:sequence>
      <xsd:element name="cpLocks" type="CT_ContentPartLocking" minOccurs="0" maxOccurs="1"/>
      <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
    </xsd:sequence>
    <xsd:attribute name="isComment" type="xsd:boolean" use="optional" default="true"/>
  </xsd:complexType>
  <xsd:complexType name="CT_CameraTool">
    <xsd:attribute name="cellRange" type="xsd:string"/>
    <xsd:attribute name="spid" use="optional" default="0" type="xsd:string"/>
  </xsd:complexType>
  <xsd:element name="cameraTool" type="CT_CameraTool"/>
  <xsd:complexType name="CT_CompatExt">
    <xsd:attribute name="spid" type="xsd:string"/>
  </xsd:complexType>
  <xsd:element name="compatExt" type="CT_CompatExt"/>
  <xsd:complexType name="CT_IsGvmlCanvas">
    <xsd:attribute name="val" type="xsd:boolean" use="required"/>
  </xsd:complexType>
  <xsd:complexType name="CT_GvmlContentPartNonVisual">
    <xsd:sequence>
```

```xsd
      <xsd:element name="cNvPr" type="a:CT_NonVisualDrawingProps" minOccurs="1"
maxOccurs="1"/>
      <xsd:element name="cNvContentPartPr" type="CT_NonVisualInkContentPartProperties"
minOccurs="0" maxOccurs="1"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="CT_GvmlContentPart">
    <xsd:sequence>
      <xsd:element name="nvContentPartPr" type="CT_GvmlContentPartNonVisual" minOccurs="0"
maxOccurs="1"/>
      <xsd:element name="xfrm" type="a:CT_Transform2D" minOccurs="0" maxOccurs="1"/>
      <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
    </xsd:sequence>
    <xsd:attribute name="bwMode" type="a:ST_BlackWhiteMode" use="optional"/>
    <xsd:attribute ref="r:id" use="required"/>
  </xsd:complexType>
  <xsd:element name="isCanvas" type="CT_IsGvmlCanvas"/>
  <xsd:element name="contentPart" type="CT_GvmlContentPart"/>
  <xsd:complexType name="CT_ShadowObscured">
    <xsd:attribute name="val" type="xsd:boolean" use="optional" default="false"/>
  </xsd:complexType>
  <xsd:element name="shadowObscured" type="CT_ShadowObscured"/>
  <xsd:element name="hiddenFill" type="a:CT_FillProperties"/>
  <xsd:element name="hiddenLine" type="a:CT_LineProperties"/>
  <xsd:element name="hiddenEffects" type="a:CT_EffectProperties"/>
  <xsd:element name="hiddenScene3d" type="a:CT_Scene3D"/>
  <xsd:element name="hiddenSp3d" type="a:CT_Shape3D"/>
  <xsd:simpleType name="ST_ArtisticEffectParam100">
    <xsd:restriction base="xsd:int">
      <xsd:minInclusive value="0"/>
      <xsd:maxInclusive value="100"/>
    </xsd:restriction>
  </xsd:simpleType>
  <xsd:simpleType name="ST_ArtisticEffectParam10">
    <xsd:restriction base="xsd:int">
      <xsd:minInclusive value="0"/>
      <xsd:maxInclusive value="10"/>
    </xsd:restriction>
  </xsd:simpleType>
  <xsd:simpleType name="ST_ArtisticEffectParam6">
    <xsd:restriction base="xsd:int">
      <xsd:minInclusive value="0"/>
      <xsd:maxInclusive value="6"/>
    </xsd:restriction>
  </xsd:simpleType>
  <xsd:simpleType name="ST_ArtisticEffectParam4">
    <xsd:restriction base="xsd:int">
      <xsd:minInclusive value="0"/>
      <xsd:maxInclusive value="4"/>
    </xsd:restriction>
  </xsd:simpleType>
  <xsd:complexType name="CT_PictureEffectBlur">
    <xsd:attribute name="radius" type="ST_ArtisticEffectParam100" use="optional"
default="10"/>
  </xsd:complexType>
  <xsd:complexType name="CT_PictureEffectCement">
    <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="0"/>
    <xsd:attribute name="crackSpacing" type="ST_ArtisticEffectParam100" use="optional"
default="24"/>
  </xsd:complexType>
  <xsd:complexType name="CT_PictureEffectChalkSketch">
    <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="0"/>
    <xsd:attribute name="pressure" type="ST_ArtisticEffectParam4" use="optional"
default="0"/>
  </xsd:complexType>
  <xsd:complexType name="CT_PictureEffectCrisscrossEtching">
```

```
      <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="75"/>
      <xsd:attribute name="pressure" type="ST_ArtisticEffectParam100" use="optional"
default="30"/>
    </xsd:complexType>
    <xsd:complexType name="CT_PictureEffectCutout">
      <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="0"/>
      <xsd:attribute name="numberOfShades" type="ST_ArtisticEffectParam6" use="optional"
default="2"/>
    </xsd:complexType>
    <xsd:complexType name="CT_PictureEffectFilmGrain">
      <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="0"/>
      <xsd:attribute name="grainSize" type="ST_ArtisticEffectParam100" use="optional"
default="40"/>
    </xsd:complexType>
    <xsd:complexType name="CT_PictureEffectGlass">
      <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="0"/>
      <xsd:attribute name="scaling" type="ST_ArtisticEffectParam100" use="optional"
default="34"/>
    </xsd:complexType>
    <xsd:complexType name="CT_PictureEffectGlowDiffused">
      <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="0"/>
      <xsd:attribute name="intensity" type="ST_ArtisticEffectParam10" use="optional"
default="5"/>
    </xsd:complexType>
    <xsd:complexType name="CT_PictureEffectGlowEdges">
      <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="15"/>
      <xsd:attribute name="smoothness" type="ST_ArtisticEffectParam10" use="optional"
default="3"/>
    </xsd:complexType>
    <xsd:complexType name="CT_PictureEffectLightScreen">
      <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="0"/>
      <xsd:attribute name="gridSize" type="ST_ArtisticEffectParam10" use="optional"
default="4"/>
    </xsd:complexType>
    <xsd:complexType name="CT_PictureEffectLineDrawing">
      <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="25"/>
      <xsd:attribute name="pencilSize" type="ST_ArtisticEffectParam100" use="optional"
default="0"/>
    </xsd:complexType>
    <xsd:complexType name="CT_PictureEffectMarker">
      <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="0"/>
      <xsd:attribute name="size" type="ST_ArtisticEffectParam100" use="optional" default="97"/>
    </xsd:complexType>
    <xsd:complexType name="CT_PictureEffectMosiaicBubbles">
      <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="0"/>
      <xsd:attribute name="pressure" type="ST_ArtisticEffectParam100" use="optional"
default="14"/>
    </xsd:complexType>
    <xsd:complexType name="CT_PictureEffectPaintBrush">
      <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="0"/>
      <xsd:attribute name="brushSize" type="ST_ArtisticEffectParam10" use="optional"
default="2"/>
    </xsd:complexType>
    <xsd:complexType name="CT_PictureEffectPaintStrokes">
      <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="0"/>
      <xsd:attribute name="intensity" type="ST_ArtisticEffectParam10" use="optional"
default="5"/>
```

```
    </xsd:complexType>
    <xsd:complexType name="CT_PictureEffectPastelsSmooth">
      <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="0"/>
      <xsd:attribute name="scaling" type="ST_ArtisticEffectParam100" use="optional"
default="34"/>
    </xsd:complexType>
    <xsd:complexType name="CT_PictureEffectPencilGrayscale">
      <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="0"/>
      <xsd:attribute name="pencilSize" type="ST_ArtisticEffectParam100" use="optional"
default="27"/>
    </xsd:complexType>
    <xsd:complexType name="CT_PictureEffectPencilSketch">
      <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="0"/>
      <xsd:attribute name="pressure" type="ST_ArtisticEffectParam100" use="optional"
default="22"/>
    </xsd:complexType>
    <xsd:complexType name="CT_PictureEffectPhotocopy">
      <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="30"/>
      <xsd:attribute name="detail" type="ST_ArtisticEffectParam10" use="optional" default="3"/>
    </xsd:complexType>
    <xsd:complexType name="CT_PictureEffectPlasticWrap">
      <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="0"/>
      <xsd:attribute name="smoothness" type="ST_ArtisticEffectParam10" use="optional"
default="5"/>
    </xsd:complexType>
    <xsd:complexType name="CT_PictureEffectTexturizer">
      <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="0"/>
      <xsd:attribute name="scaling" type="ST_ArtisticEffectParam100" use="optional"
default="34"/>
    </xsd:complexType>
    <xsd:complexType name="CT_PictureEffectWatercolorSponge">
      <xsd:attribute name="trans" type="a:ST_PositiveFixedPercentage" use="optional"
default="0"/>
      <xsd:attribute name="brushSize" type="ST_ArtisticEffectParam10" use="optional"
default="2"/>
    </xsd:complexType>
    <xsd:complexType name="CT_PictureEffectBackgroundRemovalForegroundMark">
      <xsd:attribute name="x1" type="a:ST_PositiveFixedPercentage" use="required"/>
      <xsd:attribute name="y1" type="a:ST_PositiveFixedPercentage" use="required"/>
      <xsd:attribute name="x2" type="a:ST_PositiveFixedPercentage" use="required"/>
      <xsd:attribute name="y2" type="a:ST_PositiveFixedPercentage" use="required"/>
    </xsd:complexType>
    <xsd:complexType name="CT_PictureEffectBackgroundRemovalBackgroundMark">
      <xsd:attribute name="x1" type="a:ST_PositiveFixedPercentage" use="required"/>
      <xsd:attribute name="y1" type="a:ST_PositiveFixedPercentage" use="required"/>
      <xsd:attribute name="x2" type="a:ST_PositiveFixedPercentage" use="required"/>
      <xsd:attribute name="y2" type="a:ST_PositiveFixedPercentage" use="required"/>
    </xsd:complexType>
    <xsd:complexType name="CT_PictureEffectBackgroundRemoval">
      <xsd:sequence>
        <xsd:element name="foregroundMark"
type="CT_PictureEffectBackgroundRemovalForegroundMark" minOccurs="0" maxOccurs="unbounded"/>
        <xsd:element name="backgroundMark"
type="CT_PictureEffectBackgroundRemovalBackgroundMark" minOccurs="0" maxOccurs="unbounded"/>
      </xsd:sequence>
      <xsd:attribute name="t" type="a:ST_PositiveFixedPercentage" use="required"/>
      <xsd:attribute name="b" type="a:ST_PositiveFixedPercentage" use="required"/>
      <xsd:attribute name="l" type="a:ST_PositiveFixedPercentage" use="required"/>
      <xsd:attribute name="r" type="a:ST_PositiveFixedPercentage" use="required"/>
    </xsd:complexType>
    <xsd:complexType name="CT_PictureEffectBrightnessContrast">
      <xsd:attribute name="bright" type="a:ST_FixedPercentage" use="optional" default="0"/>
      <xsd:attribute name="contrast" type="a:ST_FixedPercentage" use="optional" default="0"/>
```

```xsd
    </xsd:complexType>
    <xsd:simpleType name="ST_ColorTemperature">
      <xsd:restriction base="xsd:int">
        <xsd:minInclusive value="1500"/>
        <xsd:maxInclusive value="11500"/>
      </xsd:restriction>
    </xsd:simpleType>
    <xsd:complexType name="CT_PictureEffectColorTemperature">
      <xsd:attribute name="colorTemp" type="ST_ColorTemperature" use="optional"
default="6500"/>
    </xsd:complexType>
    <xsd:simpleType name="ST_SaturationAmount">
      <xsd:restriction base="a:ST_Percentage">
        <xsd:minInclusive value="0"/>
        <xsd:maxInclusive value="400000"/>
      </xsd:restriction>
    </xsd:simpleType>
    <xsd:complexType name="CT_PictureEffectSaturation">
      <xsd:attribute name="sat" type="ST_SaturationAmount" use="optional" default="100"/>
    </xsd:complexType>
    <xsd:complexType name="CT_PictureEffectSharpenSoften">
      <xsd:attribute name="amount" type="a:ST_FixedPercentage" use="optional" default="0"/>
    </xsd:complexType>
    <xsd:complexType name="CT_PictureEffect">
      <xsd:choice minOccurs="1" maxOccurs="1">
        <xsd:element name="artisticBlur" type="CT_PictureEffectBlur" minOccurs="1"
maxOccurs="1"/>
        <xsd:element name="artisticCement" type="CT_PictureEffectCement" minOccurs="1"
maxOccurs="1"/>
        <xsd:element name="artisticChalkSketch" type="CT_PictureEffectChalkSketch"
minOccurs="1" maxOccurs="1"/>
        <xsd:element name="artisticCrisscrossEtching" type="CT_PictureEffectCrisscrossEtching"
minOccurs="1" maxOccurs="1"/>
        <xsd:element name="artisticCutout" type="CT_PictureEffectCutout" minOccurs="1"
maxOccurs="1"/>
        <xsd:element name="artisticFilmGrain" type="CT_PictureEffectFilmGrain" minOccurs="1"
maxOccurs="1"/>
        <xsd:element name="artisticGlass" type="CT_PictureEffectGlass" minOccurs="1"
maxOccurs="1"/>
        <xsd:element name="artisticGlowDiffused" type="CT_PictureEffectGlowDiffused"
minOccurs="1" maxOccurs="1"/>
        <xsd:element name="artisticGlowEdges" type="CT_PictureEffectGlowEdges" minOccurs="1"
maxOccurs="1"/>
        <xsd:element name="artisticLightScreen" type="CT_PictureEffectLightScreen"
minOccurs="1" maxOccurs="1"/>
        <xsd:element name="artisticLineDrawing" type="CT_PictureEffectLineDrawing"
minOccurs="1" maxOccurs="1"/>
        <xsd:element name="artisticMarker" type="CT_PictureEffectMarker" minOccurs="1"
maxOccurs="1"/>
        <xsd:element name="artisticMosiaicBubbles" type="CT_PictureEffectMosiaicBubbles"
minOccurs="1" maxOccurs="1"/>
        <xsd:element name="artisticPaintStrokes" type="CT_PictureEffectPaintStrokes"
minOccurs="1" maxOccurs="1"/>
        <xsd:element name="artisticPaintBrush" type="CT_PictureEffectPaintBrush" minOccurs="1"
maxOccurs="1"/>
        <xsd:element name="artisticPastelsSmooth" type="CT_PictureEffectPastelsSmooth"
minOccurs="1" maxOccurs="1"/>
        <xsd:element name="artisticPencilGrayscale" type="CT_PictureEffectPencilGrayscale"
minOccurs="1" maxOccurs="1"/>
        <xsd:element name="artisticPencilSketch" type="CT_PictureEffectPencilSketch"
minOccurs="1" maxOccurs="1"/>
        <xsd:element name="artisticPhotocopy" type="CT_PictureEffectPhotocopy" minOccurs="1"
maxOccurs="1"/>
        <xsd:element name="artisticPlasticWrap" type="CT_PictureEffectPlasticWrap"
minOccurs="1" maxOccurs="1"/>
        <xsd:element name="artisticTexturizer" type="CT_PictureEffectTexturizer" minOccurs="1"
maxOccurs="1"/>
        <xsd:element name="artisticWatercolorSponge" type="CT_PictureEffectWatercolorSponge"
minOccurs="1" maxOccurs="1"/>
```

```
        <xsd:element name="backgroundRemoval" type="CT_PictureEffectBackgroundRemoval"
minOccurs="1" maxOccurs="1"/>
        <xsd:element name="brightnessContrast" type="CT_PictureEffectBrightnessContrast"
minOccurs="1" maxOccurs="1"/>
        <xsd:element name="colorTemperature" type="CT_PictureEffectColorTemperature"
minOccurs="1" maxOccurs="1"/>
        <xsd:element name="saturation" type="CT_PictureEffectSaturation" minOccurs="1"
maxOccurs="1"/>
        <xsd:element name="sharpenSoften" type="CT_PictureEffectSharpenSoften" minOccurs="1"
maxOccurs="1"/>
      </xsd:choice>
      <xsd:attribute name="visible" type="xsd:boolean" use="optional" default="true"/>
  </xsd:complexType>
  <xsd:complexType name="CT_PictureLayer">
    <xsd:sequence>
      <xsd:element name="imgEffect" type="CT_PictureEffect" minOccurs="0"
maxOccurs="unbounded"/>
    </xsd:sequence>
    <xsd:attribute ref="r:embed" use="optional" default=""/>
  </xsd:complexType>
  <xsd:complexType name="CT_Photo">
    <xsd:sequence>
      <xsd:element name="imgLayer" type="CT_PictureLayer" minOccurs="1" maxOccurs="1"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:element name="imgProps" type="CT_Photo"/>
  <xsd:complexType name="CT_UseLocalDpi">
    <xsd:attribute name="val" type="xsd:boolean" use="optional" default="true"/>
  </xsd:complexType>
  <xsd:element name="useLocalDpi" type="CT_UseLocalDpi"/>
</xsd:schema>
```

5.2 http://schemas.microsoft.com/office/word/2010/wordprocessingShape Schema

```
<xsd:schema elementFormDefault="qualified"
targetNamespace="http://schemas.microsoft.com/office/word/2010/wordprocessingShape"
xmlns="http://schemas.microsoft.com/office/word/2010/wordprocessingShape"
xmlns:a="http://schemas.openxmlformats.org/drawingml/2006/main"
xmlns:w12="http://schemas.openxmlformats.org/wordprocessingml/2006/main"
xmlns:wne="http://schemas.microsoft.com/office/word/2006/wordml"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:rel="http://schemas.openxmlformats.org/officeDocument/2006/relationships">
  <xsd:import schemaLocation="oartspproperties.xsd"
namespace="http://schemas.openxmlformats.org/drawingml/2006/main"/>
  <xsd:import schemaLocation="oartdocprop.xsd"
namespace="http://schemas.openxmlformats.org/drawingml/2006/main"/>
  <xsd:import schemaLocation="oartstylesheet.xsd"
namespace="http://schemas.openxmlformats.org/drawingml/2006/main"/>
  <xsd:import schemaLocation="orel.xsd"
namespace="http://schemas.openxmlformats.org/officeDocument/2006/relationships"/>
  <xsd:import schemaLocation="oartWordShapeTextbox.xsd"
namespace="http://schemas.openxmlformats.org/wordprocessingml/2006/main"/>
  <xsd:import schemaLocation="oartWordNonEcmaShapeTextbox.xsd"
namespace="http://schemas.microsoft.com/office/word/2006/wordml"/>
  <xsd:complexType name="CT_TextboxInfo">
    <xsd:sequence>
      <xsd:element ref="w12:txbxContent" minOccurs="0" maxOccurs="1"/>
      <xsd:element ref="wne:txbxContent" minOccurs="0" maxOccurs="1"/>
      <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
    </xsd:sequence>
    <xsd:attribute name="id" type="xsd:unsignedShort" use="optional" default="0"/>
  </xsd:complexType>
  <xsd:complexType name="CT_LinkedTextboxInformation">
    <xsd:sequence>
```

```
      <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
    </xsd:sequence>
    <xsd:attribute name="id" type="xsd:unsignedShort" use="required"/>
    <xsd:attribute name="seq" type="xsd:unsignedShort" use="required"/>
  </xsd:complexType>
  <xsd:complexType name="CT_WordprocessingShape">
    <xsd:sequence minOccurs="1" maxOccurs="1">
      <xsd:element name="cNvPr" type="a:CT_NonVisualDrawingProps" minOccurs="0"
maxOccurs="1"/>
      <xsd:choice minOccurs="1" maxOccurs="1">
        <xsd:element name="cNvSpPr" type="a:CT_NonVisualDrawingShapeProps" minOccurs="1"
maxOccurs="1"/>
        <xsd:element name="cNvCnPr" type="a:CT_NonVisualConnectorProperties" minOccurs="1"
maxOccurs="1"/>
      </xsd:choice>
      <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="1" maxOccurs="1"/>
      <xsd:element name="style" type="a:CT_ShapeStyle" minOccurs="0" maxOccurs="1"/>
      <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
      <xsd:choice minOccurs="0" maxOccurs="1">
        <xsd:element name="txbx" type="CT_TextboxInfo" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="linkedTxbx" type="CT_LinkedTextboxInformation" minOccurs="1"
maxOccurs="1"/>
      </xsd:choice>
      <xsd:element name="bodyPr" type="a:CT_TextBodyProperties" minOccurs="1" maxOccurs="1"/>
    </xsd:sequence>
    <xsd:attribute name="normalEastAsianFlow" type="xsd:boolean" use="optional"
default="false"/>
  </xsd:complexType>
  <xsd:element name="wsp" type="CT_WordprocessingShape"/>
</xsd:schema>
```

5.3   http://schemas.microsoft.com/office/word/2010/wordml Schema

```
<xsd:schema elementFormDefault="qualified"
targetNamespace="http://schemas.microsoft.com/office/word/2010/wordml"
xmlns="http://schemas.microsoft.com/office/word/2010/wordml"
xmlns:a="http://schemas.openxmlformats.org/drawingml/2006/main"
xmlns:a14="http://schemas.microsoft.com/office/drawing/2010/main"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:r="http://schemas.openxmlformats.org/officeDocument/2006/relationships">
  <xsd:complexType name="CT_WordContentPartNonVisual">
    <xsd:sequence>
      <xsd:element name="cNvPr" type="a:CT_NonVisualDrawingProps" minOccurs="0"
maxOccurs="1"/>
      <xsd:element name="cNvContentPartPr" type="a14:CT_NonVisualInkContentPartProperties"
minOccurs="0" maxOccurs="1"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="CT_WordContentPart">
    <xsd:sequence>
      <xsd:element name="nvContentPartPr" type="CT_WordContentPartNonVisual" minOccurs="0"
maxOccurs="1"/>
      <xsd:element name="xfrm" type="a:CT_Transform2D" minOccurs="0" maxOccurs="1"/>
      <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
    </xsd:sequence>
    <xsd:attribute name="bwMode" type="a:ST_BlackWhiteMode" use="optional"/>
    <xsd:attribute ref="r:id" use="required"/>
  </xsd:complexType>
  <xsd:element name="contentPart" type="CT_WordContentPart"/>
  <xsd:import namespace="http://schemas.microsoft.com/office/drawing/2010/main"
schemaLocation="oart14docprop.xsd"/>
  <xsd:import namespace="http://schemas.openxmlformats.org/drawingml/2006/main"
schemaLocation="oartdocprop.xsd"/>
```

```
    <xsd:import namespace="http://schemas.openxmlformats.org/officeDocument/2006/relationships"
schemaLocation="orel.xsd"/>
</xsd:schema>
```

5.4 http://schemas.microsoft.com/office/word/2010/wordprocessingGroup Schema

```
<xsd:schema elementFormDefault="qualified"
targetNamespace="http://schemas.microsoft.com/office/word/2010/wordprocessingGroup"
xmlns="http://schemas.microsoft.com/office/word/2010/wordprocessingGroup"
xmlns:a="http://schemas.openxmlformats.org/drawingml/2006/main"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:wps="http://schemas.microsoft.com/office/word/2010/wordprocessingShape"
xmlns:pic="http://schemas.openxmlformats.org/drawingml/2006/picture"
xmlns:w14="http://schemas.microsoft.com/office/word/2010/wordml">
  <xsd:import schemaLocation="oartspproperties.xsd"
namespace="http://schemas.openxmlformats.org/drawingml/2006/main"/>
  <xsd:import schemaLocation="oartdocprop.xsd"
namespace="http://schemas.openxmlformats.org/drawingml/2006/main"/>
  <xsd:import schemaLocation="oartstylesheet.xsd"
namespace="http://schemas.openxmlformats.org/drawingml/2006/main"/>
  <xsd:import schemaLocation="oarte2o.xsd"
namespace="http://schemas.openxmlformats.org/drawingml/2006/main"/>
  <xsd:import schemaLocation="oartwordshape.xsd"
namespace="http://schemas.microsoft.com/office/word/2010/wordprocessingShape"/>
  <xsd:import schemaLocation="picturee2o.xsd"
namespace="http://schemas.openxmlformats.org/drawingml/2006/picture"/>
  <xsd:import schemaLocation="oartwordcontentpart.xsd"
namespace="http://schemas.microsoft.com/office/word/2010/wordml"/>
  <xsd:complexType name="CT_GraphicFrame">
    <xsd:sequence>
      <xsd:element name="cNvPr" type="a:CT_NonVisualDrawingProps" minOccurs="1"
maxOccurs="1"/>
      <xsd:element name="cNvFrPr" type="a:CT_NonVisualGraphicFrameProperties" minOccurs="1"
maxOccurs="1"/>
      <xsd:element name="xfrm" type="a:CT_Transform2D" minOccurs="1" maxOccurs="1"/>
      <xsd:element ref="a:graphic" minOccurs="1" maxOccurs="1"/>
      <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="CT_WordprocessingGroup">
    <xsd:sequence minOccurs="1" maxOccurs="1">
      <xsd:element name="cNvPr" type="a:CT_NonVisualDrawingProps" minOccurs="0"
maxOccurs="1"/>
      <xsd:element name="cNvGrpSpPr" type="a:CT_NonVisualGroupDrawingShapeProps"
minOccurs="1" maxOccurs="1"/>
      <xsd:element name="grpSpPr" type="a:CT_GroupShapeProperties" minOccurs="1"
maxOccurs="1"/>
      <xsd:choice minOccurs="0" maxOccurs="unbounded">
        <xsd:element ref="wps:wsp"/>
        <xsd:element name="grpSp" type="CT_WordprocessingGroup"/>
        <xsd:element name="graphicFrame" type="CT_GraphicFrame"/>
        <xsd:element ref="pic:pic"/>
        <xsd:element ref="w14:contentPart"/>
      </xsd:choice>
      <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:element name="wgp" type="CT_WordprocessingGroup"/>
</xsd:schema>
```

5.5 http://schemas.microsoft.com/office/word/2010/wordprocessingCanvas Schema

```xsd
<xsd:schema elementFormDefault="qualified"
targetNamespace="http://schemas.microsoft.com/office/word/2010/wordprocessingCanvas"
xmlns="http://schemas.microsoft.com/office/word/2010/wordprocessingCanvas"
xmlns:a="http://schemas.openxmlformats.org/drawingml/2006/main"
xmlns:w14="http://schemas.microsoft.com/office/word/2010/wordml"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:wpg="http://schemas.microsoft.com/office/word/2010/wordprocessingGroup"
xmlns:wps="http://schemas.microsoft.com/office/word/2010/wordprocessingShape"
xmlns:pic="http://schemas.openxmlformats.org/drawingml/2006/picture">
  <xsd:import schemaLocation="oartdocprop.xsd"
namespace="http://schemas.openxmlformats.org/drawingml/2006/main"/>
  <xsd:import schemaLocation="oarte2o.xsd"
namespace="http://schemas.openxmlformats.org/drawingml/2006/main"/>
  <xsd:import schemaLocation="oarte2oformat.xsd"
namespace="http://schemas.openxmlformats.org/drawingml/2006/main"/>
  <xsd:import schemaLocation="oartspproperties.xsd"
namespace="http://schemas.openxmlformats.org/drawingml/2006/main"/>
  <xsd:import schemaLocation="oartstylesheet.xsd"
namespace="http://schemas.openxmlformats.org/drawingml/2006/main"/>
  <xsd:import schemaLocation="oartwordgroup.xsd"
namespace="http://schemas.microsoft.com/office/word/2010/wordprocessingGroup"/>
  <xsd:import schemaLocation="oartwordshape.xsd"
namespace="http://schemas.microsoft.com/office/word/2010/wordprocessingShape"/>
  <xsd:import schemaLocation="oartwordcontentpart.xsd"
namespace="http://schemas.microsoft.com/office/word/2010/wordml"/>
  <xsd:import schemaLocation="picturee2o.xsd"
namespace="http://schemas.openxmlformats.org/drawingml/2006/picture"/>
  <xsd:complexType name="CT_WordprocessingCanvas">
    <xsd:sequence minOccurs="1" maxOccurs="1">
      <xsd:element name="bg" type="a:CT_BackgroundFormatting" minOccurs="0" maxOccurs="1"/>
      <xsd:element name="whole" type="a:CT_WholeE2oFormatting" minOccurs="0" maxOccurs="1"/>
      <xsd:choice minOccurs="0" maxOccurs="unbounded">
        <xsd:element ref="wps:wsp"/>
        <xsd:element ref="pic:pic"/>
        <xsd:element ref="w14:contentPart"/>
        <xsd:element ref="wpg:wgp"/>
        <xsd:element name="graphicFrame" type="wpg:CT_GraphicFrame"/>
      </xsd:choice>
      <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:element name="wpc" type="CT_WordprocessingCanvas"/>
</xsd:schema>
```

5.6 http://schemas.microsoft.com/office/drawing/2008/diagram Schema

```xsd
<xsd:schema targetNamespace="http://schemas.microsoft.com/office/drawing/2008/diagram"
elementFormDefault="qualified" attributeFormDefault="unqualified"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:a="http://schemas.openxmlformats.org/drawingml/2006/main"
xmlns:d="http://schemas.openxmlformats.org/drawingml/2006/diagram"
xmlns:r="http://schemas.openxmlformats.org/officeDocument/2006/relationships"
xmlns="http://schemas.microsoft.com/office/drawing/2008/diagram">
  <xsd:import schemaLocation="orel.xsd"
namespace="http://schemas.openxmlformats.org/officeDocument/2006/relationships"/>
  <xsd:import schemaLocation="igxelementpropertyset.xsd"
namespace="http://schemas.openxmlformats.org/drawingml/2006/diagram"/>
  <xsd:import schemaLocation="oartspstyle.xsd"
namespace="http://schemas.openxmlformats.org/drawingml/2006/main"/>
  <xsd:import schemaLocation="oartdocprop.xsd"
namespace="http://schemas.openxmlformats.org/drawingml/2006/main"/>
  <xsd:import schemaLocation="oarte2o.xsd"
namespace="http://schemas.openxmlformats.org/drawingml/2006/main"/>
```

```
    <xsd:import schemaLocation="oarttx.xsd"
namespace="http://schemas.openxmlformats.org/drawingml/2006/main"/>
  <xsd:complexType name="CT_ShapeNonVisual">
    <xsd:sequence>
      <xsd:element name="cNvPr" type="a:CT_NonVisualDrawingProps" minOccurs="1"
maxOccurs="1"/>
        <xsd:element name="cNvSpPr" type="a:CT_NonVisualDrawingShapeProps" minOccurs="1"
maxOccurs="1"/>
      </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="CT_Shape">
    <xsd:sequence>
      <xsd:element name="nvSpPr" type="CT_ShapeNonVisual" minOccurs="1" maxOccurs="1"/>
      <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="1" maxOccurs="1"/>
      <xsd:element name="style" type="a:CT_ShapeStyle" minOccurs="0" maxOccurs="1"/>
      <xsd:element name="txBody" type="a:CT_TextBody" minOccurs="0" maxOccurs="1"/>
      <xsd:element name="txXfrm" type="a:CT_Transform2D" minOccurs="0" maxOccurs="1"/>
      <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
    </xsd:sequence>
    <xsd:attribute name="modelId" type="d:ST_ModelId" use="required"/>
  </xsd:complexType>
  <xsd:complexType name="CT_GroupShapeNonVisual">
    <xsd:sequence>
      <xsd:element name="cNvPr" type="a:CT_NonVisualDrawingProps" minOccurs="1"
maxOccurs="1"/>
      <xsd:element name="cNvGrpSpPr" type="a:CT_NonVisualGroupDrawingShapeProps"
minOccurs="1" maxOccurs="1"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="CT_GroupShape">
    <xsd:sequence>
      <xsd:element name="nvGrpSpPr" type="CT_GroupShapeNonVisual" minOccurs="1"
maxOccurs="1"/>
      <xsd:element name="grpSpPr" type="a:CT_GroupShapeProperties" minOccurs="1"
maxOccurs="1"/>
      <xsd:choice minOccurs="0" maxOccurs="unbounded">
        <xsd:element name="sp" type="CT_Shape"/>
        <xsd:element name="grpSp" type="CT_GroupShape"/>
      </xsd:choice>
      <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="CT_Drawing">
    <xsd:sequence>
      <xsd:element name="spTree" type="CT_GroupShape" minOccurs="1" maxOccurs="1"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:element name="drawing" type="CT_Drawing"/>
  <xsd:complexType name="CT_DataModelExtBlock">
    <xsd:attribute name="relId" type="xsd:string"/>
    <xsd:attribute name="minVer" type="xsd:anyURI"/>
  </xsd:complexType>
  <xsd:element name="dataModelExt" type="CT_DataModelExtBlock"/>
</xsd:schema>
```

5.7   http://schemas.microsoft.com/ink/2010/main Schema

```
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema" attributeFormDefault="unqualified"
elementFormDefault="qualified" targetNamespace="http://schemas.microsoft.com/ink/2010/main"
xmlns="http://schemas.microsoft.com/ink/2010/main"
xmlns:msink="http://schemas.microsoft.com/ink/2010/main">
  <xsd:simpleType name="ST_KnownCtxNodeType">
    <xsd:restriction base="xsd:string">
      <xsd:enumeration value="root"/>
      <xsd:enumeration value="unclassifiedInk"/>
```

```xsd
            <xsd:enumeration value="writingRegion"/>
            <xsd:enumeration value="analysisHint"/>
            <xsd:enumeration value="object"/>
            <xsd:enumeration value="inkDrawing"/>
            <xsd:enumeration value="image"/>
            <xsd:enumeration value="paragraph"/>
            <xsd:enumeration value="line"/>
            <xsd:enumeration value="inkBullet"/>
            <xsd:enumeration value="inkWord"/>
            <xsd:enumeration value="textWord"/>
            <xsd:enumeration value="customRecognizer"/>
            <xsd:enumeration value="mathRegion"/>
            <xsd:enumeration value="mathEquation"/>
            <xsd:enumeration value="mathStruct"/>
            <xsd:enumeration value="mathSymbol"/>
            <xsd:enumeration value="mathIdentifier"/>
            <xsd:enumeration value="mathOperator"/>
            <xsd:enumeration value="mathNumber"/>
            <xsd:enumeration value="nonInkDrawing"/>
            <xsd:enumeration value="groupNode"/>
            <xsd:enumeration value="mixedDrawing"/>
        </xsd:restriction>
    </xsd:simpleType>
    <xsd:simpleType name="ST_Guid">
        <xsd:restriction base="xsd:token">
            <xsd:pattern value="\{[0-9A-F]{8}-[0-9A-F]{4}-[0-9A-F]{4}-[0-9A-F]{4}-[0-9A-F]{12}\}"/>
        </xsd:restriction>
    </xsd:simpleType>
    <xsd:simpleType name="ST_Ref">
        <xsd:union memberTypes="msink:ST_Guid xsd:unsignedInt"/>
    </xsd:simpleType>
    <xsd:simpleType name="ST_CtxNodeType">
        <xsd:union memberTypes="msink:ST_KnownCtxNodeType msink:ST_Guid"/>
    </xsd:simpleType>
    <xsd:simpleType name="ST_Dir">
        <xsd:restriction base="xsd:string">
            <xsd:enumeration value="to"/>
            <xsd:enumeration value="from"/>
            <xsd:enumeration value="with"/>
        </xsd:restriction>
    </xsd:simpleType>
    <xsd:simpleType name="ST_KnownSemanticType">
        <xsd:restriction base="xsd:string">
            <xsd:enumeration value="none"/>
            <xsd:enumeration value="underline"/>
            <xsd:enumeration value="strikethrough"/>
            <xsd:enumeration value="highlight"/>
            <xsd:enumeration value="scratchOut"/>
            <xsd:enumeration value="verticalRange"/>
            <xsd:enumeration value="callout"/>
            <xsd:enumeration value="enclosure"/>
            <xsd:enumeration value="comment"/>
            <xsd:enumeration value="container"/>
            <xsd:enumeration value="connector"/>
        </xsd:restriction>
    </xsd:simpleType>
    <xsd:simpleType name="ST_SemanticType">
        <xsd:union memberTypes="ST_KnownSemanticType xsd:unsignedInt"/>
    </xsd:simpleType>
    <xsd:simpleType name="ST_Point">
        <xsd:restriction base="xsd:string">
            <xsd:pattern value="-?[0-9]+,-?[0-9]+"/>
        </xsd:restriction>
    </xsd:simpleType>
    <xsd:simpleType name="ST_Points">
        <xsd:list itemType="msink:ST_Point"/>
    </xsd:simpleType>
    <xsd:complexType name="CT_Property">
        <xsd:simpleContent>
```

```
        <xsd:extension base="xsd:hexBinary">
          <xsd:attribute name="type" type="ST_Guid"/>
        </xsd:extension>
      </xsd:simpleContent>
    </xsd:complexType>
    <xsd:complexType name="CT_CtxLink">
      <xsd:attribute name="direction" type="ST_Dir"/>
      <xsd:attribute name="ref" type="ST_Ref"/>
    </xsd:complexType>
    <xsd:complexType name="CT_CtxNode">
      <xsd:sequence>
        <xsd:element name="property" type="CT_Property" minOccurs="0" maxOccurs="unbounded"/>
        <xsd:element name="sourceLink" type="CT_CtxLink" minOccurs="0" maxOccurs="unbounded"/>
        <xsd:element name="destinationLink" type="CT_CtxLink" minOccurs="0"
maxOccurs="unbounded"/>
      </xsd:sequence>
      <xsd:attribute name="id" type="ST_Guid" use="optional"/>
      <xsd:attribute name="type" type="ST_CtxNodeType" use="required"/>
      <xsd:attribute name="rotatedBoundingBox" type="ST_Points" use="optional"/>
      <xsd:attribute name="alignmentLevel" type="xsd:int" use="optional" default="0"/>
      <xsd:attribute name="contentType" type="xsd:int" use="optional" default="0"/>
      <xsd:attribute name="ascender" type="ST_Points" use="optional" default="0,0"/>
      <xsd:attribute name="descender" type="ST_Points" use="optional" default="0,0"/>
      <xsd:attribute name="baseline" type="ST_Points" use="optional" default="0,0"/>
      <xsd:attribute name="midline" type="ST_Points" use="optional" default="0,0"/>
      <xsd:attribute name="customRecognizerId" type="ST_Guid" use="optional"/>
      <xsd:attribute name="mathML" type="xsd:string" use="optional" default=""/>
      <xsd:attribute name="mathStruct" type="xsd:string" use="optional" default=""/>
      <xsd:attribute name="mathSymbol" type="xsd:string" use="optional" default=""/>
      <xsd:attribute name="beginModifierType" type="xsd:string" use="optional" default=""/>
      <xsd:attribute name="endModifierType" type="xsd:string" use="optional" default=""/>
      <xsd:attribute name="rotationAngle" type="xsd:int" use="optional" default="0"/>
      <xsd:attribute name="hotPoints" type="ST_Points" use="optional"/>
      <xsd:attribute name="centroid" type="ST_Point" use="optional"/>
      <xsd:attribute name="semanticType" type="ST_SemanticType" use="optional" default="none"/>
      <xsd:attribute name="shapeName" type="xsd:string" use="optional" default=""/>
      <xsd:attribute name="shapeGeometry" type="ST_Points" use="optional"/>
    </xsd:complexType>
    <xsd:element name="context" type="CT_CtxNode"/>
  </xsd:schema>
```

5.8   http://schemas.microsoft.com/office/drawing/2010/chartDrawing Schema

```
<xsd:schema elementFormDefault="qualified"
targetNamespace="http://schemas.microsoft.com/office/drawing/2010/chartDrawing"
xmlns="http://schemas.microsoft.com/office/drawing/2010/chartDrawing"
xmlns:xdr="http://schemas.openxmlformats.org/drawingml/2006/spreadsheetDrawing"
xmlns:xdr14="http://xldr14SchemaUri"
xmlns:a="http://schemas.openxmlformats.org/drawingml/2006/main"
xmlns:a14="http://schemas.microsoft.com/office/drawing/2010/main"
xmlns:r="http://schemas.openxmlformats.org/officeDocument/2006/relationships"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <xsd:complexType name="CT_ApplicationNonVisualDrawingProps">
    <xsd:attribute name="macro" type="xsd:string" use="optional"/>
    <xsd:attribute name="fPublished" type="xsd:boolean" use="optional" default="false"/>
  </xsd:complexType>
  <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:sequence>
  </xsd:complexType>
  <xsd:complexType name="CT_ContentPart">
    <xsd:sequence>
```

```
      <xsd:element name="nvContentPartPr" type="CT_ContentPartNonVisual" minOccurs="0"
maxOccurs="1"/>
      <xsd:element name="nvPr" type="CT_ApplicationNonVisualDrawingProps" minOccurs="0"
maxOccurs="1"/>
      <xsd:element name="xfrm" type="a:CT_Transform2D" minOccurs="0" maxOccurs="1"/>
      <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
    </xsd:sequence>
    <xsd:attribute ref="r:id" use="required"/>
    <xsd:attribute name="bwMode" type="a:ST_BlackWhiteMode" use="optional" default="auto"/>
  </xsd:complexType>
  <xsd:element name="contentPart" type="CT_ContentPart"/>
  <xsd:import namespace="http://schemas.microsoft.com/office/drawing/2010/main"
schemaLocation="oart14docprop.xsd"/>
  <xsd:import namespace="http://schemas.openxmlformats.org/drawingml/2006/main"
schemaLocation="oartdocprop.xsd"/>
  <xsd:import namespace="http://schemas.openxmlformats.org/officeDocument/2006/relationships"
schemaLocation="orel.xsd"/>
</xsd:schema>
```

5.9 http://schemas.microsoft.com/office/excel/2010/spreadsheetDrawing Schema

```
<xsd:schema elementFormDefault="qualified"
targetNamespace="http://schemas.microsoft.com/office/excel/2010/spreadsheetDrawing"
xmlns="http://schemas.microsoft.com/office/excel/2010/spreadsheetDrawing"
xmlns:xdr="http://schemas.openxmlformats.org/drawingml/2006/spreadsheetDrawing"
xmlns:xdr14="http://xldr14SchemaUri"
xmlns:a="http://schemas.openxmlformats.org/drawingml/2006/main"
xmlns:a14="http://schemas.microsoft.com/office/drawing/2010/main"
xmlns:r="http://schemas.openxmlformats.org/officeDocument/2006/relationships"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <xsd:complexType name="CT_ApplicationNonVisualDrawingProps">
    <xsd:attribute name="macro" type="xsd:string" use="optional"/>
    <xsd:attribute name="fPublished" type="xsd:boolean" use="optional" default="false"/>
  </xsd:complexType>
  <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:sequence>
  </xsd:complexType>
  <xsd:complexType name="CT_ContentPart">
    <xsd:sequence>
      <xsd:element name="nvContentPartPr" type="CT_ContentPartNonVisual" minOccurs="0"
maxOccurs="1"/>
      <xsd:element name="nvPr" type="CT_ApplicationNonVisualDrawingProps" minOccurs="0"
maxOccurs="1"/>
      <xsd:element name="xfrm" type="a:CT_Transform2D" minOccurs="0" maxOccurs="1"/>
      <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
    </xsd:sequence>
    <xsd:attribute ref="r:id" use="required"/>
    <xsd:attribute name="bwMode" type="a:ST_BlackWhiteMode" use="optional" default="auto"/>
  </xsd:complexType>
  <xsd:element name="contentPart" type="CT_ContentPart"/>
  <xsd:import namespace="http://schemas.microsoft.com/office/drawing/2010/main"
schemaLocation="oart14docprop.xsd"/>
  <xsd:import namespace="http://schemas.openxmlformats.org/drawingml/2006/main"
schemaLocation="oartdocprop.xsd"/>
  <xsd:import namespace="http://schemas.openxmlformats.org/officeDocument/2006/relationships"
schemaLocation="orel.xsd"/>
</xsd:schema>
```

5.10 http://schemas.microsoft.com/office/drawing/2007/8/2/chart Schema

```xsd
<xsd:schema targetNamespace="http://schemas.microsoft.com/office/drawing/2007/8/2/chart"
elementFormDefault="qualified" attributeFormDefault="unqualified"
xmlns:a="http://schemas.openxmlformats.org/drawingml/2006/main"
xmlns:r="http://schemas.openxmlformats.org/officeDocument/2006/relationships"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns="http://schemas.microsoft.com/office/drawing/2007/8/2/chart" blockDefault="#all"
xmlns:cdr="http://schemas.openxmlformats.org/drawingml/2006/chartDrawing"
xmlns:c="http://schemas.openxmlformats.org/drawingml/2006/chart">
  <xsd:import namespace="http://schemas.openxmlformats.org/officeDocument/2006/relationships"
schemaLocation="orel.xsd"/>
  <xsd:import namespace="http://schemas.openxmlformats.org/drawingml/2006/main"
schemaLocation="oartspproperties.xsd"/>
  <xsd:import namespace="http://schemas.openxmlformats.org/drawingml/2006/main"
schemaLocation="oarttx.xsd"/>
  <xsd:import namespace="http://schemas.openxmlformats.org/drawingml/2006/main"
schemaLocation="oartstylesheet.xsd"/>
  <xsd:import namespace="http://schemas.openxmlformats.org/drawingml/2006/chartDrawing"
schemaLocation="ChartDrawing.xsd"/>
  <xsd:import namespace="http://schemas.openxmlformats.org/drawingml/2006/chart"
schemaLocation="Chart.xsd"/>
  <xsd:complexType name="CT_BooleanTrue">
    <xsd:attribute name="val" type="xsd:boolean" use="optional" default="true"/>
  </xsd:complexType>
  <xsd:complexType name="CT_BooleanFalse">
    <xsd:attribute name="val" type="xsd:boolean" use="optional" default="false"/>
  </xsd:complexType>
  <xsd:complexType name="CT_InvertSolidFillFmt">
    <xsd:sequence>
      <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="1" maxOccurs="1"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="CT_PivotOptions">
    <xsd:sequence>
      <xsd:element name="dropZoneFilter" type="CT_BooleanFalse" minOccurs="0" maxOccurs="1"/>
      <xsd:element name="dropZoneCategories" type="CT_BooleanFalse" minOccurs="0"
maxOccurs="1"/>
      <xsd:element name="dropZoneData" type="CT_BooleanFalse" minOccurs="0" maxOccurs="1"/>
      <xsd:element name="dropZoneSeries" type="CT_BooleanFalse" minOccurs="0" maxOccurs="1"/>
      <xsd:element name="dropZonesVisible" type="CT_BooleanFalse" minOccurs="0"
maxOccurs="1"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:simpleType name="ST_Style">
    <xsd:restriction base="xsd:unsignedByte">
      <xsd:minInclusive value="101"/>
      <xsd:maxInclusive value="148"/>
    </xsd:restriction>
  </xsd:simpleType>
  <xsd:complexType name="CT_Style">
    <xsd:attribute name="val" type="ST_Style" use="required"/>
  </xsd:complexType>
  <xsd:element name="pivotOptions" type="CT_PivotOptions"/>
  <xsd:element name="invertSolidFillFmt" type="CT_InvertSolidFillFmt"/>
  <xsd:element name="style" type="CT_Style"/>
</xsd:schema>
```

5.11 http://schemas.microsoft.com/office/word/2010/wordprocessingDrawing Schema

```xsd
<xsd:schema
targetNamespace="http://schemas.microsoft.com/office/word/2010/wordprocessingDrawing"
elementFormDefault="qualified" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:a="http://schemas.openxmlformats.org/drawingml/2006/main"
xmlns="http://schemas.microsoft.com/office/word/2010/wordprocessingDrawing">
```

```
  <xsd:import schemaLocation="oarte2o.xsd"
namespace="http://schemas.openxmlformats.org/drawingml/2006/main"/>
  <xsd:import schemaLocation="oartdocprop.xsd"
namespace="http://schemas.openxmlformats.org/drawingml/2006/main"/>
  <xsd:simpleType name="ST_SizeRelFromH">
    <xsd:restriction base="xsd:token">
      <xsd:enumeration value="margin"/>
      <xsd:enumeration value="page"/>
      <xsd:enumeration value="leftMargin"/>
      <xsd:enumeration value="rightMargin"/>
      <xsd:enumeration value="insideMargin"/>
      <xsd:enumeration value="outsideMargin"/>
    </xsd:restriction>
  </xsd:simpleType>
  <xsd:simpleType name="ST_SizeRelFromV">
    <xsd:restriction base="xsd:token">
      <xsd:enumeration value="margin"/>
      <xsd:enumeration value="page"/>
      <xsd:enumeration value="topMargin"/>
      <xsd:enumeration value="bottomMargin"/>
      <xsd:enumeration value="insideMargin"/>
      <xsd:enumeration value="outsideMargin"/>
    </xsd:restriction>
  </xsd:simpleType>
  <xsd:complexType name="CT_SizeRelH">
    <xsd:sequence>
      <xsd:element name="pctWidth" type="a:ST_PositivePercentage" minOccurs="1"
maxOccurs="1"/>
    </xsd:sequence>
    <xsd:attribute name="relativeFrom" type="ST_SizeRelFromH" use="required"/>
  </xsd:complexType>
  <xsd:complexType name="CT_SizeRelV">
    <xsd:sequence>
      <xsd:element name="pctHeight" type="a:ST PositivePercentage" minOccurs="1"
maxOccurs="1"/>
    </xsd:sequence>
    <xsd:attribute name="relativeFrom" type="ST_SizeRelFromV" use="required"/>
  </xsd:complexType>
  <xsd:element name="pctPosHOffset" type="a:ST_Percentage"/>
  <xsd:element name="pctPosVOffset" type="a:ST Percentage"/>
  <xsd:element name="sizeRelH" type="CT_SizeRelH"/>
  <xsd:element name="sizeRelV" type="CT SizeRelV"/>
  <xsd:simpleType name="ST_EditId">
    <xsd:restriction base="xsd:hexBinary">
      <xsd:length value="4"/>
    </xsd:restriction>
  </xsd:simpleType>
  <xsd:attribute name="anchorId" type="ST EditId"/>
  <xsd:attribute name="editId" type="ST_EditId"/>
</xsd:schema>
```

5.12 http://schemas.microsoft.com/office/drawing/2010/picture Schema

```
<xsd:schema elementFormDefault="qualified"
targetNamespace="http://schemas.microsoft.com/office/drawing/2010/picture"
xmlns="http://schemas.microsoft.com/office/drawing/2010/picture"
xmlns:a="http://schemas.openxmlformats.org/drawingml/2006/main"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <xsd:import schemaLocation="oartbasetypes.xsd"
namespace="http://schemas.openxmlformats.org/drawingml/2006/main"/>
  <xsd:import schemaLocation="oartspstyle.xsd"
namespace="http://schemas.openxmlformats.org/drawingml/2006/main"/>
  <xsd:element name="style" type="a:CT_ShapeStyle"/>
  <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList"/>
</xsd:schema>
```

5.13 http://schemas.microsoft.com/office/drawing/2012/chart Schema

```
<xsd:schema targetNamespace="http://schemas.microsoft.com/office/drawing/2012/chart"
elementFormDefault="qualified" attributeFormDefault="unqualified"
xmlns="http://schemas.microsoft.com/office/drawing/2012/chart"
xmlns:c="http://schemas.openxmlformats.org/drawingml/2006/chart"
xmlns:a="http://schemas.openxmlformats.org/drawingml/2006/main"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" blockDefault="#all">
  <xsd:element name="pivotSource" type="c:CT_PivotSource"/>
  <xsd:element name="numFmt" type="c:CT_NumFmt"/>
  <xsd:element name="spPr" type="a:CT_ShapeProperties"/>
  <xsd:element name="layout" type="c:CT_Layout"/>
  <xsd:element name="fullRef" type="CT_FullRef"/>
  <xsd:complexType name="CT_FullRef">
    <xsd:sequence>
      <xsd:element name="sqref" type="xsd:string" minOccurs="1" maxOccurs="1"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="CT_LevelRef">
    <xsd:sequence>
      <xsd:element name="sqref" type="xsd:string" minOccurs="1" maxOccurs="1"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:element name="levelRef" type="CT_LevelRef"/>
  <xsd:complexType name="CT_FormulaRef">
    <xsd:sequence>
      <xsd:element name="sqref" type="xsd:string" minOccurs="1" maxOccurs="1"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:element name="formulaRef" type="CT_FormulaRef"/>
  <xsd:complexType name="CT_FilteredSeriesTitle">
    <xsd:sequence>
      <xsd:element name="tx" type="c:CT_Tx" minOccurs="1" maxOccurs="1"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:element name="filteredSeriesTitle" type="CT_FilteredSeriesTitle"/>
  <xsd:complexType name="CT_FilteredCategoryTitle">
    <xsd:sequence>
      <xsd:element name="cat" type="c:CT_AxDataSource" minOccurs="1" maxOccurs="1"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:element name="filteredCategoryTitle" type="CT_FilteredCategoryTitle"/>
  <xsd:complexType name="CT_FilteredBarSer">
    <xsd:sequence>
      <xsd:element name="ser" type="c:CT_BarSer" minOccurs="1" maxOccurs="1"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="CT_FilteredLineSer">
    <xsd:sequence>
      <xsd:element name="ser" type="c:CT_LineSer" minOccurs="1" maxOccurs="1"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="CT_FilteredScatterSer">
    <xsd:sequence>
      <xsd:element name="ser" type="c:CT_ScatterSer" minOccurs="1" maxOccurs="1"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="CT_FilteredAreaSer">
    <xsd:sequence>
      <xsd:element name="ser" type="c:CT_AreaSer" minOccurs="1" maxOccurs="1"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="CT_FilteredPieSer">
    <xsd:sequence>
      <xsd:element name="ser" type="c:CT_PieSer" minOccurs="1" maxOccurs="1"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="CT_FilteredBubbleSer">
    <xsd:sequence>
```

```
        <xsd:element name="ser" type="c:CT_BubbleSer" minOccurs="1" maxOccurs="1"/>
      </xsd:sequence>
    </xsd:complexType>
    <xsd:complexType name="CT_FilteredRadarSer">
      <xsd:sequence>
        <xsd:element name="ser" type="c:CT RadarSer" minOccurs="1" maxOccurs="1"/>
      </xsd:sequence>
    </xsd:complexType>
    <xsd:complexType name="CT_FilteredSurfaceSer">
      <xsd:sequence>
        <xsd:element name="ser" type="c:CT SurfaceSer" minOccurs="1" maxOccurs="1"/>
      </xsd:sequence>
    </xsd:complexType>
    <xsd:element name="filteredAreaSeries" type="CT_FilteredAreaSer"/>
    <xsd:element name="filteredBarSeries" type="CT_FilteredBarSer"/>
    <xsd:element name="filteredBubbleSeries" type="CT_FilteredBubbleSer"/>
    <xsd:element name="filteredLineSeries" type="CT FilteredLineSer"/>
    <xsd:element name="filteredPieSeries" type="CT_FilteredPieSer"/>
    <xsd:element name="filteredRadarSeries" type="CT FilteredRadarSer"/>
    <xsd:element name="filteredScatterSeries" type="CT_FilteredScatterSer"/>
    <xsd:element name="filteredSurfaceSeries" type="CT_FilteredSurfaceSer"/>
    <xsd:complexType name="CT_SeriesDataLabelsRange">
      <xsd:sequence>
        <xsd:element name="f" type="xsd:string" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="dlblRangeCache" type="c:CT_StrData" minOccurs="0" maxOccurs="1"/>
      </xsd:sequence>
    </xsd:complexType>
    <xsd:element name="datalabelsRange" type="CT_SeriesDataLabelsRange"/>
    <xsd:complexType name="CT CategoryFilterException">
      <xsd:sequence>
        <xsd:element name="sqref" type="xsd:string" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="explosion" type="c:CT_UnsignedInt" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="invertIfNegative" type="c:CT Boolean" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="bubble3D" type="c:CT_Boolean" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="marker" type="c:CT Marker" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="dLbl" type="c:CT_DLbl" minOccurs="0" maxOccurs="1"/>
      </xsd:sequence>
    </xsd:complexType>
    <xsd:complexType name="CT CategoryFilterExceptions">
      <xsd:sequence>
        <xsd:element name="categoryFilterException" type="CT CategoryFilterException"
minOccurs="1" maxOccurs="unbounded"/>
      </xsd:sequence>
    </xsd:complexType>
    <xsd:element name="categoryFilterExceptions" type="CT CategoryFilterExceptions"/>
    <xsd:complexType name="CT_DataLabelFieldTableEntry">
      <xsd:sequence>
        <xsd:element name="txfldGUID" type="xsd:string" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="f" type="xsd:string" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="dlblFieldTableCache" type="c:CT_StrData" minOccurs="0"
maxOccurs="1"/>
      </xsd:sequence>
    </xsd:complexType>
    <xsd:complexType name="CT_DataLabelFieldTable">
      <xsd:sequence>
        <xsd:element name="dlblFTEntry" type="CT DataLabelFieldTableEntry" minOccurs="0"
maxOccurs="unbounded"/>
      </xsd:sequence>
    </xsd:complexType>
    <xsd:element name="dlblFieldTable" type="CT_DataLabelFieldTable"/>
    <xsd:element name="xForSave" type="c:CT_Boolean"/>
    <xsd:element name="showDataLabelsRange" type="c:CT Boolean"/>
    <xsd:element name="tx" type="c:CT_Tx"/>
    <xsd:element name="showLeaderLines" type="c:CT Boolean"/>
    <xsd:element name="leaderLines" type="c:CT_ChartLines"/>
    <xsd:element name="autoCat" type="c:CT_Boolean"/>
    <xsd:import namespace="http://schemas.openxmlformats.org/drawingml/2006/chart"
schemaLocation="chart.xsd"/>
```

```
      <xsd:import namespace="http://schemas.openxmlformats.org/drawingml/2006/main"
schemaLocation="oartspproperties.xsd"/>
    </xsd:schema>
```

5.14 http://schemas.microsoft.com/office/drawing/2012/main Schema

```
   <xsd:schema targetNamespace="http://schemas.microsoft.com/office/drawing/2012/main"
   elementFormDefault="qualified" xmlns="http://schemas.microsoft.com/office/drawing/2012/main"
   xmlns:xsd="http://www.w3.org/2001/XMLSchema"
   xmlns:a="http://schemas.openxmlformats.org/drawingml/2006/main">
     <xsd:import namespace="http://schemas.openxmlformats.org/drawingml/2006/main"
   schemaLocation="oartbasetypes.xsd"/>
     <xsd:simpleType name="ST_TargetScreenSz">
       <xsd:restriction base="xsd:token">
         <xsd:enumeration value="544x376"/>
         <xsd:enumeration value="640x480"/>
         <xsd:enumeration value="720x512"/>
         <xsd:enumeration value="800x600"/>
         <xsd:enumeration value="1024x768"/>
         <xsd:enumeration value="1152x882"/>
         <xsd:enumeration value="1152x900"/>
         <xsd:enumeration value="1280x1024"/>
         <xsd:enumeration value="1600x1200"/>
         <xsd:enumeration value="1800x1440"/>
         <xsd:enumeration value="1920x1200"/>
       </xsd:restriction>
     </xsd:simpleType>
     <xsd:complexType name="CT_BackgroundPr">
       <xsd:attribute name="bwMode" type="a:ST_BlackWhiteMode"/>
       <xsd:attribute name="bwPure" type="a:ST_BlackWhiteMode"/>
       <xsd:attribute name="bwNormal" type="a:ST_BlackWhiteMode"/>
       <xsd:attribute name="targetScreenSize" type="ST_TargetScreenSz"/>
     </xsd:complexType>
     <xsd:element name="backgroundPr" type="CT_BackgroundPr"/>
     <xsd:complexType name="CT_NonVisualGroupProps">
       <xsd:attribute name="isLegacyGroup" type="xsd:boolean"/>
     </xsd:complexType>
     <xsd:element name="nonVisualGroupProps" type="CT_NonVisualGroupProps"/>
     <xsd:complexType name="CT_ObjectPr">
       <xsd:attribute name="objectId" type="xsd:string"/>
       <xsd:attribute name="isActiveX" type="xsd:boolean"/>
       <xsd:attribute name="linkType" type="xsd:string"/>
     </xsd:complexType>
     <xsd:element name="objectPr" type="CT_ObjectPr"/>
     <xsd:complexType name="CT_SignatureLine">
       <xsd:attribute name="isSignatureLine" type="xsd:boolean"/>
       <xsd:attribute name="id" type="a:ST_Guid"/>
       <xsd:attribute name="provId" type="a:ST_Guid"/>
       <xsd:attribute name="signingInstructionsSet" type="xsd:boolean"/>
       <xsd:attribute name="allowComments" type="xsd:boolean"/>
       <xsd:attribute name="showSignDate" type="xsd:boolean"/>
       <xsd:attribute name="suggestedSigner" type="xsd:string"/>
       <xsd:attribute name="suggestedSigner2" type="xsd:string"/>
       <xsd:attribute name="suggestedSignerEmail" type="xsd:string"/>
       <xsd:attribute name="signingInstructions" type="xsd:string"/>
       <xsd:attribute name="addlXml" type="xsd:string"/>
       <xsd:attribute name="sigProvUrl" type="xsd:string"/>
     </xsd:complexType>
     <xsd:element name="signatureLine" type="CT_SignatureLine"/>
   </xsd:schema>
```

5.15 http://schemas.microsoft.com/office/drawing/2012/chartStyle Schema

```
   <xsd:schema targetNamespace="http://schemas.microsoft.com/office/drawing/2012/chartStyle"
   elementFormDefault="qualified" attributeFormDefault="unqualified"
```

```xml
    xmlns:a="http://schemas.openxmlformats.org/drawingml/2006/main"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns="http://schemas.microsoft.com/office/drawing/2012/chartStyle">
    <xsd:import schemaLocation="oartbasetypes.xsd"
namespace="http://schemas.openxmlformats.org/drawingml/2006/main"/>
    <xsd:import schemaLocation="oartspstyle.xsd"
namespace="http://schemas.openxmlformats.org/drawingml/2006/main"/>
    <xsd:import schemaLocation="oarttx.xsd"
namespace="http://schemas.openxmlformats.org/drawingml/2006/main"/>
    <xsd:simpleType name="ST_ColorStyleMethodEnum">
      <xsd:restriction base="xsd:token">
        <xsd:enumeration value="cycle"/>
        <xsd:enumeration value="withinLinear"/>
        <xsd:enumeration value="acrossLinear"/>
        <xsd:enumeration value="withinLinearReversed"/>
        <xsd:enumeration value="acrossLinearReversed"/>
      </xsd:restriction>
    </xsd:simpleType>
    <xsd:simpleType name="ST_ColorStyleMethod">
      <xsd:union memberTypes="ST_ColorStyleMethodEnum xsd:string"/>
    </xsd:simpleType>
    <xsd:complexType name="CT_ColorStyleVariation">
      <xsd:sequence>
        <xsd:group ref="a:EG_ColorTransform" minOccurs="0" maxOccurs="unbounded"/>
      </xsd:sequence>
    </xsd:complexType>
    <xsd:simpleType name="ST_StyleReferenceModifierEnum">
      <xsd:restriction base="xsd:token">
        <xsd:enumeration value="ignoreCSTransforms"/>
      </xsd:restriction>
    </xsd:simpleType>
    <xsd:simpleType name="ST_StyleReferenceModifier">
      <xsd:union memberTypes="ST_StyleReferenceModifierEnum xsd:string"/>
    </xsd:simpleType>
    <xsd:simpleType name="ST_StyleReferenceModifierList">
      <xsd:list itemType="ST_StyleReferenceModifier"/>
    </xsd:simpleType>
    <xsd:complexType name="CT_ColorStyle">
      <xsd:sequence>
        <xsd:group ref="a:EG_ColorChoice" minOccurs="1" maxOccurs="unbounded"/>
        <xsd:element name="variation" type="CT_ColorStyleVariation" minOccurs="0"
maxOccurs="unbounded"/>
        <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
      </xsd:sequence>
      <xsd:attribute name="meth" type="ST_ColorStyleMethod" use="required"/>
      <xsd:attribute name="id" type="xsd:unsignedInt" use="optional"/>
    </xsd:complexType>
    <xsd:element name="colorStyle" type="CT_ColorStyle"/>
    <xsd:simpleType name="ST_StyleColorEnum">
      <xsd:restriction base="xsd:token">
        <xsd:enumeration value="auto"/>
      </xsd:restriction>
    </xsd:simpleType>
    <xsd:simpleType name="ST_StyleColorVal">
      <xsd:union memberTypes="xsd:unsignedInt ST_StyleColorEnum xsd:string"/>
    </xsd:simpleType>
    <xsd:complexType name="CT_StyleColor">
      <xsd:sequence>
        <xsd:group ref="a:EG_ColorTransform" minOccurs="0" maxOccurs="unbounded"/>
      </xsd:sequence>
      <xsd:attribute name="val" type="ST_StyleColorVal"/>
    </xsd:complexType>
    <xsd:complexType name="CT_StyleReference">
      <xsd:sequence>
        <xsd:group ref="a:EG_ColorChoice" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="styleClr" type="CT_StyleColor" minOccurs="0" maxOccurs="1"/>
      </xsd:sequence>
      <xsd:attribute name="idx" type="a:ST_StyleMatrixColumnIndex" use="required"/>
      <xsd:attribute name="mods" type="ST_StyleReferenceModifierList" use="optional"/>
```

```xsd
      </xsd:complexType>
      <xsd:complexType name="CT_FontReference">
        <xsd:sequence>
          <xsd:group ref="a:EG_ColorChoice" minOccurs="0" maxOccurs="1"/>
          <xsd:element name="styleClr" type="CT_StyleColor" minOccurs="0" maxOccurs="1"/>
        </xsd:sequence>
        <xsd:attribute name="idx" type="a:ST_FontCollectionIndex" use="required"/>
        <xsd:attribute name="mods" type="ST_StyleReferenceModifierList" use="optional"/>
      </xsd:complexType>
      <xsd:simpleType name="ST_StyleEntryModifierEnum">
        <xsd:restriction base="xsd:token">
          <xsd:enumeration value="allowNoFillOverride"/>
          <xsd:enumeration value="allowNoLineOverride"/>
        </xsd:restriction>
      </xsd:simpleType>
      <xsd:simpleType name="ST_StyleEntryModifier">
        <xsd:union memberTypes="ST_StyleEntryModifierEnum xsd:string"/>
      </xsd:simpleType>
      <xsd:simpleType name="ST_StyleEntryModifierList">
        <xsd:list itemType="ST_StyleEntryModifier"/>
      </xsd:simpleType>
      <xsd:simpleType name="ST_MarkerStyle">
        <xsd:restriction base="xsd:token">
          <xsd:enumeration value="circle"/>
          <xsd:enumeration value="dash"/>
          <xsd:enumeration value="diamond"/>
          <xsd:enumeration value="dot"/>
          <xsd:enumeration value="plus"/>
          <xsd:enumeration value="square"/>
          <xsd:enumeration value="star"/>
          <xsd:enumeration value="triangle"/>
          <xsd:enumeration value="x"/>
        </xsd:restriction>
      </xsd:simpleType>
      <xsd:simpleType name="ST_MarkerSize">
        <xsd:restriction base="xsd:unsignedByte">
          <xsd:minInclusive value="2"/>
          <xsd:maxInclusive value="72"/>
        </xsd:restriction>
      </xsd:simpleType>
      <xsd:complexType name="CT_MarkerLayout">
        <xsd:attribute name="symbol" type="ST_MarkerStyle" use="optional"/>
        <xsd:attribute name="size" type="ST_MarkerSize" use="optional"/>
      </xsd:complexType>
      <xsd:complexType name="CT_StyleEntry">
        <xsd:sequence>
          <xsd:element name="lnRef" type="CT_StyleReference" minOccurs="1" maxOccurs="1"/>
          <xsd:element name="lineWidthScale" type="xsd:double" minOccurs="0" maxOccurs="1"
default="1.0"/>
          <xsd:element name="fillRef" type="CT_StyleReference" minOccurs="1" maxOccurs="1"/>
          <xsd:element name="effectRef" type="CT_StyleReference" minOccurs="1" maxOccurs="1"/>
          <xsd:element name="fontRef" type="CT_FontReference" minOccurs="1" maxOccurs="1"/>
          <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="0" maxOccurs="1"/>
          <xsd:element name="defRPr" type="a:CT_TextCharacterProperties" minOccurs="0"
maxOccurs="1"/>
          <xsd:element name="bodyPr" type="a:CT_TextBodyProperties" minOccurs="0" maxOccurs="1"/>
          <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
        </xsd:sequence>
        <xsd:attribute name="mods" type="ST_StyleEntryModifierList" use="optional"/>
      </xsd:complexType>
      <xsd:complexType name="CT_ChartStyle">
        <xsd:sequence>
          <xsd:element name="axisTitle" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
          <xsd:element name="categoryAxis" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
          <xsd:element name="chartArea" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
          <xsd:element name="dataLabel" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
          <xsd:element name="dataLabelCallout" type="CT_StyleEntry" minOccurs="0" maxOccurs="1"/>
          <xsd:element name="dataPoint" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
```

```
        <xsd:element name="dataPoint3D" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="dataPointLine" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="dataPointMarker" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="dataPointMarkerLayout" type="CT_MarkerLayout" minOccurs="0"
    maxOccurs="1"/>
        <xsd:element name="dataPointWireframe" type="CT_StyleEntry" minOccurs="1"
    maxOccurs="1"/>
        <xsd:element name="dataTable" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="downBar" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="dropLine" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="errorBar" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="floor" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="gridlineMajor" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="gridlineMinor" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="hiLoLine" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="leaderLine" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="legend" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="plotArea" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="plotArea3D" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="seriesAxis" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="seriesLine" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="title" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="trendline" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="trendlineLabel" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="upBar" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="valueAxis" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="wall" type="CT_StyleEntry" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
    maxOccurs="1"/>
      </xsd:sequence>
      <xsd:attribute name="id" type="xsd:unsignedInt" use="optional"/>
    </xsd:complexType>
    <xsd:element name="chartStyle" type="CT_ChartStyle"/>
</xsd:schema>
```

5.16 http://schemas.microsoft.com/office/drawing/2010/diagram Schema

```
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:o="http://oxsdSchemaUri"
xmlns:a="http://schemas.openxmlformats.org/drawingml/2006/main"
xmlns="http://schemas.microsoft.com/office/drawing/2010/diagram"
targetNamespace="http://schemas.microsoft.com/office/drawing/2010/diagram"
elementFormDefault="qualified" attributeFormDefault="unqualified">
  <xsd:import namespace="http://schemas.openxmlformats.org/drawingml/2006/main"
schemaLocation="oartbasetypes.xsd"/>
  <xsd:import namespace="http://schemas.openxmlformats.org/drawingml/2006/main"
schemaLocation="oartdocprop.xsd"/>
  <xsd:element name="cNvPr" type="a:CT_NonVisualDrawingProps"/>
  <xsd:complexType name="CT_Boolean">
    <xsd:attribute name="val" type="xsd:boolean" use="optional" default="false"/>
  </xsd:complexType>
  <xsd:element name="recolorImg" type="CT_Boolean"/>
</xsd:schema>
```

5.17 http://schemas.microsoft.com/office/thememl/2012/main Schema

```
<xsd:schema targetNamespace="http://schemas.microsoft.com/office/thememl/2012/main"
elementFormDefault="qualified" xmlns="http://schemas.microsoft.com/office/thememl/2012/main"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:r="http://schemas.openxmlformats.org/officeDocument/2006/relationships"
xmlns:a="http://schemas.openxmlformats.org/drawingml/2006/main">
  <xsd:import namespace="http://schemas.openxmlformats.org/drawingml/2006/main"
schemaLocation="oartbasetypes.xsd"/>
  <xsd:import namespace="http://schemas.openxmlformats.org/drawingml/2006/main"
schemaLocation="oartbasestylesheet.xsd"/>
```

```
  <xsd:import namespace="http://schemas.openxmlformats.org/officeDocument/2006/relationships"
schemaLocation="orel.xsd"/>
  <xsd:complexType name="CT_ThemeFamily">
    <xsd:sequence>
      <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
    </xsd:sequence>
    <xsd:attribute name="name" type="xsd:string" use="required"/>
    <xsd:attribute name="id" type="a:ST_Guid" use="required"/>
    <xsd:attribute name="vid" type="a:ST_Guid" use="required"/>
  </xsd:complexType>
  <xsd:element name="themeFamily" type="CT_ThemeFamily"/>
  <xsd:attribute name="id" type="a:ST_Guid"/>
</xsd:schema>
```

5.18 http://schemas.microsoft.com/office/word/2012/wordprocessingDrawing Schema

```
<xsd:schema
targetNamespace="http://schemas.microsoft.com/office/word/2012/wordprocessingDrawing"
elementFormDefault="qualified"
xmlns:r="http://schemas.openxmlformats.org/officeDocument/2006/relationships"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns="http://schemas.microsoft.com/office/word/2012/wordprocessingDrawing"
xmlns:a="http://schemas.openxmlformats.org/drawingml/2006/main">
  <xsd:complexType name="CT_WebVideoPr">
    <xsd:attribute name="embeddedHtml" type="xsd:string" use="optional" default=""/>
    <xsd:attribute name="h" type="xsd:unsignedInt" use="optional" default="0"/>
    <xsd:attribute name="w" type="xsd:unsignedInt" use="optional" default="0"/>
  </xsd:complexType>
  <xsd:element name="webVideoPr" type="CT_WebVideoPr"/>
  <xsd:import namespace="http://schemas.openxmlformats.org/drawingml/2006/main"
schemaLocation="oartbasetypes.xsd"/>
  <xsd:import namespace="http://schemas.openxmlformats.org/officeDocument/2006/relationships"
schemaLocation="orel.xsd"/>
</xsd:schema>
```

5.19 http://schemas.microsoft.com/office/powerpoint/2014/inkAction Schema

```
<xsd:schema targetNamespace="http://schemas.microsoft.com/office/powerpoint/2014/inkAction"
elementFormDefault="qualified"
xmlns="http://schemas.microsoft.com/office/powerpoint/2014/inkAction"
xmlns:iact="http://schemas.microsoft.com/office/powerpoint/2014/inkAction"
xmlns:inkml="http://www.w3.org/2003/InkML" xmlns:xml="http://www.w3.org/XML/1998/namespace"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <xsd:import id="inkml" namespace="http://www.w3.org/2003/InkML"
schemaLocation="inkml.xsd"/>
  <xsd:simpleType name="ST_DataNameReserved">
    <xsd:restriction base="xsd:string">
      <xsd:enumeration value="stroke"/>
      <xsd:enumeration value="path"/>
      <xsd:enumeration value="target"/>
    </xsd:restriction>
  </xsd:simpleType>
  <xsd:simpleType name="ST_DataNameUser">
    <xsd:restriction base="xsd:string"/>
  </xsd:simpleType>
  <xsd:simpleType name="ST_DataName">
    <xsd:union memberTypes="ST_DataNameReserved ST_DataNameUser"/>
  </xsd:simpleType>
  <xsd:simpleType name="ST_PropertyNameReserved">
    <xsd:restriction base="xsd:string">
      <xsd:enumeration value="dataType"/>
      <xsd:enumeration value="style"/>
    </xsd:restriction>
```

```
    </xsd:simpleType>
    <xsd:simpleType name="ST_PropertyNameUser">
      <xsd:restriction base="xsd:string"/>
    </xsd:simpleType>
    <xsd:simpleType name="ST_PropertyName">
      <xsd:union memberTypes="ST PropertyNameReserved ST PropertyNameUser"/>
    </xsd:simpleType>
    <xsd:simpleType name="ST_PropertyValueReserved">
      <xsd:restriction base="xsd:string">
        <xsd:enumeration value="ink"/>
        <xsd:enumeration value="pointEraser"/>
        <xsd:enumeration value="strokeEraser"/>
        <xsd:enumeration value="instant"/>
      </xsd:restriction>
    </xsd:simpleType>
    <xsd:simpleType name="ST_PropertyValueUser">
      <xsd:restriction base="xsd:string"/>
    </xsd:simpleType>
    <xsd:simpleType name="ST PropertyValue">
      <xsd:union memberTypes="ST_PropertyValueReserved ST_PropertyValueUser"/>
    </xsd:simpleType>
    <xsd:simpleType name="ST_ActionTypeReserved">
      <xsd:restriction base="xsd:string">
        <xsd:enumeration value="add"/>
        <xsd:enumeration value="remove"/>
        <xsd:enumeration value="transform"/>
      </xsd:restriction>
    </xsd:simpleType>
    <xsd:simpleType name="ST ActionTypeUser">
      <xsd:restriction base="xsd:string"/>
    </xsd:simpleType>
    <xsd:simpleType name="ST_ActionType">
      <xsd:union memberTypes="ST_ActionTypeReserved ST_ActionTypeUser"/>
    </xsd:simpleType>
    <xsd:complexType name="CT_ActionData">
      <xsd:sequence>
        <xsd:element name="transform" type="inkml:CT_Matrix" minOccurs="0" maxOccurs="1"/>
        <xsd:choice minOccurs="0" maxOccurs="unbounded">
          <xsd:element ref="inkml:trace"/>
          <xsd:element ref="inkml:traceView"/>
        </xsd:choice>
      </xsd:sequence>
      <xsd:attribute ref="xml:id" use="optional" default=""/>
      <xsd:attribute name="name" type="ST_DataName" use="optional" default="stroke"/>
      <xsd:attribute name="ref" type="xsd:anyURI" use="optional" default=""/>
    </xsd:complexType>
    <xsd:complexType name="CT_ActionDataGroup">
      <xsd:sequence>
        <xsd:element name="actionData" type="CT_ActionData" minOccurs="1"
maxOccurs="unbounded"/>
      </xsd:sequence>
      <xsd:attribute ref="xml:id" use="optional" default=""/>
      <xsd:attribute name="name" type="ST_DataName" use="optional" default="stroke"/>
    </xsd:complexType>
    <xsd:complexType name="CT_ActionProperty">
      <xsd:attribute name="name" type="ST_PropertyName" use="required"/>
      <xsd:attribute name="value" type="ST PropertyValue" use="optional" default="ink"/>
    </xsd:complexType>
    <xsd:complexType name="CT Action">
      <xsd:sequence>
        <xsd:element name="property" type="CT_ActionProperty" minOccurs="0"
maxOccurs="unbounded"/>
        <xsd:choice minOccurs="0" maxOccurs="unbounded">
          <xsd:element name="actionData" type="CT_ActionData"/>
          <xsd:element name="actionDataGroup" type="CT ActionDataGroup"/>
        </xsd:choice>
      </xsd:sequence>
      <xsd:attribute ref="xml:id" use="optional" default=""/>
      <xsd:attribute name="type" type="ST_ActionType" use="required"/>
```

```
      <xsd:attribute name="startTime" type="xsd:decimal" use="required"/>
    </xsd:complexType>
    <xsd:complexType name="CT_ActionGroup">
      <xsd:sequence>
        <xsd:element name="action" type="CT_Action" minOccurs="1" maxOccurs="unbounded"/>
      </xsd:sequence>
      <xsd:attribute ref="xml:id" use="optional" default=""/>
      <xsd:attribute name="type" type="ST_ActionType" use="required"/>
      <xsd:attribute name="startTime" type="xsd:decimal" use="required"/>
    </xsd:complexType>
    <xsd:complexType name="CT_Actions">
      <xsd:sequence>
        <xsd:element ref="inkml:definitions" minOccurs="0" maxOccurs="1"/>
        <xsd:choice minOccurs="0" maxOccurs="unbounded">
          <xsd:element name="actionGroup" type="CT_ActionGroup"/>
          <xsd:element name="action" type="CT_Action"/>
        </xsd:choice>
      </xsd:sequence>
      <xsd:attribute ref="xml:id" use="optional" default=""/>
      <xsd:attribute name="lengthUnit" type="inkml:ST_StandardLengthUnits" use="required"/>
      <xsd:attribute name="timeUnit" type="inkml:ST_StandardTimeUnits" use="required"/>
    </xsd:complexType>
    <xsd:element name="actions" type="CT_Actions"/>
</xsd:schema>
```

5.20 http://schemas.microsoft.com/office/drawing/2014/chart Schema

```
<xsd:schema targetNamespace="http://schemas.microsoft.com/office/drawing/2014/chart"
elementFormDefault="qualified" attributeFormDefault="unqualified"
xmlns="http://schemas.microsoft.com/office/drawing/2014/chart"
xmlns:a="http://schemas.openxmlformats.org/drawingml/2006/main"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:c="http://schemas.openxmlformats.org/drawingml/2006/chart" xmlns:blockDefault="#all">
  <xsd:complexType name="CT_ChartUniqueID">
    <xsd:attribute name="val" type="xsd:string" use="required"/>
  </xsd:complexType>
  <xsd:complexType name="CT_ChartDataPointUniqueIDMapEntry">
    <xsd:sequence>
      <xsd:element name="ptidx" type="xsd:unsignedInt" minOccurs="1" maxOccurs="1"/>
      <xsd:element name="uniqueID" type="CT_ChartUniqueID" minOccurs="1" maxOccurs="1"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="CT_ChartDataPointUniqueIDMap">
    <xsd:sequence>
      <xsd:element name="ptentry" type="CT_ChartDataPointUniqueIDMapEntry" minOccurs="0"
maxOccurs="unbounded"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:element name="datapointuniqueidmap" type="CT_ChartDataPointUniqueIDMap"/>
  <xsd:complexType name="CT_BooleanFalse">
    <xsd:attribute name="val" type="xsd:boolean" use="optional" default="false"/>
  </xsd:complexType>
  <xsd:element name="spPr" type="a:CT_ShapeProperties"/>
  <xsd:element name="explosion" type="c:CT_UnsignedInt"/>
  <xsd:element name="invertIfNegative" type="c:CT_Boolean"/>
  <xsd:element name="bubble3D" type="c:CT_Boolean"/>
  <xsd:element name="marker" type="c:CT_Marker"/>
  <xsd:element name="dLbl" type="c:CT_DLbl"/>
  <xsd:complexType name="CT_CategoryFilterException">
    <xsd:sequence>
      <xsd:element name="uniqueId" type="CT_ChartUniqueID" minOccurs="1" maxOccurs="1"/>
      <xsd:element ref="spPr" minOccurs="0" maxOccurs="1"/>
      <xsd:element ref="explosion" minOccurs="0" maxOccurs="1"/>
      <xsd:element ref="invertIfNegative" minOccurs="0" maxOccurs="1"/>
      <xsd:element ref="bubble3D" minOccurs="0" maxOccurs="1"/>
      <xsd:element ref="marker" minOccurs="0" maxOccurs="1"/>
      <xsd:element ref="dLbl" minOccurs="0" maxOccurs="1"/>
```

```xsd
        </xsd:sequence>
      </xsd:complexType>
      <xsd:complexType name="CT_CategoryFilterExceptions">
        <xsd:sequence>
          <xsd:element name="categoryFilterException" type="CT_CategoryFilterException"
minOccurs="1" maxOccurs="unbounded"/>
        </xsd:sequence>
      </xsd:complexType>
      <xsd:element name="categoryFilterExceptions" type="CT_CategoryFilterExceptions"/>
      <xsd:complexType name="CT_NumFilteredLiteralCache">
        <xsd:sequence>
          <xsd:element name="numCache" type="c:CT_NumData" minOccurs="1" maxOccurs="1"/>
        </xsd:sequence>
      </xsd:complexType>
      <xsd:complexType name="CT_StrFilteredLiteralCache">
        <xsd:sequence>
          <xsd:element name="strCache" type="c:CT_StrData" minOccurs="1" maxOccurs="1"/>
        </xsd:sequence>
      </xsd:complexType>
      <xsd:complexType name="CT_MultiLvlStrFilteredLiteralCache">
        <xsd:sequence>
          <xsd:element name="multiLvlStrCache" type="c:CT_MultiLvlStrData" minOccurs="1"
maxOccurs="1"/>
        </xsd:sequence>
      </xsd:complexType>
      <xsd:complexType name="CT_LiteralDataChart">
        <xsd:attribute name="val" type="xsd:boolean" use="required"/>
      </xsd:complexType>
      <xsd:complexType name="CT_PivotOptions16">
        <xsd:sequence>
          <xsd:element name="showExpandCollapseFieldButtons" type="CT_BooleanFalse" minOccurs="0"
maxOccurs="1"/>
        </xsd:sequence>
      </xsd:complexType>
      <xsd:element name="pivotOptions16" type="CT_PivotOptions16"/>
      <xsd:import namespace="http://schemas.openxmlformats.org/drawingml/2006/chart"
schemaLocation="chart.xsd"/>
      <xsd:import namespace="http://schemas.openxmlformats.org/drawingml/2006/main"
schemaLocation="oartspproperties.xsd"/>
    </xsd:schema>
```

5.21 http://schemas.microsoft.com/office/drawing/2014/chart/ac Schema

```xsd
    <xsd:schema targetNamespace="http://schemas.microsoft.com/office/drawing/2014/chart/ac"
    elementFormDefault="qualified" attributeFormDefault="unqualified"
    xmlns="http://schemas.microsoft.com/office/drawing/2014/chart/ac"
    xmlns:c="http://schemas.openxmlformats.org/drawingml/2006/chart"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema" blockDefault="#all">
      <xsd:import namespace="http://schemas.openxmlformats.org/drawingml/2006/chart"
    schemaLocation="chart.xsd"/>
      <xsd:element name="multiLvlStrLit" type="c:CT_MultiLvlStrData"/>
    </xsd:schema>
```

5.22 http://schemas.microsoft.com/office/drawing/2014/chartex Schema

```xsd
    <xsd:schema targetNamespace="http://schemas.microsoft.com/office/drawing/2014/chartex"
    elementFormDefault="qualified" attributeFormDefault="unqualified"
    xmlns="http://schemas.microsoft.com/office/drawing/2014/chartex"
    xmlns:a="http://schemas.openxmlformats.org/drawingml/2006/main"
    xmlns:r="http://schemas.openxmlformats.org/officeDocument/2006/relationships"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema">
      <xsd:import namespace="http://schemas.openxmlformats.org/drawingml/2006/main"
    schemaLocation="oartspproperties.xsd"/>
      <xsd:import namespace="http://schemas.openxmlformats.org/drawingml/2006/main"
    schemaLocation="oarttx.xsd"/>
```

```xml
      <xsd:import namespace="http://schemas.openxmlformats.org/drawingml/2006/main"
schemaLocation="oartspeffects.xsd"/>
      <xsd:import namespace="http://schemas.openxmlformats.org/drawingml/2006/main"
schemaLocation="oartstylesheet.xsd"/>
      <xsd:import namespace="http://schemas.openxmlformats.org/officeDocument/2006/relationships"
schemaLocation="orel.xsd"/>
      <xsd:complexType name="CT_Extension">
        <xsd:sequence>
          <xsd:any processContents="lax"/>
        </xsd:sequence>
        <xsd:attribute name="uri" type="xsd:token"/>
      </xsd:complexType>
      <xsd:complexType name="CT_ExtensionList">
        <xsd:sequence>
          <xsd:element name="ext" type="CT_Extension" minOccurs="0" maxOccurs="unbounded"/>
        </xsd:sequence>
      </xsd:complexType>
      <xsd:simpleType name="ST_DoubleOrAutomatic">
        <xsd:union memberTypes="xsd:double">
          <xsd:simpleType>
            <xsd:restriction base="xsd:string">
              <xsd:enumeration value="auto"/>
            </xsd:restriction>
          </xsd:simpleType>
        </xsd:union>
      </xsd:simpleType>
      <xsd:complexType name="CT_NumberFormat">
        <xsd:attribute name="formatCode" type="xsd:string" use="required"/>
        <xsd:attribute name="sourceLinked" type="xsd:boolean" use="optional"/>
      </xsd:complexType>
      <xsd:complexType name="CT_RelId">
        <xsd:attribute ref="r:id" use="required"/>
      </xsd:complexType>
      <xsd:complexType name="CT_ValueColors">
        <xsd:sequence>
          <xsd:element name="minColor" type="a:CT_SolidColorFillProperties" minOccurs="0"
maxOccurs="1"/>
          <xsd:element name="midColor" type="a:CT_SolidColorFillProperties" minOccurs="0"
maxOccurs="1"/>
          <xsd:element name="maxColor" type="a:CT_SolidColorFillProperties" minOccurs="0"
maxOccurs="1"/>
        </xsd:sequence>
      </xsd:complexType>
      <xsd:complexType name="CT_ExternalData">
        <xsd:attribute ref="r:id" use="required"/>
        <xsd:attribute name="autoUpdate" type="xsd:boolean" use="optional"/>
      </xsd:complexType>
      <xsd:simpleType name="ST_FormulaDirection">
        <xsd:restriction base="xsd:string">
          <xsd:enumeration value="col"/>
          <xsd:enumeration value="row"/>
        </xsd:restriction>
      </xsd:simpleType>
      <xsd:complexType name="CT_Formula">
        <xsd:simpleContent>
          <xsd:extension base="xsd:string">
            <xsd:attribute name="dir" type="ST_FormulaDirection" use="optional" default="col"/>
          </xsd:extension>
        </xsd:simpleContent>
      </xsd:complexType>
      <xsd:simpleType name="ST_DataId">
        <xsd:restriction base="xsd:unsignedInt"/>
      </xsd:simpleType>
      <xsd:complexType name="CT_DataId">
        <xsd:attribute name="val" type="ST_DataId" use="required"/>
      </xsd:complexType>
      <xsd:complexType name="CT_StringValue">
        <xsd:simpleContent>
          <xsd:extension base="xsd:string">
```

```xsd
          <xsd:attribute name="idx" type="xsd:unsignedInt" use="required"/>
        </xsd:extension>
      </xsd:simpleContent>
    </xsd:complexType>
    <xsd:complexType name="CT_StringLevel">
      <xsd:sequence>
        <xsd:element name="pt" type="CT_StringValue" minOccurs="0" maxOccurs="unbounded"/>
      </xsd:sequence>
      <xsd:attribute name="ptCount" type="xsd:unsignedInt" use="required"/>
      <xsd:attribute name="name" type="xsd:string" use="optional"/>
    </xsd:complexType>
    <xsd:simpleType name="ST_StringDimensionType">
      <xsd:restriction base="xsd:string">
        <xsd:enumeration value="cat"/>
        <xsd:enumeration value="colorStr"/>
      </xsd:restriction>
    </xsd:simpleType>
    <xsd:complexType name="CT_StringDimension">
      <xsd:choice minOccurs="1" maxOccurs="1">
        <xsd:sequence>
          <xsd:element name="f" type="CT_Formula" minOccurs="1" maxOccurs="1"/>
          <xsd:element name="nf" type="CT_Formula" minOccurs="0" maxOccurs="1"/>
          <xsd:element name="lvl" type="CT_StringLevel" minOccurs="0" maxOccurs="unbounded"/>
        </xsd:sequence>
        <xsd:element name="lvl" type="CT_StringLevel" minOccurs="1" maxOccurs="unbounded"/>
      </xsd:choice>
      <xsd:attribute name="type" type="ST_StringDimensionType" use="required"/>
    </xsd:complexType>
    <xsd:complexType name="CT_NumericValue">
      <xsd:simpleContent>
        <xsd:extension base="xsd:double">
          <xsd:attribute name="idx" type="xsd:unsignedInt" use="required"/>
        </xsd:extension>
      </xsd:simpleContent>
    </xsd:complexType>
    <xsd:complexType name="CT_NumericLevel">
      <xsd:sequence>
        <xsd:element name="pt" type="CT_NumericValue" minOccurs="0" maxOccurs="unbounded"/>
      </xsd:sequence>
      <xsd:attribute name="ptCount" type="xsd:unsignedInt" use="required"/>
      <xsd:attribute name="formatCode" type="xsd:string" use="optional"/>
      <xsd:attribute name="name" type="xsd:string" use="optional"/>
    </xsd:complexType>
    <xsd:simpleType name="ST_NumericDimensionType">
      <xsd:restriction base="xsd:string">
        <xsd:enumeration value="val"/>
        <xsd:enumeration value="x"/>
        <xsd:enumeration value="y"/>
        <xsd:enumeration value="size"/>
        <xsd:enumeration value="colorVal"/>
      </xsd:restriction>
    </xsd:simpleType>
    <xsd:complexType name="CT_NumericDimension">
      <xsd:choice minOccurs="1" maxOccurs="1">
        <xsd:sequence>
          <xsd:element name="f" type="CT_Formula" minOccurs="1" maxOccurs="1"/>
          <xsd:element name="nf" type="CT_Formula" minOccurs="0" maxOccurs="1"/>
          <xsd:element name="lvl" type="CT_NumericLevel" minOccurs="0" maxOccurs="unbounded"/>
        </xsd:sequence>
        <xsd:element name="lvl" type="CT_NumericLevel" minOccurs="1" maxOccurs="unbounded"/>
      </xsd:choice>
      <xsd:attribute name="type" type="ST_NumericDimensionType" use="required"/>
    </xsd:complexType>
    <xsd:complexType name="CT_Data">
      <xsd:sequence>
        <xsd:choice minOccurs="1" maxOccurs="unbounded">
          <xsd:element name="numDim" type="CT_NumericDimension" minOccurs="1" maxOccurs="1"/>
          <xsd:element name="strDim" type="CT_StringDimension" minOccurs="1" maxOccurs="1"/>
        </xsd:choice>
```

```xsd
            <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
        </xsd:sequence>
        <xsd:attribute name="id" type="ST_DataId" use="required"/>
    </xsd:complexType>
    <xsd:complexType name="CT_ChartData">
        <xsd:sequence>
            <xsd:element name="externalData" type="CT_ExternalData" minOccurs="0" maxOccurs="1"/>
            <xsd:element name="data" type="CT_Data" minOccurs="1" maxOccurs="unbounded"/>
            <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
        </xsd:sequence>
    </xsd:complexType>
    <xsd:complexType name="CT_TextData">
        <xsd:choice minOccurs="1" maxOccurs="1">
            <xsd:sequence>
                <xsd:element name="f" type="CT_Formula" minOccurs="1" maxOccurs="1"/>
                <xsd:element name="v" type="xsd:string" minOccurs="0" maxOccurs="1"/>
            </xsd:sequence>
            <xsd:element name="v" type="xsd:string" minOccurs="1" maxOccurs="1"/>
        </xsd:choice>
    </xsd:complexType>
    <xsd:complexType name="CT_Text">
        <xsd:sequence>
            <xsd:choice minOccurs="1" maxOccurs="1">
                <xsd:element name="txData" type="CT_TextData" minOccurs="1" maxOccurs="1"/>
                <xsd:element name="rich" type="a:CT_TextBody" minOccurs="1" maxOccurs="1"/>
            </xsd:choice>
        </xsd:sequence>
    </xsd:complexType>
    <xsd:simpleType name="ST_SidePos">
        <xsd:restriction base="xsd:string">
            <xsd:enumeration value="l"/>
            <xsd:enumeration value="t"/>
            <xsd:enumeration value="r"/>
            <xsd:enumeration value="b"/>
        </xsd:restriction>
    </xsd:simpleType>
    <xsd:simpleType name="ST_PosAlign">
        <xsd:restriction base="xsd:string">
            <xsd:enumeration value="min"/>
            <xsd:enumeration value="ctr"/>
            <xsd:enumeration value="max"/>
        </xsd:restriction>
    </xsd:simpleType>
    <xsd:complexType name="CT_ChartTitle">
        <xsd:sequence>
            <xsd:element name="tx" type="CT_Text" minOccurs="0" maxOccurs="1"/>
            <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="0" maxOccurs="1"/>
            <xsd:element name="txPr" type="a:CT_TextBody" minOccurs="0" maxOccurs="1"/>
            <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
        </xsd:sequence>
        <xsd:attribute name="pos" type="ST_SidePos" use="optional" default="t"/>
        <xsd:attribute name="align" type="ST_PosAlign" use="optional" default="ctr"/>
        <xsd:attribute name="overlay" type="xsd:boolean" use="optional" default="0"/>
    </xsd:complexType>
    <xsd:simpleType name="ST_AxisId">
        <xsd:restriction base="xsd:unsignedInt"/>
    </xsd:simpleType>
    <xsd:simpleType name="ST_GapWidthRatio">
        <xsd:union>
            <xsd:simpleType>
                <xsd:restriction base="xsd:double">
                    <xsd:minInclusive value="0"/>
                </xsd:restriction>
            </xsd:simpleType>
            <xsd:simpleType>
                <xsd:restriction base="xsd:string">
                    <xsd:enumeration value="auto"/>
                </xsd:restriction>
            </xsd:simpleType>
```

```
        </xsd:union>
      </xsd:simpleType>
      <xsd:complexType name="CT_CategoryAxisScaling">
        <xsd:attribute name="gapWidth" type="ST_GapWidthRatio" use="optional"/>
      </xsd:complexType>
      <xsd:simpleType name="ST_ValueAxisUnit">
        <xsd:union>
          <xsd:simpleType>
            <xsd:restriction base="xsd:double">
              <xsd:minExclusive value="0"/>
            </xsd:restriction>
          </xsd:simpleType>
          <xsd:simpleType>
            <xsd:restriction base="xsd:string">
              <xsd:enumeration value="auto"/>
            </xsd:restriction>
          </xsd:simpleType>
        </xsd:union>
      </xsd:simpleType>
      <xsd:complexType name="CT_ValueAxisScaling">
        <xsd:attribute name="max" type="ST_DoubleOrAutomatic" use="optional"/>
        <xsd:attribute name="min" type="ST_DoubleOrAutomatic" use="optional"/>
        <xsd:attribute name="majorUnit" type="ST_ValueAxisUnit" use="optional"/>
        <xsd:attribute name="minorUnit" type="ST_ValueAxisUnit" use="optional"/>
      </xsd:complexType>
      <xsd:complexType name="CT_AxisTitle">
        <xsd:sequence>
          <xsd:element name="tx" type="CT_Text" minOccurs="0" maxOccurs="1"/>
          <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="0" maxOccurs="1"/>
          <xsd:element name="txPr" type="a:CT_TextBody" minOccurs="0" maxOccurs="1"/>
          <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
        </xsd:sequence>
      </xsd:complexType>
      <xsd:complexType name="CT_AxisUnitsLabel">
        <xsd:sequence>
          <xsd:element name="tx" type="CT_Text" minOccurs="0" maxOccurs="1"/>
          <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="0" maxOccurs="1"/>
          <xsd:element name="txPr" type="a:CT_TextBody" minOccurs="0" maxOccurs="1"/>
          <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
        </xsd:sequence>
      </xsd:complexType>
      <xsd:simpleType name="ST_AxisUnit">
        <xsd:restriction base="xsd:string">
          <xsd:enumeration value="hundreds"/>
          <xsd:enumeration value="thousands"/>
          <xsd:enumeration value="tenThousands"/>
          <xsd:enumeration value="hundredThousands"/>
          <xsd:enumeration value="millions"/>
          <xsd:enumeration value="tenMillions"/>
          <xsd:enumeration value="hundredMillions"/>
          <xsd:enumeration value="billions"/>
          <xsd:enumeration value="trillions"/>
          <xsd:enumeration value="percentage"/>
        </xsd:restriction>
      </xsd:simpleType>
      <xsd:complexType name="CT_AxisUnits">
        <xsd:sequence>
          <xsd:element name="unitsLabel" type="CT_AxisUnitsLabel" minOccurs="0" maxOccurs="1"/>
          <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
        </xsd:sequence>
        <xsd:attribute name="unit" type="ST_AxisUnit" use="optional"/>
      </xsd:complexType>
      <xsd:complexType name="CT_Gridlines">
        <xsd:sequence>
          <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="0" maxOccurs="1"/>
          <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
        </xsd:sequence>
      </xsd:complexType>
      <xsd:simpleType name="ST_TickMarksType">
```

```xsd
      <xsd:restriction base="xsd:string">
        <xsd:enumeration value="in"/>
        <xsd:enumeration value="out"/>
        <xsd:enumeration value="cross"/>
        <xsd:enumeration value="none"/>
      </xsd:restriction>
    </xsd:simpleType>
    <xsd:complexType name="CT_TickMarks">
      <xsd:sequence>
        <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
      </xsd:sequence>
      <xsd:attribute name="type" type="ST_TickMarksType" use="optional"/>
    </xsd:complexType>
    <xsd:complexType name="CT_TickLabels">
      <xsd:sequence>
        <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
      </xsd:sequence>
    </xsd:complexType>
    <xsd:complexType name="CT_Axis">
      <xsd:sequence>
        <xsd:choice minOccurs="1" maxOccurs="1">
          <xsd:element name="catScaling" type="CT_CategoryAxisScaling"/>
          <xsd:element name="valScaling" type="CT_ValueAxisScaling"/>
        </xsd:choice>
        <xsd:element name="title" type="CT_AxisTitle" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="units" type="CT_AxisUnits" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="majorGridlines" type="CT_Gridlines" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="minorGridlines" type="CT_Gridlines" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="majorTickMarks" type="CT_TickMarks" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="minorTickMarks" type="CT_TickMarks" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="tickLabels" type="CT_TickLabels" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="numFmt" type="CT_NumberFormat" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="txPr" type="a:CT_TextBody" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
      </xsd:sequence>
      <xsd:attribute name="id" type="ST_AxisId" use="required"/>
      <xsd:attribute name="hidden" type="xsd:boolean" use="optional" default="0"/>
    </xsd:complexType>
    <xsd:simpleType name="ST_SeriesLayout">
      <xsd:restriction base="xsd:string">
        <xsd:enumeration value="boxWhisker"/>
        <xsd:enumeration value="clusteredColumn"/>
        <xsd:enumeration value="funnel"/>
        <xsd:enumeration value="paretoLine"/>
        <xsd:enumeration value="regionMap"/>
        <xsd:enumeration value="sunburst"/>
        <xsd:enumeration value="treemap"/>
        <xsd:enumeration value="waterfall"/>
      </xsd:restriction>
    </xsd:simpleType>
    <xsd:simpleType name="ST_ParentLabelLayout">
      <xsd:restriction base="xsd:string">
        <xsd:enumeration value="none"/>
        <xsd:enumeration value="banner"/>
        <xsd:enumeration value="overlapping"/>
      </xsd:restriction>
    </xsd:simpleType>
    <xsd:complexType name="CT_ParentLabelLayout">
      <xsd:attribute name="val" type="ST_ParentLabelLayout" use="required"/>
    </xsd:complexType>
    <xsd:simpleType name="ST_RegionLabelLayout">
      <xsd:restriction base="xsd:string">
        <xsd:enumeration value="none"/>
        <xsd:enumeration value="bestFitOnly"/>
        <xsd:enumeration value="showAll"/>
      </xsd:restriction>
    </xsd:simpleType>
    <xsd:complexType name="CT_RegionLabelLayout">
```

```
        <xsd:attribute name="val" type="ST_RegionLabelLayout" use="required"/>
      </xsd:complexType>
      <xsd:complexType name="CT_SeriesElementVisibilities">
        <xsd:attribute name="connectorLines" type="xsd:boolean" use="optional"/>
        <xsd:attribute name="meanLine" type="xsd:boolean" use="optional"/>
        <xsd:attribute name="meanMarker" type="xsd:boolean" use="optional"/>
        <xsd:attribute name="nonoutliers" type="xsd:boolean" use="optional"/>
        <xsd:attribute name="outliers" type="xsd:boolean" use="optional"/>
      </xsd:complexType>
      <xsd:simpleType name="ST_IntervalClosedSide">
        <xsd:restriction base="xsd:string">
          <xsd:enumeration value="l"/>
          <xsd:enumeration value="r"/>
        </xsd:restriction>
      </xsd:simpleType>
      <xsd:complexType name="CT_Aggregation"/>
      <xsd:complexType name="CT_Binning">
        <xsd:choice minOccurs="0" maxOccurs="1">
          <xsd:element name="binSize" type="xsd:double"/>
          <xsd:element name="binCount" type="xsd:unsignedInt"/>
        </xsd:choice>
        <xsd:attribute name="intervalClosed" type="ST_IntervalClosedSide" use="optional"/>
        <xsd:attribute name="underflow" type="ST_DoubleOrAutomatic" use="optional"/>
        <xsd:attribute name="overflow" type="ST_DoubleOrAutomatic" use="optional"/>
      </xsd:complexType>
      <xsd:simpleType name="ST_EntityType">
        <xsd:restriction base="xsd:string">
          <xsd:enumeration value="Address"/>
          <xsd:enumeration value="AdminDistrict"/>
          <xsd:enumeration value="AdminDistrict2"/>
          <xsd:enumeration value="AdminDistrict3"/>
          <xsd:enumeration value="Continent"/>
          <xsd:enumeration value="CountryRegion"/>
          <xsd:enumeration value="Locality"/>
          <xsd:enumeration value="Ocean"/>
          <xsd:enumeration value="Planet"/>
          <xsd:enumeration value="PostalCode"/>
          <xsd:enumeration value="Region"/>
          <xsd:enumeration value="Unsupported"/>
        </xsd:restriction>
      </xsd:simpleType>
      <xsd:complexType name="CT_GeoLocationQuery">
        <xsd:attribute name="countryRegion" type="xsd:string" use="optional"/>
        <xsd:attribute name="adminDistrict1" type="xsd:string" use="optional"/>
        <xsd:attribute name="adminDistrict2" type="xsd:string" use="optional"/>
        <xsd:attribute name="postalCode" type="xsd:string" use="optional"/>
        <xsd:attribute name="entityType" type="ST_EntityType" use="required"/>
      </xsd:complexType>
      <xsd:complexType name="CT_Address">
        <xsd:attribute name="address1" type="xsd:string" use="optional"/>
        <xsd:attribute name="countryRegion" type="xsd:string" use="optional"/>
        <xsd:attribute name="adminDistrict1" type="xsd:string" use="optional"/>
        <xsd:attribute name="adminDistrict2" type="xsd:string" use="optional"/>
        <xsd:attribute name="postalCode" type="xsd:string" use="optional"/>
        <xsd:attribute name="locality" type="xsd:string" use="optional"/>
        <xsd:attribute name="isoCountryCode" type="xsd:string" use="optional"/>
      </xsd:complexType>
      <xsd:complexType name="CT_GeoLocation">
        <xsd:sequence>
          <xsd:element name="address" type="CT_Address" minOccurs="0" maxOccurs="1"/>
        </xsd:sequence>
        <xsd:attribute name="latitude" type="xsd:double" use="optional"/>
        <xsd:attribute name="longitude" type="xsd:double" use="optional"/>
        <xsd:attribute name="entityName" type="xsd:string" use="required"/>
        <xsd:attribute name="entityType" type="ST_EntityType" use="required"/>
      </xsd:complexType>
      <xsd:complexType name="CT_GeoLocations">
        <xsd:sequence>
          <xsd:element name="geoLocation" type="CT_GeoLocation" minOccurs="0" maxOccurs="1"/>
```

```
      </xsd:sequence>
    </xsd:complexType>
    <xsd:complexType name="CT_GeoLocationQueryResult">
      <xsd:sequence>
        <xsd:element name="geoLocationQuery" type="CT_GeoLocationQuery" minOccurs="0"
maxOccurs="1"/>
        <xsd:element name="geoLocations" type="CT_GeoLocations" minOccurs="0" maxOccurs="1"/>
      </xsd:sequence>
    </xsd:complexType>
    <xsd:complexType name="CT_GeoLocationQueryResults">
      <xsd:sequence>
        <xsd:element name="geoLocationQueryResult" type="CT_GeoLocationQueryResult"
minOccurs="0" maxOccurs="unbounded"/>
      </xsd:sequence>
    </xsd:complexType>
    <xsd:complexType name="CT_GeoPolygon">
      <xsd:attribute name="polygonId" type="xsd:string" use="required"/>
      <xsd:attribute name="numPoints" type="xsd:integer" use="required"/>
      <xsd:attribute name="pcaRings" type="xsd:string" use="required"/>
    </xsd:complexType>
    <xsd:complexType name="CT_GeoPolygons">
      <xsd:sequence>
        <xsd:element name="geoPolygon" type="CT GeoPolygon" minOccurs="0"
maxOccurs="unbounded"/>
      </xsd:sequence>
    </xsd:complexType>
    <xsd:complexType name="CT_Copyrights">
      <xsd:sequence>
        <xsd:element name="copyright" type="xsd:string" minOccurs="0" maxOccurs="unbounded"/>
      </xsd:sequence>
    </xsd:complexType>
    <xsd:complexType name="CT_GeoData">
      <xsd:sequence>
        <xsd:element name="geoPolygons" type="CT GeoPolygons" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="copyrights" type="CT_Copyrights" minOccurs="0" maxOccurs="1"/>
      </xsd:sequence>
      <xsd:attribute name="entityName" type="xsd:string" use="required"/>
      <xsd:attribute name="entityId" type="xsd:string" use="required"/>
      <xsd:attribute name="east" type="xsd:double" use="required"/>
      <xsd:attribute name="west" type="xsd:double" use="required"/>
      <xsd:attribute name="north" type="xsd:double" use="required"/>
      <xsd:attribute name="south" type="xsd:double" use="required"/>
    </xsd:complexType>
    <xsd:complexType name="CT_GeoDataEntityQuery">
      <xsd:attribute name="entityType" type="ST_EntityType" use="required"/>
      <xsd:attribute name="entityId" type="xsd:string" use="required"/>
    </xsd:complexType>
    <xsd:complexType name="CT GeoDataEntityQueryResult">
      <xsd:sequence>
        <xsd:element name="geoDataEntityQuery" type="CT_GeoDataEntityQuery" minOccurs="0"
maxOccurs="1"/>
        <xsd:element name="geoData" type="CT GeoData" minOccurs="0" maxOccurs="1"/>
      </xsd:sequence>
    </xsd:complexType>
    <xsd:complexType name="CT_GeoDataEntityQueryResults">
      <xsd:sequence>
        <xsd:element name="geoDataEntityQueryResult" type="CT GeoDataEntityQueryResult"
minOccurs="0" maxOccurs="unbounded"/>
      </xsd:sequence>
    </xsd:complexType>
    <xsd:complexType name="CT_GeoDataPointQuery">
      <xsd:attribute name="entityType" type="ST_EntityType" use="required"/>
      <xsd:attribute name="latitude" type="xsd:double" use="required"/>
      <xsd:attribute name="longitude" type="xsd:double" use="required"/>
    </xsd:complexType>
    <xsd:complexType name="CT_GeoDataPointToEntityQuery">
      <xsd:attribute name="entityType" type="ST_EntityType" use="required"/>
      <xsd:attribute name="entityId" type="xsd:string" use="required"/>
    </xsd:complexType>
```

```xml
<xsd:complexType name="CT_GeoDataPointToEntityQueryResult">
  <xsd:sequence>
    <xsd:element name="geoDataPointQuery" type="CT_GeoDataPointQuery" minOccurs="0"
maxOccurs="1"/>
    <xsd:element name="geoDataPointToEntityQuery" type="CT_GeoDataPointToEntityQuery"
minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="CT_GeoDataPointToEntityQueryResults">
  <xsd:sequence>
    <xsd:element name="geoDataPointToEntityQueryResult"
type="CT_GeoDataPointToEntityQueryResult" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="CT_GeoChildTypes">
  <xsd:sequence>
    <xsd:element name="entityType" type="ST_EntityType" minOccurs="0"
maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="CT_GeoChildEntitiesQuery">
  <xsd:sequence>
    <xsd:element name="geoChildTypes" type="CT_GeoChildTypes" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="entityId" type="xsd:string" use="required"/>
</xsd:complexType>
<xsd:complexType name="CT_GeoHierarchyEntity">
  <xsd:attribute name="entityName" type="xsd:string" use="required"/>
  <xsd:attribute name="entityId" type="xsd:string" use="required"/>
  <xsd:attribute name="entityType" type="ST_EntityType" use="required"/>
</xsd:complexType>
<xsd:complexType name="CT_GeoChildEntities">
  <xsd:sequence>
    <xsd:element name="geoHierarchyEntity" type="CT_GeoHierarchyEntity " minOccurs="0"
maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="CT_GeoChildEntitiesQueryResult">
  <xsd:sequence>
    <xsd:element name="geoChildEntitiesQuery" type="CT_GeoChildEntitiesQuery" minOccurs="0"
maxOccurs="1"/>
    <xsd:element name="geoChildEntities" type="CT_GeoChildEntities" minOccurs="0"
maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="CT_GeoChildEntitiesQueryResults">
  <xsd:sequence>
    <xsd:element name="geoChildEntitiesQueryResult" type="CT_GeoChildEntitiesQueryResult"
minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="CT_Clear">
  <xsd:sequence>
    <xsd:element name="geoLocationQueryResults" type="CT_GeoLocationQueryResults"
minOccurs="0" maxOccurs="1"/>
    <xsd:element name="geoDataEntityQueryResults" type="CT_GeoDataEntityQueryResults"
minOccurs="0" maxOccurs="1"/>
    <xsd:element name="geoDataPointToEntityQueryResults"
type="CT_GeoDataPointToEntityQueryResults" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="geoChildEntitiesQueryResults" type="CT_GeoChildEntitiesQueryResults"
minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="CT_GeoCache">
  <xsd:choice minOccurs="1" maxOccurs="unbounded">
    <xsd:element name="binary" type="xsd:base64Binary" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="clear" type="CT_Clear" minOccurs="0" maxOccurs="1"/>
  </xsd:choice>
  <xsd:attribute name="provider" type="xsd:string" use="required"/>
```

```xsd
      </xsd:complexType>
      <xsd:simpleType name="ST_GeoProjectionType">
        <xsd:restriction base="xsd:string">
          <xsd:enumeration value="mercator"/>
          <xsd:enumeration value="miller"/>
          <xsd:enumeration value="robinson"/>
          <xsd:enumeration value="albers"/>
        </xsd:restriction>
      </xsd:simpleType>
      <xsd:simpleType name="ST_GeoMappingLevel">
        <xsd:restriction base="xsd:string">
          <xsd:enumeration value="dataOnly"/>
          <xsd:enumeration value="postalCode"/>
          <xsd:enumeration value="county"/>
          <xsd:enumeration value="state"/>
          <xsd:enumeration value="countryRegion"/>
          <xsd:enumeration value="countryRegionList"/>
          <xsd:enumeration value="world"/>
        </xsd:restriction>
      </xsd:simpleType>
      <xsd:complexType name="CT_Geography">
        <xsd:sequence>
          <xsd:element name="geoCache" type="CT_GeoCache" minOccurs="0" maxOccurs="1"/>
        </xsd:sequence>
        <xsd:attribute name="projectionType" type="ST_GeoProjectionType" use="optional"/>
        <xsd:attribute name="viewedRegionType" type="ST_GeoMappingLevel" use="optional"/>
        <xsd:attribute name="cultureLanguage" type="xsd:language" use="required"/>
        <xsd:attribute name="cultureRegion" type="xsd:string" use="required"/>
        <xsd:attribute name="attribution" type="xsd:string" use="required"/>
      </xsd:complexType>
      <xsd:simpleType name="ST_QuartileMethod">
        <xsd:restriction base="xsd:string">
          <xsd:enumeration value="inclusive"/>
          <xsd:enumeration value="exclusive"/>
        </xsd:restriction>
      </xsd:simpleType>
      <xsd:complexType name="CT_Statistics">
        <xsd:attribute name="quartileMethod" type="ST_QuartileMethod" use="optional"/>
      </xsd:complexType>
      <xsd:complexType name="CT_Subtotals">
        <xsd:sequence>
          <xsd:element name="idx" type="xsd:unsignedInt" minOccurs="0" maxOccurs="unbounded"/>
        </xsd:sequence>
      </xsd:complexType>
      <xsd:complexType name="CT_SeriesLayoutProperties">
        <xsd:sequence>
          <xsd:element name="parentLabelLayout" type="CT_ParentLabelLayout" minOccurs="0"
    maxOccurs="1"/>
          <xsd:element name="regionLabelLayout" type="CT_RegionLabelLayout" minOccurs="0"
    maxOccurs="1"/>
          <xsd:element name="visibility" type="CT_SeriesElementVisibilities" minOccurs="0"
    maxOccurs="1"/>
          <xsd:choice minOccurs="0" maxOccurs="1">
            <xsd:element name="aggregation" type="CT_Aggregation" minOccurs="0" maxOccurs="1"/>
            <xsd:element name="binning" type="CT_Binning" minOccurs="0" maxOccurs="1"/>
          </xsd:choice>
          <xsd:element name="geography" type="CT_Geography" minOccurs="0" maxOccurs="1"/>
          <xsd:element name="statistics" type="CT_Statistics" minOccurs="0" maxOccurs="1"/>
          <xsd:element name="subtotals" type="CT_Subtotals" minOccurs="0" maxOccurs="1"/>
          <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
        </xsd:sequence>
      </xsd:complexType>
      <xsd:complexType name="CT_DataPoint">
        <xsd:sequence>
          <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="0" maxOccurs="1"/>
          <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
        </xsd:sequence>
        <xsd:attribute name="idx" type="xsd:unsignedInt" use="required"/>
      </xsd:complexType>
```

```xsd
<xsd:simpleType name="ST_DataLabelPos">
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="bestFit"/>
    <xsd:enumeration value="b"/>
    <xsd:enumeration value="ctr"/>
    <xsd:enumeration value="inBase"/>
    <xsd:enumeration value="inEnd"/>
    <xsd:enumeration value="l"/>
    <xsd:enumeration value="outEnd"/>
    <xsd:enumeration value="r"/>
    <xsd:enumeration value="t"/>
  </xsd:restriction>
</xsd:simpleType>
<xsd:simpleType name="ST_ValueColorPositionCount">
  <xsd:restriction base="xsd:int">
    <xsd:minInclusive value="2"/>
    <xsd:maxInclusive value="3"/>
  </xsd:restriction>
</xsd:simpleType>
<xsd:complexType name="CT_ExtremeValueColorPosition"/>
<xsd:complexType name="CT_NumberColorPosition">
  <xsd:attribute name="val" type="xsd:double" use="required"/>
</xsd:complexType>
<xsd:complexType name="CT_PercentageColorPosition">
  <xsd:attribute name="val" type="xsd:double" use="required"/>
</xsd:complexType>
<xsd:complexType name="CT_ValueColorEndPosition">
  <xsd:choice minOccurs="1" maxOccurs="1">
    <xsd:element name="extremeValue" type="CT_ExtremeValueColorPosition"/>
    <xsd:element name="number" type="CT_NumberColorPosition"/>
    <xsd:element name="percent" type="CT_PercentageColorPosition"/>
  </xsd:choice>
</xsd:complexType>
<xsd:complexType name="CT_ValueColorMiddlePosition">
  <xsd:choice minOccurs="1" maxOccurs="1">
    <xsd:element name="number" type="CT_NumberColorPosition"/>
    <xsd:element name="percent" type="CT_PercentageColorPosition"/>
  </xsd:choice>
</xsd:complexType>
<xsd:complexType name="CT_ValueColorPositions">
  <xsd:sequence>
    <xsd:element name="min" type="CT_ValueColorEndPosition" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="mid" type="CT_ValueColorMiddlePosition" minOccurs="0"
maxOccurs="1"/>
    <xsd:element name="max" type="CT_ValueColorEndPosition" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="count" type="ST_ValueColorPositionCount" use="optional"
default="2"/>
</xsd:complexType>
<xsd:complexType name="CT_DataLabelVisibilities">
  <xsd:attribute name="seriesName" type="xsd:boolean" use="optional"/>
  <xsd:attribute name="categoryName" type="xsd:boolean" use="optional"/>
  <xsd:attribute name="value" type="xsd:boolean" use="optional"/>
</xsd:complexType>
<xsd:complexType name="CT_DataLabel">
  <xsd:sequence>
    <xsd:element name="numFmt" type="CT_NumberFormat" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="txPr" type="a:CT_TextBody" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="visibility" type="CT_DataLabelVisibilities" minOccurs="0"
maxOccurs="1"/>
    <xsd:element name="separator" type="xsd:string" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="idx" type="xsd:unsignedInt" use="required"/>
  <xsd:attribute name="pos" type="ST_DataLabelPos" use="optional"/>
</xsd:complexType>
<xsd:complexType name="CT_DataLabelHidden">
  <xsd:attribute name="idx" type="xsd:unsignedInt" use="required"/>
```

```
      </xsd:complexType>
    <xsd:complexType name="CT_DataLabels">
      <xsd:sequence>
        <xsd:element name="numFmt" type="CT_NumberFormat" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="txPr" type="a:CT_TextBody" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="visibility" type="CT_DataLabelVisibilities" minOccurs="0"
maxOccurs="1"/>
        <xsd:element name="separator" type="xsd:string" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="dataLabel" type="CT_DataLabel" minOccurs="0" maxOccurs="unbounded"/>
        <xsd:element name="dataLabelHidden" type="CT_DataLabelHidden" minOccurs="0"
maxOccurs="unbounded"/>
        <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
      </xsd:sequence>
      <xsd:attribute name="pos" type="ST_DataLabelPos" use="optional"/>
    </xsd:complexType>
    <xsd:complexType name="CT_Series">
      <xsd:sequence>
        <xsd:element name="tx" type="CT_Text" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="valueColors" type="CT_ValueColors" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="valueColorPositions" type="CT_ValueColorPositions" minOccurs="0"
maxOccurs="1"/>
        <xsd:element name="dataPt" type="CT_DataPoint" minOccurs="0" maxOccurs="unbounded"/>
        <xsd:element name="dataLabels" type="CT_DataLabels" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="dataId" type="CT_DataId" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="layoutPr" type="CT_SeriesLayoutProperties" minOccurs="0"
maxOccurs="1"/>
        <xsd:element name="axisId" type="ST_AxisId" minOccurs="0" maxOccurs="unbounded"/>
        <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
      </xsd:sequence>
      <xsd:attribute name="layoutId" type="ST_SeriesLayout" use="required"/>
      <xsd:attribute name="hidden" type="xsd:boolean" use="optional" default="0"/>
      <xsd:attribute name="ownerIdx" type="xsd:unsignedInt" use="optional"/>
      <xsd:attribute name="uniqueId" type="xsd:string" use="optional"/>
      <xsd:attribute name="formatIdx" type="xsd:unsignedInt" use="optional"/>
    </xsd:complexType>
    <xsd:complexType name="CT_Legend">
      <xsd:sequence>
        <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="txPr" type="a:CT_TextBody" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
      </xsd:sequence>
      <xsd:attribute name="pos" type="ST_SidePos" use="optional" default="r"/>
      <xsd:attribute name="align" type="ST_PosAlign" use="optional" default="ctr"/>
      <xsd:attribute name="overlay" type="xsd:boolean" use="optional" default="0"/>
    </xsd:complexType>
    <xsd:complexType name="CT_PlotSurface">
      <xsd:sequence>
        <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
      </xsd:sequence>
    </xsd:complexType>
    <xsd:complexType name="CT_PlotAreaRegion">
      <xsd:sequence>
        <xsd:element name="plotSurface" type="CT_PlotSurface" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="series" type="CT_Series" minOccurs="0" maxOccurs="unbounded"/>
        <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
      </xsd:sequence>
    </xsd:complexType>
    <xsd:complexType name="CT_PlotArea">
      <xsd:sequence>
        <xsd:element name="plotAreaRegion" type="CT_PlotAreaRegion" minOccurs="1"
maxOccurs="1"/>
        <xsd:element name="axis" type="CT_Axis" minOccurs="0" maxOccurs="unbounded"/>
        <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
      </xsd:sequence>
    </xsd:complexType>
```

```xsd
<xsd:complexType name="CT_Chart">
  <xsd:sequence>
    <xsd:element name="title" type="CT_ChartTitle" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="plotArea" type="CT_PlotArea" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="legend" type="CT_Legend" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="CT_FormatOverride">
  <xsd:sequence>
    <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="idx" type="xsd:unsignedInt" use="required"/>
</xsd:complexType>
<xsd:complexType name="CT_FormatOverrides">
  <xsd:sequence>
    <xsd:element name="fmtOvr" type="CT_FormatOverride" minOccurs="0"
maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="CT_HeaderFooter">
  <xsd:sequence>
    <xsd:element name="oddHeader" type="xsd:string" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="oddFooter" type="xsd:string" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="evenHeader" type="xsd:string" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="evenFooter" type="xsd:string" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="firstHeader" type="xsd:string" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="firstFooter" type="xsd:string" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="alignWithMargins" type="xsd:boolean" use="optional" default="true"/>
  <xsd:attribute name="differentOddEven" type="xsd:boolean" use="optional"
default="false"/>
  <xsd:attribute name="differentFirst" type="xsd:boolean" use="optional" default="false"/>
</xsd:complexType>
<xsd:complexType name="CT_PageMargins">
  <xsd:attribute name="l" type="xsd:double" use="required"/>
  <xsd:attribute name="r" type="xsd:double" use="required"/>
  <xsd:attribute name="t" type="xsd:double" use="required"/>
  <xsd:attribute name="b" type="xsd:double" use="required"/>
  <xsd:attribute name="header" type="xsd:double" use="required"/>
  <xsd:attribute name="footer" type="xsd:double" use="required"/>
</xsd:complexType>
<xsd:simpleType name="ST_PageOrientation">
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="default"/>
    <xsd:enumeration value="portrait"/>
    <xsd:enumeration value="landscape"/>
  </xsd:restriction>
</xsd:simpleType>
<xsd:complexType name="CT_PageSetup">
  <xsd:attribute name="paperSize" type="xsd:unsignedInt" use="optional" default="1"/>
  <xsd:attribute name="firstPageNumber" type="xsd:unsignedInt" use="optional" default="1"/>
  <xsd:attribute name="orientation" type="ST_PageOrientation" use="optional"
default="default"/>
  <xsd:attribute name="blackAndWhite" type="xsd:boolean" use="optional" default="false"/>
  <xsd:attribute name="draft" type="xsd:boolean" use="optional" default="false"/>
  <xsd:attribute name="useFirstPageNumber" type="xsd:boolean" use="optional"
default="false"/>
  <xsd:attribute name="horizontalDpi" type="xsd:int" use="optional" default="600"/>
  <xsd:attribute name="verticalDpi" type="xsd:int" use="optional" default="600"/>
  <xsd:attribute name="copies" type="xsd:unsignedInt" use="optional" default="1"/>
</xsd:complexType>
<xsd:complexType name="CT_PrintSettings">
  <xsd:sequence>
    <xsd:element name="headerFooter" type="CT_HeaderFooter" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="pageMargins" type="CT_PageMargins" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="pageSetup" type="CT_PageSetup" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
```

```
    </xsd:complexType>
    <xsd:complexType name="CT_ChartSpace">
      <xsd:sequence>
        <xsd:element name="chartData" type="CT_ChartData" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="chart" type="CT_Chart" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="txPr" type="a:CT_TextBody" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="clrMapOvr" type="a:CT_ColorMapping" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="fmtOvrs" type="CT_FormatOverrides" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="printSettings" type="CT_PrintSettings" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="extLst" type="CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
      </xsd:sequence>
    </xsd:complexType>
    <xsd:element name="chartSpace" type="CT_ChartSpace"/>
    <xsd:element name="chart" type="CT_RelId"/>
</xsd:schema>
```

5.23 http://schemas.microsoft.com/office/drawing/2014/main Schema

```
<xsd:schema targetNamespace="http://schemas.microsoft.com/office/drawing/2014/main"
xmlns="http://schemas.microsoft.com/office/drawing/2014/main"
xmlns:a="http://schemas.openxmlformats.org/drawingml/2006/main"
elementFormDefault="qualified" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <xsd:import namespace="http://schemas.openxmlformats.org/drawingml/2006/main"
schemaLocation="oartbasetypes.xsd"/>
  <xsd:complexType name="CT_CreationId">
    <xsd:attribute name="id" type="a:ST_Guid" use="optional"/>
  </xsd:complexType>
  <xsd:complexType name="CT_PredecessorDrawingElementReference">
    <xsd:attribute name="pred" type="a:ST_Guid" use="optional"/>
  </xsd:complexType>
  <xsd:complexType name="CT_ConnectableReferences">
    <xsd:attribute name="st" type="a:ST_Guid" use="optional"/>
    <xsd:attribute name="end" type="a:ST_Guid" use="optional"/>
  </xsd:complexType>
  <xsd:element name="creationId" type="CT_CreationId"/>
  <xsd:element name="predDERef" type="CT_PredecessorDrawingElementReference"/>
  <xsd:element name="cxnDERefs" type="CT_ConnectableReferences"/>
  <xsd:complexType name="CT_Identifier">
    <xsd:attribute name="val" type="xsd:unsignedInt" use="required"/>
  </xsd:complexType>
  <xsd:element name="rowId" type="CT_Identifier"/>
  <xsd:element name="colId" type="CT_Identifier"/>
</xsd:schema>
```

5.24 http://schemas.microsoft.com/office/drawing/2016/SVG/main Schema

```
<xsd:schema targetNamespace="http://schemas.microsoft.com/office/drawing/2016/SVG/main"
elementFormDefault="qualified"
xmlns:r="http://schemas.openxmlformats.org/officeDocument/2006/relationships"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns="http://schemas.microsoft.com/office/drawing/2016/SVG/main"
xmlns:a="http://schemas.openxmlformats.org/drawingml/2006/main">
  <xsd:complexType name="CT_SVGBlip">
    <xsd:attributeGroup ref="a:AG_Blob"/>
  </xsd:complexType>
  <xsd:element name="svgBlip" type="CT_SVGBlip"/>
  <xsd:import namespace="http://schemas.openxmlformats.org/drawingml/2006/main"
schemaLocation="oartbasetypes.xsd"/>
  <xsd:import namespace="http://schemas.openxmlformats.org/officeDocument/2006/relationships"
schemaLocation="orel.xsd"/>
</xsd:schema>
```

5.25 http://schemas.microsoft.com/office/drawing/2016/11/main Schema

```
<xsd:schema targetNamespace="http://schemas.microsoft.com/office/drawing/2016/11/main"
elementFormDefault="qualified" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:r="http://schemas.openxmlformats.org/officeDocument/2006/relationships"
xmlns:a="http://schemas.openxmlformats.org/drawingml/2006/main"
xmlns="http://schemas.microsoft.com/office/drawing/2016/11/main">
  <xsd:import namespace="http://schemas.openxmlformats.org/officeDocument/2006/relationships"
schemaLocation="orel.xsd"/>
  <xsd:complexType name="CT_PictureAttributionSourceURL">
    <xsd:attribute ref="r:id" use="required"/>
  </xsd:complexType>
  <xsd:element name="picAttrSrcUrl" type="CT_PictureAttributionSourceURL"/>
</xsd:schema>
```

5.26 http://schemas.microsoft.com/office/drawing/2016/11/diagram Schema

```
<xsd:schema targetNamespace="http://schemas.microsoft.com/office/drawing/2016/11/diagram"
xmlns="http://schemas.microsoft.com/office/drawing/2016/11/diagram"
xmlns:dgm="http://schemas.openxmlformats.org/drawingml/2006/diagram"
xmlns:a="http://schemas.openxmlformats.org/drawingml/2006/main"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:o="http://oxsdSchemaUri"
elementFormDefault="qualified" attributeFormDefault="unqualified">
  <xsd:simpleType name="ST_STorageType" o:cname="StoreType">
    <xsd:restriction base="xsd:token">
      <xsd:enumeration value="sibTrans"/>
      <xsd:enumeration value="parTrans"/>
    </xsd:restriction>
  </xsd:simpleType>
  <xsd:complexType name="CT_DiagramAutoBullet" o:cname="DiagramAutoBullet"
o:cwrap="DiagramAutoBulletMethods">
    <xsd:group ref="a:EG_TextBullet" minOccurs="1" maxOccurs="1"/>
    <xsd:attribute name="prefix" type="xsd:string" o:cname="prefix" use="optional"/>
    <xsd:attribute name="leadZeros" type="xsd:boolean" o:cname="leadZeros" use="optional"/>
  </xsd:complexType>
  <xsd:complexType name="CT_NumberDiagramInfo" o:cname="NumberDiagramInfo"
o:cwrap="NumberDiagramInfoMethods">
    <xsd:sequence>
      <xsd:element name="buPr" type="CT_DiagramAutoBullet" minOccurs="1" maxOccurs="1"
o:cname="bulletProps"/>
    </xsd:sequence>
    <xsd:attribute name="lvl" type="xsd:unsignedInt" o:cname="lvl" use="required"/>
    <xsd:attribute name="ptType" type="ST_STorageType" o:cname="ptType" use="required"/>
  </xsd:complexType>
  <xsd:complexType name="CT_NumberDiagramInfoList" o:cname="NumberDiagramInfoList"
o:cwrap="noTemplate">
    <xsd:sequence>
      <xsd:element name="autoBuNodeInfo" type="CT_NumberDiagramInfo"
o:cname="autoBulletNodeInfo" minOccurs="0" maxOccurs="unbounded"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:element name="autoBuNodeInfoLst" type="CT_NumberDiagramInfoList"/>
  <xsd:import schemaLocation="igxtypes.xsd"
namespace="http://schemas.openxmlformats.org/drawingml/2006/diagram"/>
  <xsd:import schemaLocation="oarttxbullet.xsd"
namespace="http://schemas.openxmlformats.org/drawingml/2006/main"/>
</xsd:schema>
```

5.27 http://schemas.microsoft.com/office/drawing/2013/main/command Schema

```
<xsd:schema elementFormDefault="qualified"
targetNamespace="http://schemas.microsoft.com/office/drawing/2013/main/command"
xmlns="http://schemas.microsoft.com/office/drawing/2013/main/command"
xmlns:ac="http://schemas.microsoft.com/office/drawing/2013/main/command"
xmlns:a="http://schemas.openxmlformats.org/drawingml/2006/main"
```

```
      xmlns:r="http://schemas.openxmlformats.org/officeDocument/2006/relationships"
      xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:inkml="http://www.w3.org/2003/InkML">
        <xsd:import namespace="http://schemas.openxmlformats.org/drawingml/2006/main"
      schemaLocation="oartbasetypes.xsd"/>
        <xsd:attributeGroup name="AG_DrawingElementId">
          <xsd:attribute name="id" type="a:ST_DrawingElementId" use="required"/>
          <xsd:attribute name="creationId" type="a:ST_Guid" use="optional"/>
        </xsd:attributeGroup>
        <xsd:complexType name="CT_ShapeMoniker">
          <xsd:attributeGroup ref="AG_DrawingElementId"/>
        </xsd:complexType>
        <xsd:complexType name="CT_GroupShapeMoniker">
          <xsd:attributeGroup ref="AG_DrawingElementId"/>
        </xsd:complexType>
        <xsd:complexType name="CT_GraphicFrameMoniker">
          <xsd:attributeGroup ref="AG_DrawingElementId"/>
        </xsd:complexType>
        <xsd:complexType name="CT_ConnectorMoniker">
          <xsd:attributeGroup ref="AG_DrawingElementId"/>
        </xsd:complexType>
        <xsd:complexType name="CT_PictureMoniker">
          <xsd:attributeGroup ref="AG_DrawingElementId"/>
        </xsd:complexType>
        <xsd:complexType name="CT_InkMoniker">
          <xsd:attributeGroup ref="AG_DrawingElementId"/>
        </xsd:complexType>
        <xsd:complexType name="CT_ShapeMonikerList">
          <xsd:sequence>
            <xsd:any minOccurs="0" maxOccurs="unbounded"/>
          </xsd:sequence>
        </xsd:complexType>
        <xsd:element name="spMkLst" type="CT_ShapeMonikerList"/>
        <xsd:complexType name="CT_GroupShapeMonikerList">
          <xsd:sequence>
            <xsd:any minOccurs="0" maxOccurs="unbounded"/>
          </xsd:sequence>
        </xsd:complexType>
        <xsd:element name="grpMkLst" type="CT_GroupShapeMonikerList"/>
        <xsd:complexType name="CT_GraphicFrameMonikerList">
          <xsd:sequence>
            <xsd:any minOccurs="0" maxOccurs="unbounded"/>
          </xsd:sequence>
        </xsd:complexType>
        <xsd:element name="graphicFrameMkLst" type="CT_GraphicFrameMonikerList"/>
        <xsd:complexType name="CT_ConnectorMonikerList">
          <xsd:sequence>
            <xsd:any minOccurs="0" maxOccurs="unbounded"/>
          </xsd:sequence>
        </xsd:complexType>
        <xsd:element name="cxnSpMkLst" type="CT_ConnectorMonikerList"/>
        <xsd:complexType name="CT_PictureMonikerList">
          <xsd:sequence>
            <xsd:any minOccurs="0" maxOccurs="unbounded"/>
          </xsd:sequence>
        </xsd:complexType>
        <xsd:element name="picMkLst" type="CT_PictureMonikerList"/>
        <xsd:complexType name="CT_InkMonikerList">
          <xsd:sequence>
            <xsd:any minOccurs="0" maxOccurs="unbounded"/>
          </xsd:sequence>
        </xsd:complexType>
        <xsd:element name="inkMkLst" type="CT_InkMonikerList"/>
        <xsd:attributeGroup name="AG_ChangesUser">
          <xsd:attribute name="name" type="xsd:string" use="optional"/>
          <xsd:attribute name="userId" type="xsd:string" use="optional"/>
          <xsd:attribute name="providerId" type="xsd:string" use="optional"/>
          <xsd:attribute name="clId" type="xsd:string" use="optional"/>
          <xsd:attribute name="email" type="xsd:string" use="optional"/>
        </xsd:attributeGroup>
        <xsd:attributeGroup name="AG_ChangesVersion">
```

```
          <xsd:attribute name="dt" type="xsd:dateTime" use="optional"/>
          <xsd:attribute name="v" type="xsd:unsignedInt" use="optional"/>
          <xsd:attribute name="id" type="a:ST_Guid" use="optional"/>
      </xsd:attributeGroup>
      <xsd:complexType name="CT_ChangesData">
        <xsd:sequence>
          <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
        </xsd:sequence>
        <xsd:attributeGroup ref="AG_ChangesUser"/>
        <xsd:attributeGroup ref="AG_ChangesVersion"/>
        <xsd:attribute name="actId" type="xsd:int" use="optional"/>
      </xsd:complexType>
      <xsd:simpleType name="ST_ShapeChangeBit">
        <xsd:restriction base="xsd:token">
          <xsd:enumeration value="add"/>
          <xsd:enumeration value="del"/>
          <xsd:enumeration value="mod"/>
          <xsd:enumeration value="ord"/>
          <xsd:enumeration value="topLvl"/>
          <xsd:enumeration value="modVis"/>
          <xsd:enumeration value="replST"/>
          <xsd:enumeration value="delST"/>
          <xsd:enumeration value="replId"/>
          <xsd:enumeration value="modCrop"/>
        </xsd:restriction>
      </xsd:simpleType>
      <xsd:simpleType name="ST_ShapeChangesBits">
        <xsd:list itemType="ST_ShapeChangeBit"/>
      </xsd:simpleType>
      <xsd:complexType name="CT_ShapeChanges">
        <xsd:sequence>
          <xsd:element name="chgData" type="CT_ChangesData" minOccurs="0" maxOccurs="1"/>
          <xsd:element name="spMkLst" type="CT_ShapeMonikerList" minOccurs="1" maxOccurs="1"/>
          <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
        </xsd:sequence>
        <xsd:attribute name="chg" type="ST_ShapeChangesBits" use="required"/>
      </xsd:complexType>
      <xsd:simpleType name="ST_GroupShapeChangeBit">
        <xsd:restriction base="xsd:token">
          <xsd:enumeration value="add"/>
          <xsd:enumeration value="del"/>
          <xsd:enumeration value="mod"/>
          <xsd:enumeration value="ord"/>
          <xsd:enumeration value="topLvl"/>
          <xsd:enumeration value="modVis"/>
          <xsd:enumeration value="replST"/>
          <xsd:enumeration value="delST"/>
          <xsd:enumeration value="replId"/>
        </xsd:restriction>
      </xsd:simpleType>
      <xsd:simpleType name="ST_GroupShapeChangesBits">
        <xsd:list itemType="ST_GroupShapeChangeBit"/>
      </xsd:simpleType>
      <xsd:complexType name="CT_GroupShapeChanges">
        <xsd:sequence>
          <xsd:element name="chgData" type="CT_ChangesData" minOccurs="0" maxOccurs="1"/>
          <xsd:element name="grpSpMkLst" type="CT_GroupShapeMonikerList" minOccurs="1"
maxOccurs="1"/>
          <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
        </xsd:sequence>
        <xsd:attribute name="chg" type="ST_GroupShapeChangesBits" use="required"/>
      </xsd:complexType>
      <xsd:simpleType name="ST_ConnectorChangeBit">
        <xsd:restriction base="xsd:token">
          <xsd:enumeration value="add"/>
          <xsd:enumeration value="del"/>
```

```
            <xsd:enumeration value="mod"/>
            <xsd:enumeration value="ord"/>
            <xsd:enumeration value="topLvl"/>
            <xsd:enumeration value="modVis"/>
            <xsd:enumeration value="replST"/>
            <xsd:enumeration value="delST"/>
            <xsd:enumeration value="replId"/>
        </xsd:restriction>
    </xsd:simpleType>
    <xsd:simpleType name="ST_ConnectorChangesBits">
        <xsd:list itemType="ST_ConnectorChangeBit"/>
    </xsd:simpleType>
    <xsd:complexType name="CT_ConnectorChanges">
        <xsd:sequence>
            <xsd:element name="chgData" type="CT_ChangesData" minOccurs="0" maxOccurs="1"/>
            <xsd:element name="cxnSpMkLst" type="CT_ConnectorMonikerList" minOccurs="1"
maxOccurs="1"/>
            <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
        </xsd:sequence>
        <xsd:attribute name="chg" type="ST_ConnectorChangesBits" use="required"/>
    </xsd:complexType>
    <xsd:simpleType name="ST_PictureChangeBit">
        <xsd:restriction base="xsd:token">
            <xsd:enumeration value="add"/>
            <xsd:enumeration value="del"/>
            <xsd:enumeration value="mod"/>
            <xsd:enumeration value="ord"/>
            <xsd:enumeration value="topLvl"/>
            <xsd:enumeration value="modVis"/>
            <xsd:enumeration value="replST"/>
            <xsd:enumeration value="delST"/>
            <xsd:enumeration value="replId"/>
            <xsd:enumeration value="modCrop"/>
        </xsd:restriction>
    </xsd:simpleType>
    <xsd:simpleType name="ST_PictureChangesBits">
        <xsd:list itemType="ST_PictureChangeBit"/>
    </xsd:simpleType>
    <xsd:complexType name="CT_PictureChanges">
        <xsd:sequence>
            <xsd:element name="chgData" type="CT_ChangesData" minOccurs="0" maxOccurs="1"/>
            <xsd:element name="picMkLst" type="CT_PictureMonikerList" minOccurs="1" maxOccurs="1"/>
            <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
        </xsd:sequence>
        <xsd:attribute name="chg" type="ST_PictureChangesBits" use="required"/>
    </xsd:complexType>
    <xsd:simpleType name="ST_InkChangeBit">
        <xsd:restriction base="xsd:token">
            <xsd:enumeration value="add"/>
            <xsd:enumeration value="del"/>
            <xsd:enumeration value="mod"/>
            <xsd:enumeration value="ord"/>
            <xsd:enumeration value="topLvl"/>
            <xsd:enumeration value="modVis"/>
            <xsd:enumeration value="replST"/>
            <xsd:enumeration value="delST"/>
            <xsd:enumeration value="replId"/>
            <xsd:enumeration value="reco"/>
            <xsd:enumeration value="modStrokes"/>
        </xsd:restriction>
    </xsd:simpleType>
    <xsd:simpleType name="ST_InkChangesBits">
        <xsd:list itemType="ST_InkChangeBit"/>
    </xsd:simpleType>
    <xsd:complexType name="CT_InkChanges">
        <xsd:sequence>
            <xsd:element name="chgData" type="CT_ChangesData" minOccurs="0" maxOccurs="1"/>
```

```
          <xsd:element name="inkMkLst" type="CT_InkMonikerList" minOccurs="1" maxOccurs="1"/>
          <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
      </xsd:sequence>
      <xsd:attribute name="chg" type="ST_InkChangesBits" use="required"/>
  </xsd:complexType>
  <xsd:simpleType name="ST_GraphicFrameChangeBit">
    <xsd:restriction base="xsd:token">
      <xsd:enumeration value="add"/>
      <xsd:enumeration value="del"/>
      <xsd:enumeration value="mod"/>
      <xsd:enumeration value="ord"/>
      <xsd:enumeration value="topLvl"/>
      <xsd:enumeration value="modVis"/>
      <xsd:enumeration value="replST"/>
      <xsd:enumeration value="delST"/>
      <xsd:enumeration value="replId"/>
      <xsd:enumeration value="modGraphic"/>
    </xsd:restriction>
  </xsd:simpleType>
  <xsd:simpleType name="ST_GraphicFrameChangesBits">
    <xsd:list itemType="ST_GraphicFrameChangeBit"/>
  </xsd:simpleType>
  <xsd:complexType name="CT_GraphicFrameChanges">
    <xsd:sequence>
      <xsd:element name="chgData" type="CT_ChangesData" minOccurs="0" maxOccurs="1"/>
      <xsd:element name="graphicFrameMkLst" type="CT_GraphicFrameMonikerList" minOccurs="1"
maxOccurs="1"/>
      <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
    </xsd:sequence>
    <xsd:attribute name="chg" type="ST_GraphicFrameChangesBits" use="required"/>
  </xsd:complexType>
</xsd:schema>
```

5.28 http://schemas.microsoft.com/office/drawing/2016/ink Schema

```
<xsd:schema elementFormDefault="qualified"
targetNamespace="http://schemas.microsoft.com/office/drawing/2016/ink"
xmlns="http://schemas.microsoft.com/office/drawing/2016/ink"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <xsd:simpleType name="ST_ExtendedBrushPropertyName">
    <xsd:restriction base="xsd:string">
      <xsd:enumeration value="inkEffects"/>
      <xsd:enumeration value="anchorX"/>
      <xsd:enumeration value="anchorY"/>
      <xsd:enumeration value="scaleFactor"/>
    </xsd:restriction>
  </xsd:simpleType>
  <xsd:simpleType name="ST_InkEffectsType">
    <xsd:restriction base="xsd:string">
      <xsd:enumeration value="none"/>
      <xsd:enumeration value="pencil"/>
      <xsd:enumeration value="rainbow"/>
      <xsd:enumeration value="galaxy"/>
      <xsd:enumeration value="gold"/>
      <xsd:enumeration value="silver"/>
      <xsd:enumeration value="lava"/>
      <xsd:enumeration value="ocean"/>
      <xsd:enumeration value="rosegold"/>
      <xsd:enumeration value="bronze"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:schema>
```

5.29 http://schemas.microsoft.com/office/drawing/2017/model3d Schema

```xsd
<xsd:schema targetNamespace="http://schemas.microsoft.com/office/drawing/2017/model3d"
elementFormDefault="qualified" attributeFormDefault="unqualified"
xmlns="http://schemas.microsoft.com/office/drawing/2017/model3d"
xmlns:a1611="http://schemas.microsoft.com/office/drawing/2016/11/main"
xmlns:am3d="http://schemas.microsoft.com/office/drawing/2017/model3d"
xmlns:r="http://schemas.openxmlformats.org/officeDocument/2006/relationships"
xmlns:a="http://schemas.openxmlformats.org/drawingml/2006/main"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <xsd:import namespace="http://schemas.openxmlformats.org/drawingml/2006/main"
schemaLocation="oartbasetypes.xsd"/>
  <xsd:import namespace="http://schemas.openxmlformats.org/drawingml/2006/main"
schemaLocation="oartspproperties.xsd"/>
  <xsd:import namespace="http://schemas.microsoft.com/office/drawing/2016/11/main"
schemaLocation="oart16BlipExtensions.xsd"/>
  <xsd:import namespace="http://schemas.openxmlformats.org/officeDocument/2006/relationships"
schemaLocation="orel.xsd"/>
  <xsd:complexType name="CT_PositiveRatio">
    <xsd:attribute name="n" type="xsd:unsignedLong" use="required"/>
    <xsd:attribute name="d" type="xsd:unsignedLong" use="required"/>
  </xsd:complexType>
  <xsd:complexType name="CT_Rotate3D">
    <xsd:attribute name="ax" type="a:ST_Angle" use="optional" default="0"/>
    <xsd:attribute name="ay" type="a:ST_Angle" use="optional" default="0"/>
    <xsd:attribute name="az" type="a:ST_Angle" use="optional" default="0"/>
  </xsd:complexType>
  <xsd:complexType name="CT_Scale3D">
    <xsd:sequence>
      <xsd:element name="sx" type="a:CT_Ratio" minOccurs="1" maxOccurs="1"/>
      <xsd:element name="sy" type="a:CT_Ratio" minOccurs="1" maxOccurs="1"/>
      <xsd:element name="sz" type="a:CT_Ratio" minOccurs="1" maxOccurs="1"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="CT_Model3DTransform">
    <xsd:sequence>
      <xsd:element name="meterPerModelUnit" type="CT_PositiveRatio" minOccurs="0"
maxOccurs="1"/>
      <xsd:element name="preTrans" type="a:CT_Vector3D" minOccurs="0" maxOccurs="1"/>
      <xsd:element name="scale" type="CT_Scale3D" minOccurs="0" maxOccurs="1"/>
      <xsd:element name="rot" type="CT_Rotate3D" minOccurs="0" maxOccurs="1"/>
      <xsd:element name="postTrans" type="a:CT_Vector3D" minOccurs="0" maxOccurs="1"/>
      <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="CT_OrthographicProjection">
    <xsd:sequence>
      <xsd:element name="sz" type="CT_PositiveRatio" minOccurs="1" maxOccurs="1"/>
      <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="CT_PerspectiveProjection">
    <xsd:sequence>
      <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
    </xsd:sequence>
    <xsd:attribute name="fov" type="a:ST_FOVAngle" use="required"/>
  </xsd:complexType>
  <xsd:complexType name="CT_Model3DCamera">
    <xsd:sequence>
      <xsd:element name="pos" type="a:CT_Point3D" minOccurs="1" maxOccurs="1"/>
      <xsd:element name="up" type="a:CT_Vector3D" minOccurs="1" maxOccurs="1"/>
      <xsd:element name="lookAt" type="a:CT_Point3D" minOccurs="1" maxOccurs="1"/>
      <xsd:choice minOccurs="1" maxOccurs="1">
        <xsd:element name="orthographic" type="CT_OrthographicProjection"/>
        <xsd:element name="perspective" type="CT_PerspectiveProjection"/>
      </xsd:choice>
```

```xsd
        <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
      </xsd:sequence>
    </xsd:complexType>
    <xsd:complexType name="CT_Model3DRaster">
      <xsd:sequence>
        <xsd:element name="blip" type="a:CT_Blip" minOccurs="0" maxOccurs="1"/>
      </xsd:sequence>
      <xsd:attribute name="rName" type="xsd:string" use="required"/>
      <xsd:attribute name="rVer" type="xsd:string" use="required"/>
    </xsd:complexType>
    <xsd:complexType name="CT_ObjectViewport">
      <xsd:sequence>
        <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
      </xsd:sequence>
      <xsd:attribute name="viewportSz" type="a:ST_PositiveCoordinate" use="required"/>
    </xsd:complexType>
    <xsd:complexType name="CT_WindowViewport">
      <xsd:sequence>
        <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
      </xsd:sequence>
    </xsd:complexType>
    <xsd:complexType name="CT_AmbientLight">
      <xsd:sequence>
        <xsd:element name="clr" type="a:CT_Color" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="illuminance" type="CT_PositiveRatio" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
      </xsd:sequence>
      <xsd:attribute name="enabled" type="xsd:boolean" use="optional" default="true"/>
    </xsd:complexType>
    <xsd:complexType name="CT_PointLight">
      <xsd:sequence>
        <xsd:element name="clr" type="a:CT_Color" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="intensity" type="CT_PositiveRatio" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="pos" type="a:CT_Point3D" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
      </xsd:sequence>
      <xsd:attribute name="enabled" type="xsd:boolean" use="optional" default="true"/>
      <xsd:attribute name="rad" type="a:ST_PositiveCoordinate" use="required"/>
    </xsd:complexType>
    <xsd:complexType name="CT_SpotLight">
      <xsd:sequence>
        <xsd:element name="clr" type="a:CT_Color" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="intensity" type="CT_PositiveRatio" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="pos" type="a:CT_Point3D" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="lookAt" type="a:CT_Point3D" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
      </xsd:sequence>
      <xsd:attribute name="enabled" type="xsd:boolean" use="optional" default="true"/>
      <xsd:attribute name="rad" type="a:ST_PositiveCoordinate" use="required"/>
      <xsd:attribute name="spotAng" type="a:ST_FOVAngle" use="required"/>
    </xsd:complexType>
    <xsd:simpleType name="ST_AngularRadius">
      <xsd:restriction base="a:ST_Angle">
        <xsd:minInclusive value="0"/>
        <xsd:maxInclusive value="5400000"/>
      </xsd:restriction>
    </xsd:simpleType>
    <xsd:complexType name="CT_DirectionalLight">
      <xsd:sequence>
        <xsd:element name="clr" type="a:CT_Color" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="illuminance" type="CT_PositiveRatio" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="pos" type="a:CT_Point3D" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="lookAt" type="a:CT_Point3D" minOccurs="1" maxOccurs="1"/>
```

```
        <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
      </xsd:sequence>
      <xsd:attribute name="enabled" type="xsd:boolean" use="optional" default="true"/>
      <xsd:attribute name="angularRad" type="ST_AngularRadius" use="required"/>
    </xsd:complexType>
  <xsd:complexType name="CT_UnknownLight"/>
  <xsd:complexType name="CT_Model3D">
    <xsd:sequence>
      <xsd:element name="spPr" type="a:CT_ShapeProperties" minOccurs="1" maxOccurs="1"/>
      <xsd:element name="camera" type="CT_Model3DCamera" minOccurs="1" maxOccurs="1"/>
      <xsd:element name="trans" type="CT_Model3DTransform" minOccurs="1" maxOccurs="1"/>
      <xsd:element name="attrSrcUrl" type="a1611:CT_PictureAttributionSourceURL"
minOccurs="0" maxOccurs="1"/>
      <xsd:element name="raster" type="CT_Model3DRaster" minOccurs="0" maxOccurs="1"/>
      <xsd:element name="extLst" type="a:CT_OfficeArtExtensionList" minOccurs="0"
maxOccurs="1"/>
      <xsd:choice minOccurs="1" maxOccurs="1">
        <xsd:element name="objViewport" type="CT_ObjectViewport"/>
        <xsd:element name="winViewport" type="CT_WindowViewport"/>
      </xsd:choice>
      <xsd:element name="ambientLight" type="CT_AmbientLight" minOccurs="0" maxOccurs="1"/>
      <xsd:choice minOccurs="0" maxOccurs="unbounded">
        <xsd:element name="ptLight" type="CT_PointLight"/>
        <xsd:element name="spotLight" type="CT_SpotLight"/>
        <xsd:element name="dirLight" type="CT_DirectionalLight"/>
        <xsd:element name="unkLight" type="CT_UnknownLight"/>
      </xsd:choice>
    </xsd:sequence>
    <xsd:attributeGroup ref="a:AG_Blob"/>
  </xsd:complexType>
  <xsd:element name="model3D" type="CT_Model3D"/>
</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.

- The 2007 Microsoft Office system

- Microsoft Office 2010 suites

- Microsoft Office 2013

- Microsoft Office Online

- Microsoft Office 2016

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 2.1.1: This part is available only in Office 2013.

<2> Section 2.1.2: This part is available only in Office 2013.

<3> Section 2.1.3: The Diagram Layout extension is also present in Microsoft Office 2007 Service Pack 2 (SP2).

<4> Section 2.1.4: If the **id** attribute is present but the value is not a GUID, then the attribute is ignored and not round-tripped.

<5> Section 2.2.1: This extension is available only in Office 2013.

<6> Section 2.2.1: This extension is available only in Office 2013.

<7> Section 2.2.1: This extension is available only in Office 2013.

<8> Section 2.2.1: This extension is available only in Office 2013.

<9> Section 2.2.1: This extension is available in Office 2013 and Office 2016.

<10> Section 2.2.1: This extension is available only in Office 2013.

<11> Section 2.2.1: This extension is available only in Office 2016.

<12> Section 2.2.1.1: This extension is available only in Office 2013.

<13> Section 2.2.1.1: This extension is available only in Office 2013.

<14> Section 2.2.1.1: This extension is available only in Office 2013.

<15> Section 2.2.1.1: This extension is available only in Office 2013.

<16> Section 2.2.1.1: This extension is available only in Office 2013.

<17> Section 2.2.1.1: This extension is available only in Office 2013.

<18> Section 2.2.1.1: This extension is available only in Office 2013.

<19> Section 2.2.1.1: This extension is available only in Office 2013.

<20> Section 2.2.1.1: This extension is available only in Office 2013.

<21> Section 2.2.1.1: This extension is available only in Office 2013.

<22> Section 2.2.1.1: This extension is available only in Office 2013.

<23> Section 2.2.1.1: This extension is available only in Office 2013.

<24> Section 2.2.1.1: This extension is available only in Office 2013.

<25> Section 2.2.1.1: This extension is available only in Office 2013.

<26> Section 2.2.1.1: This extension is available only in Office 2013.

<27> Section 2.2.1.1: This extension is available only in Office 2013.

<28> Section 2.2.1.1: This extension is available only in Office 2013.

<29> Section 2.2.1.1: This extension is available only in Office 2013.

<30> Section 2.2.1.1: This extension is available only in Office 2013.

<31> Section 2.2.1.1: This extension is available only in Office 2013.

<32> Section 2.2.1.1: This extension is available only in Office 2013.

<33> Section 2.2.1.1: This extension is available only in Office 2013.

<34> Section 2.2.1.2: This extension is available only in Office 2013.

<35> Section 2.2.1.3: This extension is available only in Office 2013.

<36> Section 2.2.4.3: This extension is available in Office 2010, Office 2013 and Office 2016.

<37> Section 2.2.7.1: This integration is available only in Office 2013.

<38> Section 2.2.7.2: This integration is available only in Office 2013.

<39> Section 2.2.9.1: This integration is available only in Office 2013.

<40> Section 2.2.9.2: This integration is available only in Office 2013.

<41> Section 2.2.10: This extension is available only in Office Online.

<42> Section 2.2.10: This extension is available only in Office Online.

<43> Section 2.3.1.2: Microsoft Excel 2010 does not delete this shape when loading.

<44> Section 2.5.3.1: Office 2010 requires that the **macro** attribute follow the same grammar as name references ([ISO/IEC29500-1:2012] section M.2.16.6), with a minimum length of zero characters and a maximum length of 256 characters.

<45> Section 2.6.1.1: This element is available only in Office 2013.

<46> Section 2.6.1.2: This element is available only in Office 2013.

<47> Section 2.6.1.3: This element is available only in Office 2013.

<48> Section 2.6.1.4: This element is available only in Office 2013.

<49> Section 2.6.1.5: This element is available only in Office 2013.

<50> Section 2.6.1.6: This element is available only in Office 2013.

<51> Section 2.6.1.7: This element is available only in Office 2013.

<52> Section 2.6.1.8: This element is available only in Office 2013.

<53> Section 2.6.1.9: This element is available only in Office 2013.

<54> Section 2.6.1.10: This element is available only in Office 2013.

<55> Section 2.6.1.11: This element is available only in Office 2013.

<56> Section 2.6.1.12: This element is available only in Office 2013.

<57> Section 2.6.1.13: This element is available only in Office 2013.

<58> Section 2.6.1.14: This element is available only in Office 2013.

<59> Section 2.6.1.16: This element is available only in Office 2013.

<60> Section 2.6.1.17: The child elements of **CT_ManualLayout** ([ISO/IEC29500-1:2012] section A.5.1) other than w (Width) and h (Height) are ignored for a **Datalabel** object (section 2.2.1.3). The child elements of **CT_ManualLayout** ([ISO/IEC29500-1:2012] section A.5.1) other than x (Left), y (Top), w (Width) and h (Height) are ignored for a parent **Datalabels** object (section 2.2.1.2).

<61> Section 2.6.1.17: This element is available only in Office 2013.

<62> Section 2.6.1.18: This element is available only in Office 2013.

<63> Section 2.6.1.19: This element is available only in Office 2013.

<64> Section 2.6.1.20: This element is available only in Office 2013.

<65> Section 2.6.1.21: This element is available only in Office 2013.

<66> Section 2.6.1.22: This element is available only in Office 2013.

<67> Section 2.6.1.23: This element is available only in Office 2013.

<68> Section 2.6.1.24: This element is available only in Office 2013.

<69> Section 2.6.1.25: This element is available only in Office 2013.

<70> Section 2.6.1.26: This element is available only in Office 2013.

<71> Section 2.6.3.1: This complex type is available only in Office 2013.

<72> Section 2.6.3.2: This type is available only in Office 2013.

<73> Section 2.6.3.3: This complex type is available only in Office 2013.

<74> Section 2.6.3.4: This complex type is available only in Office 2013.

<75> Section 2.6.3.5: This type is available only in Office 2013.

<76> Section 2.6.3.6: This type is available only in Office 2013.

<77> Section 2.6.3.7: This type is available only in Office 2013.

<78> Section 2.6.3.8: This type is available only in Office 2013.

<79> Section 2.6.3.9: This type is available only in Office 2013.

<80> Section 2.6.3.10: This type is available only in Office 2013.

<81> Section 2.6.3.11: This type is available only in Office 2013.

<82> Section 2.6.3.12: This type is available only in Office 2013.

<83> Section 2.6.3.13: This type is available only in Office 2013.

<84> Section 2.6.3.14: This type is available only in Office 2013.

<85> Section 2.6.3.15: This complex type is available only in Office 2013.

<86> Section 2.6.3.16: This complex type is available only in Office 2013.

<87> Section 2.6.3.17: This complex type is available only in Office 2013.

<88> Section 2.6.3.18: This complex type is available only in Office 2013.

<89> Section 2.7.3.5: Microsoft Office Excel 2007 does not ignore the **CT_Style** element([ISO/IEC29500-4:2012]) section A.5.1).

<90> Section 2.8.1.1: This element is available only in Office 2013.

<91> Section 2.8.1.2: This element is available only in Office 2013.

<92> Section 2.8.3.1: This type is available only in Office 2013.

<93> Section 2.8.3.2: This type is available only in Office 2013.

<94> Section 2.8.3.3: This type is available only in Office 2013.

<95> Section 2.8.3.4: This type is available only in Office 2013.

<96> Section 2.8.3.5: This type is available only in Office 2013.

<97> Section 2.8.3.6: This type is available only in Office 2013.

<98> Section 2.8.3.7: This type is available only in Office 2013.

<99> Section 2.8.3.8: This type is available only in Office 2013.

<100> Section 2.8.4.1: This type is available only in Office 2013.

<101> Section 2.8.4.2: This type is available only in Office 2013.

<102> Section 2.8.4.3: This type is available only in Office 2013.

<103> Section 2.8.4.4: This type is available only in Office 2013.

<104> Section 2.8.4.5: This type is available only in Office 2013.

<105> Section 2.8.4.6: This type is available only in Office 2013.

<106> Section 2.8.4.7: This type is available only in Office 2013.

<107> Section 2.8.4.8: This type is available only in Office 2013.

<108> Section 2.8.4.9: This type is available only in Office 2013.

<109> Section 2.8.4.10: This type is available only in Office 2013.

<110> Section 2.8.4.11: This type is available only in Office 2013.

<111> Section 2.8.4.12: This type is available only in Office 2013.

<112> Section 2.9.1.1: **CT_NonVisualDrawingProps** ([ISO/IEC29500-1:2012] section A.4.1) contains attributes **id** and **hidden**, which are ignored by Office 2010 for diagram shapes.

<113> Section 2.12.1.1: This element is available only in Office 2013.

<114> Section 2.12.1.2: This element is available only in Office 2013.

<115> Section 2.12.1.3: This element is available only in Office 2013.

<116> Section 2.12.1.4: This element is available only in Office 2013.

<117> Section 2.12.3.1: This type is available only in Office 2013.

<118> Section 2.12.3.2: This type is available only in Office 2013.

<119> Section 2.12.3.3: This type is available only in Office 2013.

<120> Section 2.12.3.4: This type is available only in Office 2013.

<121> Section 2.12.4.1: This type is available only in Office 2013.

<122> Section 2.13.3.3: In Microsoft Word 2010 a **CT_WordprocessingShape** that is directly contained by a **wpc** element and does not have a **cNvPr** child element.

<123> Section 2.13.3.3: In Word 2010, the **spPr** element is required to have either a **custGeom** element ([ISO/IEC29500-1:2012] section 20.1.9.8) or a **prstGeom** element ([ISO/IEC29500-1:2012] section 20.1.9.18) as a child element.

<124> Section 2.16.3.2: In Microsoft Word 2010, an instantiation of the **scene3D** element ([ISO/IEC29500-1:2012] section 20.1.4.1.26) in an outer group takes precedence over **scene3D** instantiated in any inner shapes or groups.

<125> Section 2.16.3.2: Word 2010 does not support this child element on a **CT_WordprocessingGroup** if the group contains a **CT_WordprocessingCanvas** as an ancestor.

<126> Section 2.17.3.1: Word 2010 does not support this child element on a **CT_WordprocessingCanvas**.

<127> Section 2.18.3.1: Word 2010 supports only positive values for this element.

<128> Section 2.18.3.2: Word 2010 supports only positive values for this element.

<129> Section 2.20.3.1: Office 2010 requires that the **macro** attribute follow the same grammar as name references ([ISO/IEC29500-1:2012] section M.2.16.6), with a minimum length of zero characters and a maximum length of 256 characters.

<130> Section 2.21.1.1: This type is available only in February 10, 2015 update for PowerPoint 2013.

<131> Section 2.21.3.1: This type is available only in February 10, 2015 update for PowerPoint 2013.

<132> Section 2.21.3.1: This element is available only in February 10, 2015 update for PowerPoint 2013.

<133> Section 2.21.3.1: This element is available only in February 10, 2015 update for PowerPoint 2013.

<134> Section 2.21.3.1: This element is available only in February 10, 2015 update for PowerPoint 2013.

<135> Section 2.21.3.1: This attribute is available only in February 10, 2015 update for PowerPoint 2013.

<136> Section 2.21.3.1: This attribute is available only in February 10, 2015 update for PowerPoint 2013.

<137> Section 2.21.3.1: This attribute is available only in February 10, 2015 update for PowerPoint 2013.

<138> Section 2.21.3.2: This type is available only in February 10, 2015 update for PowerPoint 2013.

<139> Section 2.21.3.2: This element is available only in February 10, 2015 update for PowerPoint 2013.

<140> Section 2.21.3.2: This element is available only in February 10, 2015 update for PowerPoint 2013.

<141> Section 2.21.3.2: This element is available only in February 10, 2015 update for PowerPoint 2013.

<142> Section 2.21.3.2: This attribute is available only in February 10, 2015 update for PowerPoint 2013.

<143> Section 2.21.3.2: This attribute is available only in February 10, 2015 update for PowerPoint 2013.

<144> Section 2.21.3.2: This attribute is available only in February 10, 2015 update for PowerPoint 2013.

<145> Section 2.21.3.3: This type is available only in February 10, 2015 update for PowerPoint 2013.

<146> Section 2.21.3.3: This element is available only in February 10, 2015 update for PowerPoint 2013.

<147> Section 2.21.3.3: This attribute is available only in February 10, 2015 update for PowerPoint 2013.

<148> Section 2.21.3.3: This attribute is available only in February 10, 2015 update for PowerPoint 2013.

<149> Section 2.21.3.4: This type is available only in February 10, 2015 update for PowerPoint 2013.

<150> Section 2.21.3.4: This element is available only in February 10, 2015 update for PowerPoint 2013.

<151> Section 2.21.3.4: This attribute is available only in February 10, 2015 update for PowerPoint 2013.

<152> Section 2.21.3.4: This attribute is available only in February 10, 2015 update for PowerPoint 2013.

<153> Section 2.21.3.5: This type is available only in February 10, 2015 update for PowerPoint 2013.

<154> Section 2.21.3.5: This attribute is available only in February 10, 2015 update for PowerPoint 2013.

<155> Section 2.21.3.5: This attribute is available only in February 10, 2015 update for PowerPoint 2013.

<156> Section 2.21.3.6: This type is available only in February 10, 2015 update for PowerPoint 2013.

<157> Section 2.21.3.6: This element is available only in February 10, 2015 update for PowerPoint 2013.

<158> Section 2.21.3.6: This element is available only in February 10, 2015 update for PowerPoint 2013.

<159> Section 2.21.3.6: This element is available only in February 10, 2015 update for PowerPoint 2013.

<160> Section 2.21.3.6: This attribute is available only in February 10, 2015 update for PowerPoint 2013.

<161> Section 2.21.3.6: This attribute is available only in February 10, 2015 update for PowerPoint 2013.

<162> Section 2.21.3.6: This attribute is available only in February 10, 2015 update for PowerPoint 2013.

<163> Section 2.21.4.1: This type is available only in February 10, 2015 update for PowerPoint 2013.

<164> Section 2.21.4.2: This type is available only in February 10, 2015 update for PowerPoint 2013.

<165> Section 2.21.4.3: This type is available only in February 10, 2015 update for PowerPoint 2013.

<166> Section 2.21.4.4: This type is available only in February 10, 2015 update for PowerPoint 2013.

<167> Section 2.21.4.5: This type is available only in February 10, 2015 update for PowerPoint 2013.

<168> Section 2.21.4.6: This type is available only in February 10, 2015 update for PowerPoint 2013.

<169> Section 2.21.4.7: This type is available only in February 10, 2015 update for PowerPoint 2013.

<170> Section 2.21.4.8: This type is available only in February 10, 2015 update for PowerPoint 2013.

<171> Section 2.21.4.9: This type is available only in February 10, 2015 update for PowerPoint 2013.

<172> Section 2.21.4.10: This type is available only in February 10, 2015 update for PowerPoint 2013.

<173> Section 2.21.4.11: This type is available only in February 10, 2015 update for PowerPoint 2013.

<174> Section 2.21.4.12: This type is available only in February 10, 2015 update for PowerPoint 2013.

<175> Section 2.22.1.1: This element is available only in Office 2016.

<176> Section 2.22.1.2: This element is available only in Office 2016.

<177> Section 2.22.1.3: This element is available only in Office 2016.

<178> Section 2.22.1.4: This element is available only in Office 2016.

<179> Section 2.22.1.5: This element is available only in Office 2016.

<180> Section 2.22.1.6: This element is available only in Office 2016.

<181> Section 2.22.1.7: This element is available only in Office 2016.

<182> Section 2.22.1.8: This element is available only in Office 2016.

<183> Section 2.22.1.9: This element is available only in Office 2016.

<184> Section 2.22.3.1: This complex type is available only in Office 2016.

<185> Section 2.22.3.1: This attribute is available only in Office 2016.

<186> Section 2.22.3.2: This complex type is available only in Office 2016.

<187> Section 2.22.3.2: This element is available only in Office 2016.

<188> Section 2.22.3.2: This element is available only in Office 2016.

<189> Section 2.22.3.2: This element is available only in Office 2016.

<190> Section 2.22.3.2: This element is available only in Office 2016.

<191> Section 2.22.3.2: This element is available only in Office 2016.

<192> Section 2.22.3.2: This element is available only in Office 2016.

<193> Section 2.22.3.2: This element is available only in Office 2016.

<194> Section 2.22.3.3: This complex type is available only in Office 2016.

<195> Section 2.22.3.3: This element is available only in Office 2016.

<196> Section 2.22.3.4: This complex type is available only in Office 2016.

<197> Section 2.22.3.4: This element is available only in Office 2016.

<198> Section 2.22.3.5: This complex type is available only in Office 2016.

<199> Section 2.22.3.5: This element is available only in Office 2016.

<200> Section 2.22.3.5: This element is available only in Office 2016.

<201> Section 2.22.3.6: This complex type is available only in Office 2016.

<202> Section 2.22.3.6: This attribute is available only in Office 2016.

<203> Section 2.22.3.7: This complex type is available only in Office 2016.

<204> Section 2.22.3.7: In Office 2016, when a chart with this flag is loaded, a temporary embedded Microsoft Excel 2016 workbook is created to store the literal data and create a substitute connection with Excel 2016.

<205> Section 2.22.3.7: This attribute is available only in Office 2016.

<206> Section 2.22.3.8: This complex type is available only in Office 2016.

<207> Section 2.22.3.8: This element is available only in Office 2016.

<208> Section 2.22.3.9: This complex type is available only in Office 2016.

<209> Section 2.22.3.9: This element is available only in Office 2016.

<210> Section 2.22.3.10: This complex type is available only in Office 2016.

<211> Section 2.22.3.10: This element is available only in Office 2016.

<212> Section 2.22.3.11: This complex type is available only in Office 2016.

<213> Section 2.22.3.11: This element is available only in Office 2016.

<214> Section 2.23.1.1: This element is available only in Office 2016.

<215> Section 2.24.3.1: This complex type is available only in Office 2016.

<216> Section 2.24.3.1: This attribute is available only in Office 2016.

<217> Section 2.24.3.1: This attribute is available only in Office 2016.

<218> Section 2.24.3.1: This attribute is available only in Office 2016.

<219> Section 2.24.3.1: This attribute is available only in Office 2016.

<220> Section 2.24.3.1: This attribute is available only in Office 2016.

<221> Section 2.24.3.1: This attribute is available only in Office 2016.

<222> Section 2.24.3.1: This attribute is available only in Office 2016.

<223> Section 2.24.3.2: This complex type is available only in Office 2016.

<224> Section 2.24.3.3: This complex type is available only in Office 2016.

<225> Section 2.24.3.3: This element is available only in Office 2016.

<226> Section 2.24.3.3: This element is available only in Office 2016.

<227> Section 2.24.3.3: This element is available only in Office 2016.

<228> Section 2.24.3.3: This element is available only in Office 2016.

<229> Section 2.24.3.3: This element is available only in Office 2016.

<230> Section 2.24.3.3: This element is available only in Office 2016.

<231> Section 2.24.3.3: This element is available only in Office 2016.

<232> Section 2.24.3.3: This element is available only in Office 2016.

<233> Section 2.24.3.3: This element is available only in Office 2016.

<234> Section 2.24.3.3: This element is available only in Office 2016.

<235> Section 2.24.3.3: This element is available only in Office 2016.

<236> Section 2.24.3.3: This element is available only in Office 2016.

<237> Section 2.24.3.3: This attribute is available only in Office 2016.

<238> Section 2.24.3.3: This attribute is available only in Office 2016.

<239> Section 2.24.3.4: This complex type is available only in Office 2016.

<240> Section 2.24.3.4: This element is available only in Office 2016.

<241> Section 2.24.3.4: This element is available only in Office 2016.

<242> Section 2.24.3.4: This element is available only in Office 2016.

<243> Section 2.24.3.4: This element is available only in Office 2016.

<244> Section 2.24.3.5: This complex type is available only in Office 2016.

<245> Section 2.24.3.5: This element is available only in Office 2016.

<246> Section 2.24.3.5: This element is available only in Office 2016.

<247> Section 2.24.3.5: This attribute is available only in Office 2016.

<248> Section 2.24.3.6: This complex type is available only in Office 2016.

<249> Section 2.24.3.6: This element is available only in Office 2016.

<250> Section 2.24.3.6: This element is available only in Office 2016.

<251> Section 2.24.3.6: This element is available only in Office 2016.

<252> Section 2.24.3.6: This element is available only in Office 2016.

<253> Section 2.24.3.7: This complex type is available only in Office 2016.

<254> Section 2.24.3.7: This element is available only in Office 2016.

<255> Section 2.24.3.7: This element is available only in Office 2016.

<256> Section 2.24.3.7: This attribute is available only in Office 2016.

<257> Section 2.24.3.7: This attribute is available only in Office 2016.

<258> Section 2.24.3.7: This attribute is available only in Office 2016.

<259> Section 2.24.3.8: This complex type is available only in Office 2016.

<260> Section 2.24.3.8: This attribute is available only in Office 2016.

<261> Section 2.24.3.9: This complex type is available only in Office 2016.

<262> Section 2.24.3.9: This element is available only in Office 2016.

<263> Section 2.24.3.9: This element is available only in Office 2016.

<264> Section 2.24.3.9: This element is available only in Office 2016.

<265> Section 2.24.3.9: This element is available only in Office 2016.

<266> Section 2.24.3.10: This complex type is available only in Office 2016.

<267> Section 2.24.3.10: This element is available only in Office 2016.

<268> Section 2.24.3.10: This element is available only in Office 2016.

<269> Section 2.24.3.11: This complex type is available only in Office 2016.

<270> Section 2.24.3.11: This element is available only in Office 2016.

<271> Section 2.24.3.11: This element is available only in Office 2016.

<272> Section 2.24.3.11: This element is available only in Office 2016.

<273> Section 2.24.3.11: This element is available only in Office 2016.

<274> Section 2.24.3.11: This element is available only in Office 2016.

<275> Section 2.24.3.11: This element is available only in Office 2016.

<276> Section 2.24.3.11: This element is available only in Office 2016.

<277> Section 2.24.3.12: This complex type is available only in Office 2016.

<278> Section 2.24.3.12: This element is available only in Office 2016.

<279> Section 2.24.3.12: This element is available only in Office 2016.

<280> Section 2.24.3.12: This element is available only in Office 2016.

<281> Section 2.24.3.12: This element is available only in Office 2016.

<282> Section 2.24.3.12: This attribute is available only in Office 2016.

<283> Section 2.24.3.12: This attribute is available only in Office 2016.

<284> Section 2.24.3.12: This attribute is available only in Office 2016.

<285> Section 2.24.3.13: This complex type is available only in Office 2016.

<286> Section 2.24.3.13: This element is available only in Office 2016.

<287> Section 2.24.3.13: This element is available only in Office 2016.

<288> Section 2.24.3.13: This element is available only in Office 2016.

<289> Section 2.24.3.13: This element is available only in Office 2016.

<290> Section 2.24.3.14: This complex type is available only in Office 2016.

<291> Section 2.24.3.14: This element is available only in Office 2016.

<292> Section 2.24.3.15: This complex type is available only in Office 2016.

<293> Section 2.24.3.15: This element is available only in Office 2016.

<294> Section 2.24.3.15: This element is available only in Office 2016.

<295> Section 2.24.3.15: This element is available only in Office 2016.

<296> Section 2.24.3.15: This attribute is available only in Office 2016.

<297> Section 2.24.3.16: This complex type is available only in Office 2016.

<298> Section 2.24.3.16: This attribute is available only in Office 2016.

<299> Section 2.24.3.17: This complex type is available only in Office 2016.

<300> Section 2.24.3.17: This element is available only in Office 2016.

<301> Section 2.24.3.17: This element is available only in Office 2016.

<302> Section 2.24.3.17: This element is available only in Office 2016.

<303> Section 2.24.3.17: This element is available only in Office 2016.

<304> Section 2.24.3.17: This element is available only in Office 2016.

<305> Section 2.24.3.17: This element is available only in Office 2016.

<306> Section 2.24.3.17: This attribute is available only in Office 2016.

<307> Section 2.24.3.17: This attribute is available only in Office 2016.

<308> Section 2.24.3.18: This complex type is available only in Office 2016.

<309> Section 2.24.3.18: This attribute is available only in Office 2016.

<310> Section 2.24.3.19: This complex type is available only in Office 2016.

<311> Section 2.24.3.19: This element is available only in Office 2016.

<312> Section 2.24.3.19: This element is available only in Office 2016.

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<316> Section 2.24.3.19: This element is available only in Office 2016.

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<318> Section 2.24.3.19: This element is available only in Office 2016.

<319> Section 2.24.3.19: This attribute is available only in Office 2016.

<320> Section 2.24.3.20: This complex type is available only in Office 2016.

<321> Section 2.24.3.20: This attribute is available only in Office 2016.

<322> Section 2.24.3.20: This attribute is available only in Office 2016.

<323> Section 2.24.3.20: This attribute is available only in Office 2016.

<324> Section 2.24.3.21: This complex type is available only in Office 2016.

<325> Section 2.24.3.21: This element is available only in Office 2016.

<326> Section 2.24.3.21: This element is available only in Office 2016.

<327> Section 2.24.3.21: This attribute is available only in Office 2016.

<328> Section 2.24.3.22: This complex type is available only in Office 2016.

<329> Section 2.24.3.22: This attribute is available only in Office 2016.

<330> Section 2.24.3.23: This complex type is available only in Office 2016.

<331> Section 2.24.3.23: This element is available only in Office 2016.

<332> Section 2.24.3.24: This complex type is available only in Office 2016.

<333> Section 2.24.3.24: This attribute is available only in Office 2016.

<334> Section 2.24.3.24: This attribute is available only in Office 2016.

<335> Section 2.24.3.25: This complex type is available only in Office 2016.

<336> Section 2.24.3.26: This complex type is available only in Office 2016.

<337> Section 2.24.3.26: This element is available only in Office 2016.

<338> Section 2.24.3.26: This element is available only in Office 2016.

<339> Section 2.24.3.26: This attribute is available only in Office 2016.

<340> Section 2.24.3.27: This complex type is available only in Office 2016.

<341> Section 2.24.3.27: This element is available only in Office 2016.

<342> Section 2.24.3.28: This complex type is available only in Office 2016.

<343> Section 2.24.3.28: This attribute is available only in Office 2016.

<344> Section 2.24.3.29: This complex type is available only in Office 2016.

<345> Section 2.24.3.29: This element is available only in Office 2016.

<346> Section 2.24.3.29: This element is available only in Office 2016.

<347> Section 2.24.3.29: This attribute is available only in Office 2016.

<348> Section 2.24.3.30: This complex type is available only in Office 2016.

<349> Section 2.24.3.30: This element is available only in Office 2016.

<350> Section 2.24.3.31: This complex type is available only in Office 2016.

<351> Section 2.24.3.31: This element is available only in Office 2016.

<352> Section 2.24.3.31: This attribute is available only in Office 2016.

<353> Section 2.24.3.32: This complex type is available only in Office 2016.

<354> Section 2.24.3.32: This element is available only in Office 2016.

<355> Section 2.24.3.32: This element is available only in Office 2016.

<356> Section 2.24.3.33: This complex type is available only in Office 2016.

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<358> Section 2.24.3.35: This complex type is available only in Office 2016.

<359> Section 2.24.3.35: This element is available only in Office 2016.

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<361> Section 2.24.3.35: This attribute is available only in Office 2016.

<362> Section 2.24.3.35: This attribute is available only in Office 2016.

<363> Section 2.24.3.35: This attribute is available only in Office 2016.

<364> Section 2.24.3.35: This attribute is available only in Office 2016.

<365> Section 2.24.3.35: This attribute is available only in Office 2016.

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<367> Section 2.24.3.36: This complex type is available only in Office 2016.

<368> Section 2.24.3.36: This attribute is available only in Office 2016.

<369> Section 2.24.3.36: This attribute is available only in Office 2016.

<370> Section 2.24.3.37: This complex type is available only in Office 2016.

<371> Section 2.24.3.37: This element is available only in Office 2016.

<372> Section 2.24.3.37: This element is available only in Office 2016.

<373> Section 2.24.3.38: This complex type is available only in Office 2016.

<374> Section 2.24.3.38: This element is available only in Office 2016.

<375> Section 2.24.3.39: This complex type is available only in Office 2016.

<376> Section 2.24.3.39: This attribute is available only in Office 2016.

<377> Section 2.24.3.39: This attribute is available only in Office 2016.

<378> Section 2.24.3.39: This attribute is available only in Office 2016.

<379> Section 2.24.3.40: This complex type is available only in Office 2016.

<380> Section 2.24.3.40: This attribute is available only in Office 2016.

<381> Section 2.24.3.40: This attribute is available only in Office 2016.

<382> Section 2.24.3.41: This complex type is available only in Office 2016.

<383> Section 2.24.3.41: This element is available only in Office 2016.

<384> Section 2.24.3.41: This element is available only in Office 2016.

<385> Section 2.24.3.42: This complex type is available only in Office 2016.

<386> Section 2.24.3.42: This element is available only in Office 2016.

<387> Section 2.24.3.43: This complex type is available only in Office 2016.

<388> Section 2.24.3.43: This element is available only in Office 2016.

<389> Section 2.24.3.43: This attribute is available only in Office 2016.

<390> Section 2.24.3.43: This attribute is available only in Office 2016.

<391> Section 2.24.3.43: This attribute is available only in Office 2016.

<392> Section 2.24.3.43: This attribute is available only in Office 2016.

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<394> Section 2.24.3.44: This complex type is available only in Office 2016.

<395> Section 2.24.3.44: This attribute is available only in Office 2016.

<396> Section 2.24.3.44: This attribute is available only in Office 2016.

<397> Section 2.24.3.44: This attribute is available only in Office 2016.

<398> Section 2.24.3.45: This complex type is available only in Office 2016.

<399> Section 2.24.3.45: This element is available only in Office 2016.

<400> Section 2.24.3.45: This attribute is available only in Office 2016.

<401> Section 2.24.3.45: This attribute is available only in Office 2016.

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<404> Section 2.24.3.46: This complex type is available only in Office 2016.

<405> Section 2.24.3.46: This attribute is available only in Office 2016.

<406> Section 2.24.3.46: This attribute is available only in Office 2016.

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<410> Section 2.24.3.47: This complex type is available only in Office 2016.

<411> Section 2.24.3.47: This element is available only in Office 2016.

<412> Section 2.24.3.47: This element is available only in Office 2016.

<413> Section 2.24.3.48: This complex type is available only in Office 2016.

<414> Section 2.24.3.48: This element is available only in Office 2016.

<415> Section 2.24.3.49: This complex type is available only in Office 2016.

<416> Section 2.24.3.49: This element is available only in Office 2016.

<417> Section 2.24.3.50: This complex type is available only in Office 2016.

<418> Section 2.24.3.50: This attribute is available only in Office 2016.

<419> Section 2.24.3.50: This attribute is available only in Office 2016.

<420> Section 2.24.3.50: This attribute is available only in Office 2016.

<421> Section 2.24.3.51: This complex type is available only in Office 2016.

<422> Section 2.24.3.51: This element is available only in Office 2016.

<423> Section 2.24.3.52: This complex type is available only in Office 2016.

<424> Section 2.24.3.52: This element is available only in Office 2016.

<425> Section 2.24.3.52: This element is available only in Office 2016.

<426> Section 2.24.3.53: This complex type is available only in Office 2016.

<427> Section 2.24.3.53: This element is available only in Office 2016.

<428> Section 2.24.3.53: This element is available only in Office 2016.

<429> Section 2.24.3.53: This element is available only in Office 2016.

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<433> Section 2.24.3.53: This attribute is available only in Office 2016.

<434> Section 2.24.3.53: This attribute is available only in Office 2016.

<435> Section 2.24.3.53: This attribute is available only in Office 2016.

<436> Section 2.24.3.54: This complex type is available only in Office 2016.

<437> Section 2.24.3.54: This element is available only in Office 2016.

<438> Section 2.24.3.54: This element is available only in Office 2016.

<439> Section 2.24.3.54: This element is available only in Office 2016.

<440> Section 2.24.3.54: This attribute is available only in Office 2016.

<441> Section 2.24.3.54: This attribute is available only in Office 2016.

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7 Change Tracking

This section identifies changes that were made to this document since the last release. Changes are classified as Major, Minor, or None.

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.
- A document revision that captures changes to protocol functionality.

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 **None** means that no new technical changes were introduced. Minor editorial and formatting changes may have been made, but the relevant technical content is identical to the last released version.

The changes made to this document are listed in the following table. For more information, please contact dochelp@microsoft.com.

Section	Description	Revision class
2.26.3.1 CT_SVGBlip	Updated the attribute descriptions to clarify that the identification information is specified for a binary object.	Minor
2.27.3.1 CT_PictureAttributionSourceURL	Added "Referenced by" links.	Minor
2.30.4.1 ST_ExtendedBrushPropertyName	Added new section for this simple type.	Major
2.30.4.2 ST_InkEffectsType	Added new section for this simple type.	Major
2.31 http://schemas.microsoft.com/office/drawing/2017/model3d	Added new section for this schema and added the new Element, Attributes, Complex Types, and Simple Types child sections under this section.	Major
5 Appendix A: Full XML Schemas	Updated schema table to list all schemas from sub-sections.	Major

8 Index