[MS-EXSPXML]:
Excel Calculation Web Service XML Schema

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Revision Summary

Date	Revision History	Revision Class	Comments
07/13/2009	0.1	Major	Initial Availability
08/28/2009	0.2	Editorial	Revised and edited the technical content
11/06/2009	0.3	Editorial	Revised and edited the technical content
02/19/2010	1.0	Major	Updated and revised the technical content
03/31/2010	1.01	Editorial	Revised and edited the technical content
04/30/2010	1.02	Editorial	Revised and edited the technical content
06/07/2010	1.03	Editorial	Revised and edited the technical content
06/29/2010	1.04	Editorial	Changed language and formatting in the technical content.
07/23/2010	1.05	Minor	Clarified the meaning of the technical content.
09/27/2010	1.05	No change	No changes to the meaning, language, or formatting of the technical content.
11/15/2010	1.05	No change	No changes to the meaning, language, or formatting of the technical content.
12/17/2010	1.05	No change	No changes to the meaning, language, or formatting of the technical content.
03/18/2011	1.05	No change	No changes to the meaning, language, or formatting of the technical content.
06/10/2011	2.0	Major	Significantly changed the technical content.
01/20/2012	2.1	Minor	Clarified the meaning of the technical content.
04/11/2012	2.1	No change	No changes to the meaning, language, or formatting of the technical content.
07/16/2012	2.1	No change	No changes to the meaning, language, or formatting of the technical content.
09/12/2012	2.1	No change	No changes to the meaning, language, or formatting of the technical content.

Table of Contents

1 Introduction

This document specifies the Excel Calculation Web Service XML Schema. This structure specifies the representation of a workbook passed between a protocol client and a protocol server. For example, the structure can specify the number of sheets in a workbook, the data in each sheet and the formatting of that data.

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

1.1 Glossary

The following terms are defined in [MS-GLOS]:

attribute
XML

The following terms are defined in [MS-OFCGLOS]:

active cell
active sheet
adjacent cell
ascending order
AutoFilter
AutoFilter item
border
border formatting
border style
border thickness
bottom N filter
bottom N filter by count
bottom N filter by percent
caption
cell
cell contents
chart data table
chart sheet
color stop
column
column chart
column field
compact axis
conditional formatting
connection
custom filter
data bar
default font face color
default sheet tab color
descending order
drill indicator
external data
fill color
filter
filtering control

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flow
font
font face decoration
font face weight
gradient fill
gridline
group
header
hidden
hidden row
horizontal alignment
horizontal indent
horizontal text
hyperlink
icon
key performance indicator (KPI)
left-to-right
line chart
manual filter
merged range
named object
named object view
native PivotTable
OLAP
outline
outline level
page field parameter
pattern color
pattern fill
pattern mask
patterned overlay mask
phonetic information
PivotTable
pixel
point
published
published sheet
range
reading order
rich text
right-to-left
row
row field
scatter chart
sheet
sheet tab
shrink to fit
slicer
sort
sort order
sparkline
stock chart
style
summary
surface chart

table
top N filter
top N filter by count
top N filter by percent
vertical alignment
vertical indent
vertical text
visible
workbook
workbook parameter
worksheet
worksheet header
worksheet image
XML attribute
XML element
XML schema definition (XSD)
z-order

The following terms are specific to this document:

cell formatting: The set of properties that, as a whole, specify the appearance of a cell, such as font characteristics and fill color.

font face color: A property of a cell that specifies the color that is used to render a font.

hidden column: A column (2) that does not appear in a worksheet view because its width is set to 0 (zero). A column can be hidden if an outline is collapsed.

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

1.2 References

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

1.2.1 Normative References

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

[HTML] World Wide Web Consortium, "HTML 4.01 Specification", December 1999, http://www.w3.org/TR/html4/

[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

[MS-EXSPWS2] Microsoft Corporation, "Excel Calculation Web Service Version 2 Protocol Specification".

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

[RFC1738] Berners-Lee, T., Masinter, L., and McCahill, M., "Uniform Resource Locators (URL)", RFC 1738, December 1994, http://www.ietf.org/rfc/rfc1738.txt

[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

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

1.2.2 Informative References

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

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

[XMLSCHEMA] World Wide Web Consortium, "XML Schema", September 2005, http://www.w3.org/2001/XMLSchema

1.3 Structure Overview (Synopsis)

This schema specifies the representation of a **workbook**. The structure is used as described in [MS-EXSPWS2] to send a workbook definition from the protocol server to the protocol client. The structure can be used to render a workbook as well as enable interactivity with the workbook.

1.4 Relationship to Protocols and Other Structures

The Excel Calculation Web Service XML Schema Specification is an XML format as described in [XMLSCHEMA]. It is dependent on the structures that are defined in the following references:

- [ISO/IEC-29500-1] for the specification of formatting information.

- [MS-XLSX] for the specification of **conditional formatting icons**.

The structure defined in this specification is used as described in [MS-EXSPWS2] to specify the representation of a workbook.

1.5 Applicability Statement

The structure is appropriate for serializing portions of a workbook as part of the communication between protocol client and protocol server as described in [MS-EXSPWS2].

This structure is not applicable as a file format for persisting workbook data.

1.6 Versioning and Localization

None.

1.7 Vendor-Extensible Fields

None.

2 Structures

The following sections list the data types of the **XML elements** and **XML attributes (2)** in this format, as specified by [XMLSCHEMA1].

2.1 Global Elements

The following section lists the root XML element of this format, as specified by [XMLSCHEMA1].

2.1.1 Workbook

Specifies information about a workbook.

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

```
<xs:element name="Workbook" type="CT_Workbook">
  <xs:key name="styleIDKey">
    <xs:selector xpath="./Styles/Style"/>
    <xs:field xpath="@ID"/>
  </xs:key>
  <xs:keyref name="tableStyleIDKeyRef" refer="styleIDKey">
    <xs:selector xpath="./Worksheet/Table"/>
    <xs:field xpath="@StyleID"/>
  </xs:keyref>
  <xs:keyref name="columnStyleIDKeyRef" refer="styleIDKey">
    <xs:selector xpath="./Worksheet/Table/Column"/>
    <xs:field xpath="@StyleID"/>
  </xs:keyref>
  <xs:keyref name="columnBorderStyleIDKeyRef" refer="styleIDKey">
    <xs:selector xpath="./Worksheet/Table/Column"/>
    <xs:field xpath="@BorderID"/>
  </xs:keyref>
  <xs:keyref name="rowStyleIDKeyRef" refer="styleIDKey">
    <xs:selector xpath="./Worksheet/Table/Row"/>
    <xs:field xpath="@StyleID"/>
  </xs:keyref>
  <xs:keyref name="rowBorderStyleIDKeyRef" refer="styleIDKey">
    <xs:selector xpath="./Worksheet/Table/Row"/>
    <xs:field xpath="@BorderID"/>
  </xs:keyref>
  <xs:keyref name="cellStyleIDKeyRef" refer="styleIDKey">
    <xs:selector xpath="./Worksheet/Table/Row/Cell"/>
    <xs:field xpath="@StyleID"/>
  </xs:keyref>
  <xs:keyref name="cellBorderStyleIDKeyRef" refer="styleIDKey">
    <xs:selector xpath="./Worksheet/Table/Row/Cell"/>
    <xs:field xpath="@BorderID"/>
  </xs:keyref>
  <xs:keyref name="imagesBorderStyleIDKeyRef" refer="styleIDKey">
    <xs:selector xpath="./Worksheet/Images/Image"/>
    <xs:field xpath="@BorderID"/>
  </xs:keyref>
</xs:element>
```

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

2.2 Complex Types

The following sections list the data types of the XML elements in this format, as specified by [XMLSCHEMA1].

2.2.1 CT_WorkbookOptions

Referenced by: CT_Workbook

A collection of settings for the workbook.

Child Elements:

HideWorkbookTabs: Specifies whether **sheet tabs** are **hidden**. This element MUST be present if the sheet tabs on the workbook are hidden. This element MUST NOT be present if the sheet tabs are not hidden.

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

```
<xs:complexType name="CT_WorkbookOptions">
  <xs:sequence>
    <xs:element name="HideWorkbookTabs" minOccurs="0" maxOccurs="1"/>
  </xs:sequence>
</xs:complexType>
```

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

2.2.2 CT_Parameter

Referenced by: CT_Parameters

A **workbook parameter**.

Attributes:

Name: The name of a workbook parameter. MUST be unique across the list of workbook parameters in the workbook.

Comment: The comment for a workbook parameter.

IsPivotPageField: MUST be **true** if the workbook parameter is a PivotTable **page field parameter** and MUST NOT be present otherwise.

IsSlicer: MUST be **true** if the workbook parameter is a **slicer** and MUST NOT be present otherwise.

RequiresConnection: MUST NOT be present if **IsPivotPageField** is not present. If **IsPivotPageField** is present, this attribute (2) MUST be **true** if the workbook parameter requires an **external data connection (2)** to update the contents of the workbook parameter and MUST NOT be present otherwise.

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

```
<xs:complexType name="CT_Parameter">
  <xs:attribute name="Name" use="required" type="ST_ObjectName"/>
```

```
    <xs:attribute name="Comment" use="optional" type="ST_Comment"/>
    <xs:attribute name="IsPivotPageField" type="xs:boolean" default="false" use="optional"/>
    <xs:attribute name="IsSlicer" type="xs:boolean" default="false" use="optional"/>
    <xs:attribute name="RequiresConnection" type="xs:boolean" default="false" use="optional"/>
  </xs:complexType>
```

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

2.2.3   CT_Parameters

Referenced by: CT_Workbook

An unordered list of workbook parameters. MUST contain the unordered list of all the workbook parameters in the workbook.

Child Elements:

Parameter: A workbook parameter.

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

```
  <xs:complexType name="CT_Parameters">
    <xs:sequence>
      <xs:element name="Parameter" minOccurs="1" maxOccurs="255" type="CT_Parameter"/>
    </xs:sequence>
  </xs:complexType>
```

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

2.2.4   CT_NamedObject

Referenced by: CT_NamedObjects

A **named object**.

Attributes:

Name: The name of the named object. MUST be unique across the list of named objects in the workbook.

Type: The type of the named object.

SheetName: The name of the sheet (1) on which the named object resides.

DisplayRightToLeft: Specifies whether this named object is displayed in right-to-left format. This attribute (2) MUST be present and equal to **true** if the sheet (1) on which the named object resides is displayed right-to-left. This attribute (2) MUST NOT be present if the sheet (1) on which the named object resides is displayed left-to-right.

LastNonEmptyRow: When present, MUST be the last row (2) of the named object. This attribute (2) MUST be present if **Type** is "PivotTable", "Table", or "NamedRange". This attribute (2) MUST NOT be present if **Type** is "Chart".

LastNonEmptyColumn: When present, MUST be the last column (2) of the named object. This attribute (2) MUST be present if **Type** is "PivotTable", "Table", or "NamedRange". This attribute (2) MUST NOT be present if **Type** is "Chart".

CurrentFirstRow: When present, MUST be the first row (2) of the named object. This attribute (2) MUST be present if **Type** is "PivotTable", "Table", or "NamedRange". This attribute (2) MUST NOT be present if **Type** is "Chart".

FirstVisibleRow: When present, MUST be the first visible row (2) of the named object. This attribute (2) MUST be present if **Type** is "PivotTable", "Table", or "NamedRange". This attribute (2) MUST NOT be present if **Type** is "Chart".

LastVisibleRow: When present, MUST be the last visible row (2) of the named object. This attribute (2) MUST be present if **Type** is "PivotTable", "Table", or "NamedRange". This attribute (2) MUST NOT be present if **Type** is "Chart".

CurrentFirstColumn: When present, MUST be the first column (2) of the named object. This attribute (2) MUST be present if **Type** is "PivotTable", "Table", or "NamedRange". This attribute (2) MUST NOT be present if **Type** is "Chart".

FirstVisibleColumn: When present, MUST be the first visible column (2) of the named object. This attribute (2) MUST be present if **Type** is "PivotTable", "Table", or "NamedRange". This attribute (2) MUST NOT be present if **Type** is "Chart".

LastVisibleColumn: When present, MUST be the last visible column (2) of the named object. This attribute (2) MUST be present if **Type** is "PivotTable", "Table", or "NamedRange". This attribute (2) MUST NOT be present if **Type** is "Chart".

DisplayOutlines: Specifies whether outlines are displayed on the sheet (1) on which the named object resides. This attribute (2) MUST be present and equal to **true** if the sheet (1) on which the named object resides displays **outlines**. This attribute (2) MUST NOT be present if the sheet (1) on which the named object resides does not display outlines.

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

```
<xs:complexType name="CT_NamedObject">
  <xs:attribute name="Name" type="ST_ObjectName" use="required"/>
  <xs:attribute name="Type" type="ST_enmNamedObjectType" use="required"/>
  <xs:attribute name="SheetName" type="ST_SheetName" use="required"/>
  <xs:attribute name="DisplayRightToLeft" type="xs:boolean" default="false" use="optional"/>
  <xs:attribute name="LastNonEmptyRow" type="ST_excelRowNumber1Based" use="optional"/>
  <xs:attribute name="LastNonEmptyColumn" type="ST_excelColNumber1Based" use="optional"/>
  <xs:attribute name="CurrentFirstRow" type="ST_excelRowNumber1Based" use="optional"/>
  <xs:attribute name="FirstVisibleRow" type="ST_excelRowNumber1Based" use="optional"/>
  <xs:attribute name="LastVisibleRow" type="ST_excelRowNumber1Based" use="optional"/>
  <xs:attribute name="CurrentFirstColumn" type="ST_excelColNumber1Based" use="optional"/>
  <xs:attribute name="FirstVisibleColumn" type="ST_excelColNumber1Based" use="optional"/>
  <xs:attribute name="LastVisibleColumn" type="ST_excelColNumber1Based" use="optional"/>
  <xs:attribute name="DisplayOutlines" type="xs:boolean" default="false" use="optional"/>
</xs:complexType>
```

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

2.2.5 CT_NamedObjects

Referenced by: CT_Workbook

An unordered list of named objects. MUST contain all the **published visible** named objects in the workbook.

Child Elements:

NamedObject: A named object.

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

```
<xs:complexType name="CT_NamedObjects">
  <xs:sequence>
    <xs:element name="NamedObject" minOccurs="1" maxOccurs="unbounded"
type="CT_NamedObject"/>
  </xs:sequence>
</xs:complexType>
```

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

2.2.6 CT_Font

Referenced by: CT_Style

The **font** specification for a **worksheet cell** or **worksheet header**.

Attributes:

Size: Font size in **points**.

FontName: Font name.

Color: Font face color. This attribute (2) MUST be omitted when the **default font face color** is set.

Bold: Font face weight. This attribute (2) MUST be set to true when the font face weight is greater than 600.

Italic: Font face decoration.

StrikeThrough: Font face decoration.

VerticalAlign: Vertical alignment of the text.

Underline: Font face decoration.

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

```
<xs:complexType name="CT_Font">
  <xs:attribute name="Size" default="11" use="optional" type="ST_Size"/>
  <xs:attribute name="FontName" type="xs:string" use="required"/>
  <xs:attribute name="Color" type="ST_rgbTuple" default="#000000" use="optional"/>
  <xs:attribute name="Bold" type="xs:boolean" default="false" use="optional"/>
```

```
        <xs:attribute name="Italic" type="xs:boolean" default="false" use="optional"/>
        <xs:attribute name="StrikeThrough" type="xs:boolean" default="false" use="optional"/>
        <xs:attribute name="VerticalAlign" type="ST_enmFontVerticalAlignment" default="None"
use="optional"/>
        <xs:attribute name="Underline" type="ST_enmFontUnderline" default="None" use="optional"/>
    </xs:complexType>
```

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

2.2.7 CT_Alignment

Referenced by: CT_Style

The alignment and flow of text and conditional formatting within a worksheet cell.

Attributes:

Horizontal: Horizontal alignment of text. Equivalent to the **horizontal** attribute (2) of the **CT_CellAlignment** element specified in [ISO/IEC-29500-1]

WrapText: Specifies whether text wraps at whitespace. Equivalent to the **wrapText** attribute (2) of the **CT_CellAlignment** element specified in [ISO/IEC-29500-1].

Rotate: Angle of rotation in degrees, where the first character in the worksheet cell is the center of rotation.

- A positive number indicates that the text is rotated counter-clockwise from the 0 position.

- 0 indicates the text is not rotated.

- A negative number indicates that the text is rotated by the absolute value of the number clockwise from the 0 position.

VerticalText: Specifies whether the text is **vertical text**.

Vertical: Vertical alignment of text. Equivalent to the **vertical** attribute (2) of the **CT_CellAlignment** element specified in [ISO/IEC-29500-1].

ReadingOrder: The **reading order** of the worksheet cell.

ShrinkToFit: Specifies whether to **shrink to fit**. Equivalent to the **shrinkToFit** attribute (2) of the **CT_CellAlignment** element specified in [ISO/IEC-29500-1].

Indent: A scaling factor used in conjunction with the **DefaultIndentSize** attribute (2) on the CT_Table element to create a margin in points. Equivalent to the **indent** attribute (2) of the **CT_CellAlignment** element specified in [ISO/IEC-29500-1].

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

```
    <xs:complexType name="CT_Alignment">
      <xs:attribute name="Horizontal" type="ST_enmHorizontalAlignment" default="Automatic"
use="optional"/>
      <xs:attribute name="WrapText" type="xs:boolean" default="false" use="optional"/>
      <xs:attribute name="Rotate" default="0" use="optional" type="ST_Rotate"/>
      <xs:attribute name="VerticalText" type="xs:boolean" default="false" use="optional"/>
```

```
  <xs:attribute name="Vertical" type="ST_enmVerticalAlignment" default="Bottom"
use="optional"/>
  <xs:attribute name="ReadingOrder" type="ST_enmReadOrder" default="Context" use="optional"/>
  <xs:attribute name="ShrinkToFit" type="xs:boolean" default="false" use="optional"/>
  <xs:attribute name="Indent" type="xs:unsignedInt" default="0" use="optional"/>
</xs:complexType>
```

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

2.2.8 CT_Interior

Referenced by: CT_Style

The worksheet cell **fill color** or **pattern mask** and **pattern color**.

Attributes:

Color: The background fill color.

Pattern: The foreground pattern mask. This attribute (2) MUST be present when a **pattern fill** is present and MUST otherwise be omitted.

PatternColor: The foreground pattern color. This attribute (2) MUST be present when the **Pattern** attribute (2) is present and not equal to "Solid" and MUST otherwise be omitted.

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

```
<xs:complexType name="CT_Interior">
  <xs:attribute name="Color" type="ST_rgbTuple"/>
  <xs:attribute name="Pattern" type="ST_enmPattern" use="optional"/>
  <xs:attribute name="PatternColor" type="ST_rgbTuple" use="optional"/>
</xs:complexType>
```

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

2.2.9 CT_stop

Referenced by: CT_gradient

A **color stop** for a gradient.

Attributes:

position: The starting position for the gradient.

Color: The color of the color stop.

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

```
<xs:complexType name="CT_stop">
  <xs:attribute name="position" type="ST_percentage" use="required"/>
  <xs:attribute name="Color" type="ST_rgbTuple" use="required"/>
</xs:complexType>
```

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

2.2.10 CT_gradient

Referenced by: CT_Style

The **gradient fill** for a worksheet cell.

Child Elements:

stop: A color stop for the gradient. Each CT_stop element in the sequence other than the first one MUST have the value of its **position** attribute (2) greater than the value of the **position** attribute (2) of the preceding CT_stop element.

Attributes:

degree: The angle of rotation of the gradient **stop**. 0 degrees is horizontal from left to right with clockwise rotation from the bottom left corner of the worksheet cell.

type: The type of gradient.

left: The left edge of the color stop as a percentage of the containing worksheet cell.

right: The right edge of the color stop as a percentage of the containing worksheet cell.

top: The top edge of the color stop as a percentage of the containing worksheet cell.

bottom: The bottom edge of the color stop as a percentage of the containing worksheet cell.

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

```
<xs:complexType name="CT_gradient">
  <xs:sequence>
    <xs:element name="stop" minOccurs="2" maxOccurs="3" type="CT_stop"/>
  </xs:sequence>
  <xs:attribute name="degree" default="0.0" use="optional" type="ST_degree"/>
  <xs:attribute name="type" type="ST_enmGradientType" default="Linear" use="optional"/>
  <xs:attribute name="left" type="ST_percentage" default="0" use="optional"/>
  <xs:attribute name="right" type="ST_percentage" default="0" use="optional"/>
  <xs:attribute name="top" type="ST_percentage" default="0" use="optional"/>
  <xs:attribute name="bottom" type="ST_percentage" default="0" use="optional"/>
</xs:complexType>
```

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

2.2.11 CT_Border

Referenced by: CT_Borders

A **border**.

Attributes:

Position: The edge to which the border information applies.

LineStyle: The border line style.

Weight: The **border thickness** in **pixels**.

Color: The border color.

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

```
<xs:complexType name="CT_Border">
  <xs:attribute name="Position" type="ST_enmBorderPosition" use="required"/>
  <xs:attribute name="LineStyle" type="ST_enmBorderLineStyle" default="None" use="optional"/>
  <xs:attribute name="Weight" use="required" type="ST_Weight"/>
  <xs:attribute name="Color" type="ST_rgbTuple" use="required"/>
</xs:complexType>
```

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

2.2.12 CT_Borders

Referenced by: CT_Style

An unordered collection of CT_Border elements.

Child Elements:

Border: Specifies a border. There MUST be an element for every value of ST_enmBorderPosition for which the border is present.

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

```
<xs:complexType name="CT_Borders">
  <xs:sequence>
    <xs:element name="Border" minOccurs="0" maxOccurs="4" type="CT_Border"/>
  </xs:sequence>
</xs:complexType>
```

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

2.2.13 CT_Style

Referenced by: CT_Styles

Cell formatting or **border formatting**.

Child Elements:

Font: The font specification for one or more worksheet cells or worksheet headers.

Alignment: The alignment and **flow** of text and conditional formatting within a worksheet cell. This element MUST be present when one or more attributes do not equal their respective default **XSD** values and MUST NOT be present otherwise.

Interior: The fill color or pattern mask and pattern color. This element MUST be present when a solid or pattern fill is present and MUST NOT be present otherwise.

gradient: The gradient fill style and color. This element MUST be present when a gradient fill is present and MUST NOT be present otherwise.

Borders: An unordered collection of CT_Border elements.

Attributes:

ID: A ST_cellStyleID MUST be present when a **cellStyle** group (4) is present. A ST_borderStyleID MUST be present when a **borderStyle** group (4) is present.

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

```
<xs:complexType name="CT_Style">
  <xs:choice>
    <xs:group ref="cellStyle"/>
    <xs:group ref="borderStyle"/>
  </xs:choice>
  <xs:attribute name="ID" use="required" type="ST_ID"/>
</xs:complexType>
```

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

2.2.14   CT_Styles

Referenced by: CT_Workbook

An unordered collection of CT_Style elements. For a worksheet or a named object containing a **range** within a worksheet, this collection MUST contain the default style ST_cellStyleID.

Child Elements:

Style: Cell formatting or border formatting applied to one or more worksheet cells, worksheet header cells, or charts.

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

```
<xs:complexType name="CT_Styles">
  <xs:sequence>
    <xs:element name="Style" minOccurs="1" maxOccurs="unbounded" type="CT_Style"/>
  </xs:sequence>
</xs:complexType>
```

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

2.2.15   CT_WorksheetOptions

Referenced by: CT_Worksheet

A collection of settings and options for the sheet (1).

Attributes:

DoNotDisplayGridlines: Specifies whether the **gridlines** are visible.

- This attribute (2) MUST be present if the **Chartsheet** attribute (2) of the CT_Worksheet element is false and there are no gridlines present on the worksheet.

- This attribute (2) MUST NOT be present if the **Chartsheet** attribute (2) of the CT_Worksheet element is true.

- This attribute (2) MUST NOT be present if the **Chartsheet** attribute (2) of the CT_Worksheet element is false and there are gridlines present on the worksheet.

DoNotDisplayHeadings: Specifies whether **row (2)** and **column (2) headers (1)** are visible.

- This attribute (2) MUST be present if the **Chartsheet** attribute (2) of the CT_Worksheet element is false and row (2) and column headers (1) are not visible .

- This attribute (2) MUST NOT be present if the **Chartsheet** attribute (2) of the CT_Worksheet element is true.

- This attribute (2) MUST NOT be present if the **Chartsheet** attribute (2) of the CT_Worksheet element is false and row (2) and column headers (1) are visible .

DisplayRightToLeft: Specifies whether the sheet (1) or named object is displayed in **right-to-left** format. This attribute (2) MUST be present if the sheet (1) or named object represented by the CT_Worksheet element is displayed right-to-left. This attribute (2) MUST NOT be present if the sheet (1) or named object is displayed **left-to-right**.

TabColor: The color of the sheet tab for the sheet (1) represented by the CT_Worksheet element, or the color of the sheet tab for the sheet (1) on which the named object represented by the CT_Worksheet element resides. This attribute (2) MUST be present if the **default sheet tab color** is not set and MUST NOT be present otherwise.

DisplayOutlines: Specifies whether outlines are displayed on the sheet (1). This attribute (2) MUST be present and equal to true if the sheet (1) displays outlines and MUST NOT be present otherwise.

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

```
<xs:complexType name="CT_WorksheetOptions">
  <xs:attribute name="DoNotDisplayGridlines" type="xs:boolean" default="false"
use="optional"/>
  <xs:attribute name="DoNotDisplayHeadings" type="xs:boolean" use="optional"/>
  <xs:attribute name="DisplayRightToLeft" type="xs:boolean" use="optional"/>
  <xs:attribute name="TabColor" type="ST_rgbTuple" use="optional"/>
  <xs:attribute name="DisplayOutlines" type="xs:boolean" default="false" use="optional"/>
</xs:complexType>
```

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

2.2.16 CT_Criteria

Referenced by: CT_item

Criteria applied in a **custom filter**.

Attributes:

Type: Specifies the comparison operator applied between **cell contents** and the value attribute (2) during filtering.

Relation: If there are two criteria in the custom filter, the logical operator applied between them. If the parent CT_item element has two CT_Criteria elements, this attribute (2) MUST be set on the first CT_Criteria element in the CT_item. This attribute (2) MUST NOT be present on the last CT_Criteria element in the parent CT_item.

value: The value that is used with the relational operator defined in the **Type** attribute (2) for filtering.

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

```
<xs:complexType name="CT_Criteria">
  <xs:attribute name="Type" type="ST_enmAutoFilterCriteriaOperationType" default="EQ"
use="optional"/>
  <xs:attribute name="Relation" type="ST_enmAutoFilterCriteriaRelationOperator" default="Nil"
use="optional"/>
  <xs:attribute name="value" use="required" type="ST_value"/>
</xs:complexType>
```

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

2.2.17   CT_top10

Referenced by: CT_item

A **top N filter** or a **bottom N filter** applied to an CT_item.

Attributes:

percent: Specifies whether the top N filter or bottom N filter is based on percentage of the total sum of values in the column (2) or not. This attribute (2) MUST be true when a **top N filter by percent** or a **bottom N filter by percent** is applied. It MUST be false when a **top N filter by count** or a **bottom N filter by count** is applied.

top: Specifies whether a top N filter or a bottom N filter is applied. This attribute (2) MUST be true when a top N filter is applied. It MUST be false when a bottom N filter is applied.

value: Value based on which the top N filter or bottom N filter is applied.

- If **percent** is true**,** the value of this attribute (2) MUST be greater than or equal to 0 and less than or equal to 100.

- If **percent** is false**,** the value of this attribute (2) MUST be greater than or equal to 0 and less than or equal to 500.

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

```
<xs:complexType name="CT_top10">
  <xs:attribute name="percent" type="xs:boolean" use="required"/>
  <xs:attribute name="top" type="xs:boolean" use="required"/>
  <xs:attribute name="value" use="required" type="ST_value1"/>
</xs:complexType>
```

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

2.2.18 CT_item

Referenced by: CT_autofilter

An **AutoFilter item** in an AutoFilter.

Child Elements:

Criteria: The rule defined in a custom filter. This element MUST be present if a custom filter is applied to the AutoFilter item and MUST NOT be present otherwise. If the custom filter contains two rules, then there MUST be two CT_Criteria elements present; if the custom filter contains a single rule, then there MUST be one CT_Criteria element present.

top10: This element holds information pertaining to the top N filter or bottom N filter applied to a CT_item. This element MUST be present if the **Top10** attribute (2) is true and it MUST NOT be present otherwise.

Attributes:

Index: The column (2) number on which the AutoFilter item exists.

Name: The name of the AutoFilter item in the **AutoFilter**. Its value MUST be equal to the value of the CT_Data element nested under the CT_Cell element that represent the worksheet cell on which the AutoFilter item is present.

Top10: Specifies whether a top N filter is applied to the AutoFilter item. This attribute (2) MUST NOT be true if the **Custom** attribute (2) is true, or the **Filter** attribute (2) is true or the **CriteriaType** attribute (2) is present. This attribute (2) MUST be present and set to true when a top N filter is applied to the autofilter item.

Type: This attribute (2) denotes the type of sorting or filtering applied to the AutoFilter item.

CriteriaType: A specific date or number **filter** that is applied to the AutoFilter item. This attribute (2) MUST NOT be present if the **Top10** attribute (2) is true, or the **Filter** attribute (2) is true or the **Custom** attribute (2) is true.

DataType: The type of data in the underlying worksheet cells of the AutoFilter item.

Filter: Specifies whether a **manual filter** is applied to the AutoFilter item. This attribute (2) MUST be present and set to true when a manual filter is applied to the AutoFilter item. This attribute (2) MUST NOT be true if the **Top10** attribute (2) is true or the **Custom** attribute (2) is true or the **CriteriaType** attribute (2) is present.

Custom: Specifies whether a filter that is not supported on the protocol server is applied to the AutoFilter item. This attribute (2) MUST be present and set to true when the AutoFilter item has a filter that is not supported on the protocol server applied to it. This attribute (2) MUST NOT be true if the **Top10** attribute (2) is true or the **Filter** attribute (2) is true or the **CriteriaType** attribute (2) is present.

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

```
<xs:complexType name="CT_item">
  <xs:sequence>
    <xs:element name="Criteria" minOccurs="0" maxOccurs="2" type="CT_Criteria"/>
    <xs:element name="top10" minOccurs="0" maxOccurs="1" type="CT_top10"/>
  </xs:sequence>
```

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```
<xs:attribute name="Index" type="ST_excelColNumber" default="0" use="optional"/>
<xs:attribute name="Name" type="xs:string" use="optional"/>
<xs:attribute name="Top10" type="xs:boolean" default="false" use="optional"/>
<xs:attribute name="Type" type="ST_enmFilterItemType" default="None" use="optional"/>
<xs:attribute name="CriteriaType" type="ST_enmAutoFilterItemCriteriaType" default="Nil"
use="optional"/>
<xs:attribute name="DataType" type="ST_enmAutoFilterItemType" default="Number"
use="optional"/>
<xs:attribute name="Filter" type="xs:boolean" default="false" use="optional"/>
<xs:attribute name="Custom" type="xs:boolean" default="false" use="optional"/>
</xs:complexType>
```

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

2.2.19   CT_autofilter

Referenced by: CT_autofilters

An AutoFilter in a worksheet.

Child Elements:

item: A column (2) in the AutoFilter.

Attributes:

ID: If the AutoFilter is part of a **table**, this attribute (2) denotes the identifier of the table. This attribute (2) MUST be present when the **Type** is "Table". It MUST NOT be present otherwise.

Row: The row (2) number on which the AutoFilter exists.

ColFirst: The column (2) number of the first visible column (2) in the AutoFilter.

Type: Specifies whether the AutoFilter is part of a table. If the autofilter is part of a table, this attribute (2) MUST have a value of "Table"; otherwise, it MUST have a value of "Sheet".

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

```
<xs:complexType name="CT_autofilter">
  <xs:sequence>
    <xs:element name="item" minOccurs="0" maxOccurs="16384" type="CT_item"/>
  </xs:sequence>
  <xs:attribute name="ID" type="xs:int" default="0" use="optional"/>
  <xs:attribute name="Row" type="ST_excelRowNumber" default="0" use="optional"/>
  <xs:attribute name="ColFirst" type="ST_excelColNumber" default="0" use="optional"/>
  <xs:attribute name="Type" use="required" type="ST_Type"/>
</xs:complexType>
```

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

2.2.20   CT_autofilters

Referenced by: CT_Worksheet

A list of AutoFilters. This element MUST contain the collection of all autofilters that are contained within the range defined in the CT_Table element. An autofilter is considered to be contained within a range if one or more worksheet cells defined in a nested CT_item element lie within the range. If an autofilter is defined on a **hidden row** (2) within the range defined in the CT_Table element, that autofilter MUST NOT be included in this collection. If all the worksheet cells defined in the nested CT_item elements that lie within the range defined in the CT_Table element are present on **hidden columns**, that autofilter MUST NOT be included in this collection. This element MUST have zero or one autofilter elements having the **Type** attribute (2) set to "Sheet".

Child Elements:

autofilter: An autofilter that lies within the range defined in the CT_Table element.

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

```
<xs:complexType name="CT_autofilters">
  <xs:sequence>
    <xs:element name="autofilter" minOccurs="1" maxOccurs="unbounded" type="CT_autofilter"/>
  </xs:sequence>
</xs:complexType>
```

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

2.2.21 CT_Operation

Referenced by: CT_Operations

An operation that is allowed on a range.

Attributes:

Type: The type of range operation.

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

```
<xs:complexType name="CT_Operation">
  <xs:attribute name="Type" type="ST_enmPivotRangeOperation"/>
</xs:complexType>
```

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

2.2.22 CT_Operations

Referenced by: CT_range

A list of all the operations that are allowed on the range.

Child Elements:

Operation: Specifies an operation that is allowed on the range.

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

```
<xs:complexType name="CT_Operations">
  <xs:sequence>
    <xs:element name="Operation" minOccurs="1" maxOccurs="unbounded" type="CT_Operation"/>
  </xs:sequence>
</xs:complexType>
```

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

2.2.23 CT_range

Referenced by: CT_Ranges

A range of a **PivotTable**.

Child Elements:

Operations: MUST contain the list of all the operations that are allowed on the range.

Attributes:

FirstColumn: When present, MUST be either the first column (2) of the PivotTable or the first column (2) of the requested range, whichever is greater.

FirstRow: When present, MUST be either the first row (2) of the PivotTable or the first row (2) of the requested range, whichever is greater.

LastColumn: When present, MUST be either the last column (2) of the PivotTable or the last column (2) of the requested range, whichever is less.

LastRow: When present, MUST be either the last row (2) of the PivotTable or the last row (2) of the requested range, whichever is less.

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

```
<xs:complexType name="CT_range">
  <xs:sequence>
    <xs:element name="Operations" minOccurs="1" maxOccurs="1" type="CT_Operations"/>
  </xs:sequence>
  <xs:attribute name="FirstColumn" type="ST_excelColNumber" use="optional" default="0"/>
  <xs:attribute name="FirstRow" type="ST_excelRowNumber" use="optional" default="0"/>
  <xs:attribute name="LastColumn" type="ST_excelColNumber" use="optional" default="0"/>
  <xs:attribute name="LastRow" type="ST_excelRowNumber" use="optional" default="0"/>
</xs:complexType>
```

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

2.2.24 CT_Ranges

Referenced by: CT_PivotTable

An unordered list of ranges.

Child Elements:

range: A range of the PivotTable that intersects with the returned range. MUST NOT be present if the range is hidden.

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

```
<xs:complexType name="CT_Ranges">
  <xs:sequence>
    <xs:element name="range" minOccurs="0" maxOccurs="unbounded" type="CT_range"/>
  </xs:sequence>
</xs:complexType>
```

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

2.2.25 CT_DataField

Referenced by: CT_DataFields

A PivotTable data field.

Attributes:

Name: The PivotTable data field **caption**.

Id: An identifier for the PivotTable data field.

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

```
<xs:complexType name="CT_DataField">
  <xs:attribute name="Name" type="ST_nonEmptyString"/>
  <xs:attribute name="Id" type="ST_nonEmptyString"/>
</xs:complexType>
```

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

2.2.26 CT_DataFields

Referenced by: CT_PivotTable

A list of PivotTable data fields.

Child Elements:

DataField: A PivotTable data field.

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

```
<xs:complexType name="CT_DataFields">
  <xs:sequence>
    <xs:element name="DataField" minOccurs="1" maxOccurs="unbounded" type="CT_DataField"/>
  </xs:sequence>
</xs:complexType>
```

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

2.2.27   CT_PivotTable

Referenced by: CT_PivotTables

A PivotTable®.

Child Elements:

Ranges: MUST contain the unordered list of all the ranges where the range of the PivotTable intersects with the returned range.

DataFields: MUST contain the list of all the PivotTable® data fields of the PivotTable represented by the parent element.

Attributes:

ExternalSourceIndex: An identifier that the protocol server uses to identify a connected data. MUST be 0 if **LocalSource** attribute (2) is **true**.

AdvancedFilters: MUST be ignored on receipt by the protocol client.

LocalSource: Specifies whether the PivotTable is a **native PivotTable**. MUST be true if the PivotTable is a native PivotTable.

Name: The identifier of a PivotTable.

DataConnectionName: An identifier that the protocol server uses to identify the data connection (2).

ShowDrillIndicators: Specifies whether the PivotTable allows displaying drill indicators. MUST be false if the PivotTable does not allow displaying **drill indicators**.

RequiresConnection: Specifies whether the PivotTable requires an external data connection (2) to update the contents of the PivotTable. MUST be **true** if the PivotTable requires an external data connection (2) to update the contents of the PivotTable.

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

```
<xs:complexType name="CT_PivotTable">
  <xs:sequence>
    <xs:element name="Ranges" minOccurs="1" maxOccurs="1" type="CT_Ranges"/>
    <xs:element name="DataFields" minOccurs="0" maxOccurs="1" type="CT_DataFields"/>
  </xs:sequence>
  <xs:attribute name="ExternalSourceIndex" type="xs:nonNegativeInteger" default="0"
use="optional"/>
  <xs:attribute name="AdvancedFilters" type="xs:boolean" default="false" use="optional"/>
  <xs:attribute name="LocalSource" type="xs:boolean" use="optional" default="false"/>
  <xs:attribute name="Name" type="ST_nonEmptyString"/>
  <xs:attribute name="DataConnectionName" type="ST_nonEmptyString"/>
  <xs:attribute name="ShowDrillIndicators" type="xs:boolean" default="true" use="optional"/>
  <xs:attribute name="RequiresConnection" type="xs:boolean" use="optional" default="false"/>
</xs:complexType>
```

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

2.2.28 CT_PivotTables

Referenced by: CT_Worksheet

An unordered list of PivotTables.

Child Elements:

PivotTable: A PivotTable where the range of the PivotTable intersects with the returned range.

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

```
<xs:complexType name="CT_PivotTables">
  <xs:sequence>
    <xs:element name="PivotTable" minOccurs="1" maxOccurs="unbounded" type="CT_PivotTable"/>
  </xs:sequence>
</xs:complexType>
```

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

2.2.29 CT_Location

Referenced by: CT_Hyperlink

A named object or range specifying the target location of a CT_Hyperlink element.

Attributes:

top: The first row (2) to which the location information applies.

left: The first column (2) to which the location information applies.

bottom: The last row (2) to which the location information applies.

right: The last column (2) to which the location information applies.

SheetName: The name of the **sheet (1)** on which the location resides.

Type: The type of named object to which the location information applies. This attribute (2) MUST be present if the location element refers to a named object and MUST NOT be present otherwise.

ObjectName: The named object to which this location element refers. This attribute (2) MUST be present if this location element refers to a named object and MUST NOT be present otherwise.

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

```
<xs:complexType name="CT_Location">
  <xs:attribute name="top" type="ST_excelRowNumber" use="required"/>
  <xs:attribute name="left" type="ST_excelColNumber" use="required"/>
  <xs:attribute name="bottom" type="ST_excelRowNumber" use="required"/>
  <xs:attribute name="right" type="ST_excelColNumber" use="required"/>
  <xs:attribute name="SheetName" type="ST_SheetName" use="required"/>
  <xs:attribute name="Type" type="ST_enmNamedObjectType" use="optional"
default="InvalidNamedObjectType"/>
  <xs:attribute name="ObjectName" type="ST_ObjectName" use="optional"/>
```

```
      </xs:complexType>
```

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

2.2.30   CT_Hyperlink

Referenced by: CT_Hyperlinks

A reference to a named object or range within the current workbook, or to an external resource.

Child Elements:

Target: An external resource. The element MAY<1> be a valid [RFC1738] URL.

Location: A named object or range which MUST exist within the current workbook and MUST be present when the **Target** element is omitted.

Tooltip: Descriptive text for the hyperlink. This element MUST be omitted when descriptive text is not present; in which case the value of **Target** or **Location** element specifies the **hyperlink**.

Attributes:

top: The first row (2) of the range to which the hyperlink information applies.

left: The first column (2) of the range to which the hyperlink information applies.

bottom: The last row (2) of the range to which the hyperlink information applies.

right: The last column (2) of the range to which the hyperlink information applies.

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

```
  <xs:complexType name="CT_Hyperlink">
    <xs:sequence>
      <xs:choice>
        <xs:element name="Target" type="ST_nonEmptyString"/>
        <xs:element name="Location" type="CT_Location"/>
      </xs:choice>
      <xs:element name="Tooltip" type="xs:string" minOccurs="0" maxOccurs="1"/>
    </xs:sequence>
    <xs:attribute name="top" type="ST_excelRowNumber" use="required"/>
    <xs:attribute name="left" type="ST_excelColNumber" use="required"/>
    <xs:attribute name="bottom" type="ST_excelRowNumber" use="required"/>
    <xs:attribute name="right" type="ST_excelColNumber" use="required"/>
  </xs:complexType>
```

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

2.2.31   CT_Hyperlinks

Referenced by: CT_Worksheet

Unordered collection of CT_Hyperlink elements that intersect the result range.

Child Elements:

Hyperlink: A CT_Hyperlink for each unique hyperlink that intersects the returned range defined in the CT_Table element. Worksheet cells which contain hyperlinks and intersect a PivotTable, or reference workbooks other than the current workbook MUST be omitted.

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

```
<xs:complexType name="CT_Hyperlinks">
  <xs:sequence>
    <xs:element name="Hyperlink" minOccurs="0" maxOccurs="unbounded" type="CT_Hyperlink"/>
  </xs:sequence>
</xs:complexType>
```

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

2.2.32 CT_ChartMetaData

Referenced by: CT_Image

Additional data pertaining to **worksheet images** that have Type chart.

Attributes:

ChartCategory: An ST_enmChartCategory attribute that specifies the category of the chart.

IsStackedType: Specifies whether the chart is a stacked type.

Is100PercentStackedType: Specifies whether the chart is a 100% stacked type of chart.

HasSimpleDataRange: Specifies whether the **chart data table** corresponds to a rectangular range of cells in the worksheet.

DataRangeForDisplay: Text representing the chart data table.

IsPivotChart: Specifies whether the chart data table overlaps a PivotTable.

DataSourceEmpty: Specifies whether the chart data table has no cells in it.

HasNoVisibleSeries: Specifies whether the chart data table contains no visible series.

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

```
<xs:complexType name="CT_ChartMetaData">
  <xs:sequence/>
  <xs:attribute name="ChartCategory" type="ST_enmChartCategory" use="required"/>
  <xs:attribute name="IsStackedType" type="xs:boolean" use="required"/>
  <xs:attribute name="Is100PercentStackedType" type="xs:boolean" use="required"/>
  <xs:attribute name="HasSimpleDataRange" type="xs:boolean" use="optional"/>
  <xs:attribute name="DataRangeForDisplay" type="xs:string" use="optional"/>
  <xs:attribute name="IsPivotChart" type="xs:boolean" use="optional"/>
  <xs:attribute name="DataSourceEmpty" type="xs:boolean" default="false" use="optional"/>
  <xs:attribute name="HasNoVisibleSeries" type="xs:boolean" default="false" use="optional"/>
</xs:complexType>
```

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

2.2.33 CT_Image

Referenced by: CT_Images

A worksheet image.

Child Elements:

ChartMetaData: A CT_ChartMetaData element that specifies additional information about the chart.

This element MUST be present when the Type is chart and MUST NOT be present when the Type is image.

Attributes:

Id: An identifier for the worksheet image. MUST be unique across all the worksheet images of the workbook.

ImageName: The name of the worksheet image.

Type: The type of worksheet image.

Version: A unique identifier for the state of the image on the protocol server.

Width: The width of the image in points.

Height: The height of the image in points.

BorderID: A CT_Style describing any borders applied to the worksheet image. If the **NamedRange** attribute (2) on the CT_Worksheet element is true or if the **ChartSheet** attribute (2) on the CT_Worksheet element is true, this attribute (2) MUST NOT be present.

ZOrder: The **z-order** for the worksheet image.

XOriginDelta: The X coordinate in points of the offset of the origin of the worksheet image from the starting column (2) of the requested range.

YOriginDelta: The Y coordinate in points of the offset of the origin of the worksheet image from the starting row (2) of the requested range.

AbsoluteLeft: The X coordinate in points of the offset of the origin of the worksheet image from the origin of the worksheet.

AbsoluteTop: The Y coordinate in points of the offset of the origin of the worksheet image from the origin of the worksheet.

AbsoluteRight: The X coordinate in points of the offset of the rightmost edge of the worksheet image from the origin of the worksheet. In a worksheet with right-to-left reading order, this corresponds to the leftmost edge of the worksheet image.

AbsoluteBottom: The Y coordinate in points of the offset of the bottom of the worksheet image from the origin of the worksheet.

ClippedWidth: The width in points of the portion of the image that intersects the requested range.

ClippedHeight: The height in points of the portion of the image that intersects the requested range.

Visible: Specifies whether the worksheet image is a visible worksheet image.

AltText: An alternative text used by the protocol server to provide an error message when the worksheet image is not supported.

LockAspectRatio: Specifies whether the worksheet image ought to maintain aspect ratio when resizing.

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

```
<xs:complexType name="CT_Image">
  <xs:sequence>
    <xs:element name="ChartMetaData" minOccurs="0" maxOccurs="1" type="CT_ChartMetaData"/>
  </xs:sequence>
  <xs:attribute name="Id" type="ST_nonEmptyString" use="required"/>
  <xs:attribute name="ImageName" type="xs:string" use="required"/>
  <xs:attribute name="Type" type="ST_enmImageType" use="optional" default="chart"/>
  <xs:attribute name="Version" type="xs:int" use="required"/>
  <xs:attribute name="Width" type="ST_nonNegativeDouble" use="required"/>
  <xs:attribute name="Height" type="ST_nonNegativeDouble" use="required"/>
  <xs:attribute name="BorderID" type="ST_borderStyleID" use="optional"/>
  <xs:attribute name="ZOrder" type="xs:int" use="required"/>
  <xs:attribute name="XOriginDelta" type="xs:double" default="0" use="optional"/>
  <xs:attribute name="YOriginDelta" type="xs:double" default="0" use="optional"/>
  <xs:attribute name="AbsoluteLeft" type="xs:double" use="required"/>
  <xs:attribute name="AbsoluteTop" type="xs:double" use="required"/>
  <xs:attribute name="AbsoluteRight" type="xs:double" use="required"/>
  <xs:attribute name="AbsoluteBottom" type="xs:double" use="required"/>
  <xs:attribute name="ClippedWidth" type="ST_nonNegativeDouble" default="0" use="optional"/>
  <xs:attribute name="ClippedHeight" type="ST_nonNegativeDouble" default="0" use="optional"/>
  <xs:attribute name="Visible" type="xs:boolean" default="true" use="optional"/>
  <xs:attribute name="AltText" type="xs:string" use="optional"/>
  <xs:attribute name="LockAspectRatio" type="xs:boolean" default="false" use="optional"/>
</xs:complexType>
```

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

2.2.34 CT_Images

Referenced by: CT_Worksheet

A list of worksheet images.

Child Elements:

Image: A worksheet image.

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

```
<xs:complexType name="CT_Images">
  <xs:sequence>
    <xs:element name="Image" minOccurs="1" maxOccurs="unbounded" type="CT_Image"/>
  </xs:sequence>
</xs:complexType>
```

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

2.2.35 CT_Table

Referenced by: CT_Worksheet

A range represented in tabular format. This element contains information about the following range:

- If the **NamedRange** attribute (2) on the parent CT_Worksheet element is false, the range represented is the range specified in [MS-EXSPWS2] CommandParameter **VisibleSheetRangeRequest** parameter sent by the protocol client.

- If the **NamedRange** attribute (2) on the parent CT_Worksheet element is true, the range represented is the intersection of the range specified in [MS-EXSPWS2] CommandParameter **VisibleSheetRangeRequest** parameter and the range defined on the named object.

Child Elements:

Column: This element represents one or more columns (2) in the range represented by the CT_Table element. There MUST be one element for every column (2) or collection of contiguous columns (2) that have identical hidden status, **outline level** (1) and width. The entries for this element MUST be ordered according to the column indices.

Row: This element represents one or more rows (2) in the range represented by the CT_Table element. There MUST be one element for every row (2) or collection of contiguous hidden rows (2). The entries for this element MUST be ordered according to the row (2) indices.

Attributes:

LastNonEmptyRow: The value of this attribute (2) MUST be the greater of the following two values:

- The last visible row (2) in the worksheet or the named object containing a worksheet cell that has data or formatting.

- The last visible row (2) in the range specified in [MS-EXSPWS2] CommandParameter **VisibleSheetRangeRequest** parameter sent by the protocol client.

LastNonEmptyColumn: The value of this attribute (2) MUST be the greater of the following two values:

- The last visible column (2) in the worksheet or the named object containing a worksheet cell that has data or formatting.

- The last visible column (2) in the range specified in [MS-EXSPWS2] CommandParameter **VisibleSheetRangeRequest** parameter sent by the protocol client.

CurrentFirstRow: The value of this attribute (2) MUST be one of the following values:

- If the **NamedRange** attribute (2) in the parent CT_Worksheet element is false, this attribute (2) represents the index of the first visible row (2) in the range specified in [MS-EXSPWS2] CommandParameter **VisibleSheetRangeRequest** parameter sent by the protocol client.

- If the **NamedRange** attribute (2) in the parent CT_Worksheet element is true, this attribute (2) represents the index of the first visible row (2) in the intersection of the range specified in [MS-EXSPWS2] CommandParameter **VisibleSheetRangeRequest** parameter sent by the protocol client and the range defined on the named object.

FirstVisibleRow: The value of this attribute (2) MUST be one of the following values:

▪ If the **NamedRange** attribute (2) in the parent CT_Worksheet element is false, this attribute (2) represents the index of the first visible row (2) in the worksheet.

▪ If the **NamedRange** attribute (2) in the parent CT_Worksheet element is true, this attribute (2) represents the index of the first visible row (2) in the range defined on the named object.

CurrentFirstRowVisibleOffset: The number of visible rows (2) between the first row (2) in the worksheet and **CurrentFirstRow**, including the first row (2) in the worksheet if it is visible but not including **CurrentFirstRow**.

LastVisibleRow: The value of this attribute (2) MUST be one of the following values:

▪ If the **NamedRange** attribute (2) in the parent CT_Worksheet element is false, this attribute (2) represents the index of the last visible row (2) in the worksheet.

▪ If the **NamedRange** attribute (2) in the parent CT_Worksheet element is true, this attribute (2) represents the index of the last visible row (2) in the range defined on the named object.

CurrentFirstColumn: The value of this attribute (2) MUST be one of the following values:

▪ If the **NamedRange** attribute (2) in the parent CT_Worksheet element is false, this attribute (2) represents the index of the first visible column (2) in the range specified in [MS-EXSPWS2] CommandParameter **VisibleSheetRangeRequest** parameter sent by the protocol client.

▪ If the **NamedRange** attribute (2) in the parent CT_Worksheet element is true, this attribute (2) represents the index of the first visible column (2) in the intersection of the range specified in [MS-EXSPWS2] CommandParameter **VisibleSheetRangeRequest** parameter sent by the protocol client and the range defined on the named object.

FirstVisibleColumn: The value of this attribute (2) MUST be one of the following values:

▪ If the **NamedRange** attribute (2) in the parent CT_Worksheet element is **false**, this attribute (2) represents the index of the first visible column (2) in the worksheet.

▪ If the **NamedRang**e attribute (2) in the parent CT_Worksheet element is **true**, this attribute (2) represents the index of the first visible column (2) in the range defined on the named object.

CurrentFirstColumnVisibleOffset: The number of visible columns (2) between the first column in the worksheet and **CurrentFirstColumn**, including the first column (2) in the worksheet if it is visible but not including **CurrentFirstColumn**.

LastVisibleColumn: The value of this attribute (2) MUST be one of the following values:

▪ If the **NamedRange** attribute (2) in the parent CT_Worksheet element is **false**, this attribute (2) represents the index of the last visible column (2) in the worksheet.

▪ If the **NamedRange** attribute (2) in the parent CT_Worksheet element is **true**, this attribute (2) represents the index of the last visible column (2) in the range defined on the named object.

DefaultRowHeight: The default height of a row (2) in points.

DefaultColumnWidth: The default width of a column (2), in points.

DefaultIndentWidth: The default **vertical indent** or **horizontal indent** used for rendering cell contents for worksheet cells with vertical text or **horizontal text** respectively, in points.

SelectionTop: The index of the row (2) that has the **active cell**. This attribute (2) MUST have a value other than 0 if all the following conditions are true:

- The **NamedRange** attribute (2) in CT_Worksheet is **false**.

- The worksheet has an active cell.

- There are one or more visible rows (2) in the worksheet.

- There are one or more visible columns (2) in the worksheet.

- The row (2) index of the active cell is greater than or equal to the value of the **FirstVisibleRow** attribute (2).

- The row (2) index of the active cell is less than or equal to the value of the **LastVisibleRow** attribute (2).

- The column index of the active cell is greater than or equal to the value of the **FirstVisibleColumn** attribute (2).

- The column index of the active cell is less than or equal to the value of the **LastVisibleColumn** attribute (2).

It MUST NOT be present or have a value of 0 otherwise.

SelectionLeft: The index of the column (2) which has the active cell. This attribute (2) MUST have a value other than 0 if all the following conditions are **true**:

- The **NamedRange** attribute (2) in CT_Worksheet is **false**.

- The worksheet has an active cell.

- There are one or more visible rows (2) in the worksheet.

- There are one or more visible columns (2) in the worksheet.

- The row (2) index of the active cell is greater than or equal to the value of the **FirstVisibleRow** attribute (2).

- The row (2) index of the active cell is less than or equal to the value of the **LastVisibleRow** attribute (2).

- The column index of the active cell is greater than or equal to the value of the **FirstVisibleColumn** attribute (2).

- The column index of the active cell is less than or equal to the value of the **LastVisibleColumn** attribute (2).

It MUST NOT be present or have a value of 0 otherwise.

summaryRight: Specifies whether the **summary** of a set of grouped columns (2) is displayed to the right of the grouped data. When this attribute (2) is set to true, it denotes that the summary of a set of grouped columns (2) is displayed to the right of grouped data. This attribute (2) MUST be present and set to false if outlines are visible on the worksheet and the summary of grouped columns (2) in the worksheet is displayed to the left of the grouped columns (2).

summaryBelow: Specifies whether the summary of a set of grouped rows (2) is displayed below the grouped data. When this attribute (2) is set to true, it denotes that the summary of a set of

grouped rows (2) is displayed below the grouped data. This attribute (2) MUST be present and set to false if outlines are visible on the worksheet and the summary of grouped rows (2) in the worksheet is displayed above the grouped rows (2).

outlineLevelCol: The maximum number of outline levels of outlining in a set of grouped columns (2) within the range represented by the **Table** element. This attribute (2) MUST be present if outlines are visible on the worksheet and there are one or more grouped columns (2) in the range represented by the CT_Table element.

outlineLevelRow: The maximum number of outline levels of outlining in a set of grouped rows (2) within the range represented by the **Table** element. This attribute (2) MUST be present if outlines are visible on the worksheet and there are one or more grouped rows (2) in the range represented by the CT_Table element.

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

```
<xs:complexType name="CT_Table">
  <xs:sequence>
    <xs:element name="Column" minOccurs="0" maxOccurs="16384" type="CT_ColumnAxisItem"/>
    <xs:element name="Row" minOccurs="0" maxOccurs="1048576" type="CT_RowAxisItem"/>
  </xs:sequence>
  <xs:attribute name="LastNonEmptyRow" type="ST_excelRowNumber1Based" use="required"/>
  <xs:attribute name="LastNonEmptyColumn" type="ST_excelColNumber1Based" use="required"/>
  <xs:attribute name="CurrentFirstRow" type="ST_excelRowNumber1Based" use="required"/>
  <xs:attribute name="FirstVisibleRow" type="ST_excelRowNumber1Based" use="required"/>
  <xs:attribute name="CurrentFirstRowVisibleOffset" type="ST_excelRowNumber" default="0"
use="optional"/>
  <xs:attribute name="LastVisibleRow" type="ST_excelRowNumber1Based" default="1048576"
use="optional"/>
  <xs:attribute name="CurrentFirstColumn" type="ST_excelColNumber1Based" use="required"/>
  <xs:attribute name="FirstVisibleColumn" type="ST_excelColNumber1Based" use="required"/>
  <xs:attribute name="CurrentFirstColumnVisibleOffset" type="ST_excelColNumber" default="0"
use="optional"/>
  <xs:attribute name="LastVisibleColumn" type="ST_excelColNumber1Based" default="16384"
use="optional"/>
  <xs:attribute name="DefaultRowHeight" default="12.75" use="optional"
type="ST_DefaultRowHeight"/>
  <xs:attribute name="DefaultColumnWidth" default="48" use="optional"
type="ST_DefaultColumnWidth"/>
  <xs:attribute name="DefaultIndentWidth" type="xs:double" default="9" use="optional"/>
  <xs:attribute name="SelectionTop" default="0" use="optional" type="ST_SelectionTop"/>
  <xs:attribute name="SelectionLeft" default="0" use="optional" type="ST_SelectionLeft"/>
  <xs:attribute name="summaryRight" type="xs:boolean" default="true" use="optional"/>
  <xs:attribute name="summaryBelow" type="xs:boolean" default="true" use="optional"/>
  <xs:attribute name="outlineLevelCol" type="ST_excelOutlineLevels" use="optional"
default="0"/>
  <xs:attribute name="outlineLevelRow" type="ST_excelOutlineLevels" use="optional"
default="0"/>
</xs:complexType>
```

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

2.2.36 CT_Slicer

Referenced by: CT_Slicers

A workbook slicer.

Attributes:

Name: The name of the slicer.

Caption: The caption of the slicer.

SlicerCacheId: An identifier that the protocol server uses in combination with **SlicerViewId** to identify a slicer.

SlicerViewId: An identifier that the protocol server uses in combination with **SlicerCacheId** to identify a slicer. The combination of the **SlicerCacheId** and **SlicerViewId** attributes MUST be unique in the workbook.

ExternalSourceIndex: An identifier that the protocol server uses to identify a connected data.

Version: A unique identifier for the state of the slicer on the protocol server.

Width: The width of the slicer in points.

Height: The height of the slicer in points.

ZOrder: The z-order for the slicer.

XOriginDelta: The X coordinate of the offset of the origin of the slicer from the starting column (2) of the requested range, in points. If the X coordinate of the origin of the slicer is less than the X coordinate of the requested range, this value MUST be negative.

YOriginDelta: The Y coordinate of the offset of the origin of the slicer from the starting row (2) of the requested range, in points. If the Y coordinate of the origin of the slicer is less than the Y coordinate of the requested range, this value MUST be negative.

ClippedWidth: The width of the portion of the slicer that intersects with the requested range, in points.

ClippedHeight: The height of the portion of the slicer that intersects the requested range, in points.

Visible: Specifies whether the slicer is visible. MUST be true if the slicer is visible and false if it is not visible.

HasConnection: Specifies whether the slicer has an active connection (2) to a PivotTable. MUST be present and set to true if one of the following conditions are met:

▪ The slicer is connected to a native PivotTable.

▪ The slicer is connected to an external data source and the connection (2) is active.

It MUST NOT be present otherwise.

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

```
<xs:complexType name="CT_Slicer">
  <xs:sequence/>
  <xs:attribute name="Name" type="ST_nonEmptyString" use="required"/>
  <xs:attribute name="Caption" type="xs:string" use="required"/>
  <xs:attribute name="SlicerCacheId" type="xs:int" use="required"/>
  <xs:attribute name="SlicerViewId" type="xs:int" use="required"/>
```

```
    <xs:attribute name="ExternalSourceIndex" type="xs:int" default="0" use="optional"/>
    <xs:attribute name="Version" type="xs:int" use="required"/>
    <xs:attribute name="Width" type="ST_nonNegativeDouble" use="required"/>
    <xs:attribute name="Height" type="ST_nonNegativeDouble" use="required"/>
    <xs:attribute name="ZOrder" type="xs:int" use="required"/>
    <xs:attribute name="XOriginDelta" type="xs:double" default="0" use="optional"/>
    <xs:attribute name="YOriginDelta" type="xs:double" default="0" use="optional"/>
    <xs:attribute name="ClippedWidth" type="ST_nonNegativeDouble" default="0" use="optional"/>
    <xs:attribute name="ClippedHeight" type="ST_nonNegativeDouble" default="0" use="optional"/>
    <xs:attribute name="Visible" type="xs:boolean" default="true" use="optional"/>
    <xs:attribute name="HasConnection" type="xs:boolean" default="true" use="optional"/>
  </xs:complexType>
```

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

2.2.37   CT_Slicers

Referenced by: CT_Worksheet

An unordered list of slicers.

Child Elements:

Slicer: Specifies a slicer. The range of the slicer MUST intersect with the requested range.

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

```
  <xs:complexType name="CT_Slicers">
    <xs:sequence>
      <xs:element name="Slicer" minOccurs="0" maxOccurs="unbounded" type="CT_Slicer"/>
    </xs:sequence>
  </xs:complexType>
```

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

2.2.38   CT_Worksheet

Referenced by: CT_Workbook

A sheet (1) or a named object in the workbook.

Child Elements:

WorksheetOptions: A collection of settings and options for the sheet (1).

This element MUST be present if any one of the following conditions is **true**:

- The **NamedRange** attribute (2) is **false**.

- The **NamedRange** attribute (2) is **true**, and the **ChartSheet** attribute (2) is **false**.

- The **NamedRange** attribute (2) is **true**, the **ChartSheet** attribute (2) is **true**, and the sheet (1) is displayed right-to-left.

It MUST NOT be present otherwise.

autofilters: A list of AutoFilters.

This element MUST NOT be present if the **ChartSheet** attribute (2) is **true**. If the **ChartSheet** attribute (2) is **false**, it MUST be present if any one of the following conditions is **true**:

- The **NamedRange** attribute (2) is false, the **Name** attribute (2) is equal to the **SheetName** element specified in [MS-EXSPWS2] CommandParameter *VisibleSheetRangeRequest* parameter sent by the protocol client, and one or more autofilters are present in the range defined in the CT_Table element.

- The **NamedRange** attribute (2) is **false**, the **SheetName** element specified in [MS-EXSPWS2] CommandParameter *VisibleSheetRangeRequest* parameter sent by the protocol client is empty, one or more autofilters are present in the range defined in the CT_Table element, and one of the following conditions is met:

  - The worksheet represented by this element is the **active sheet** in the workbook, and the worksheet is a visible **published sheet**.

  - The active sheet in the workbook is not visible or not published, and the worksheet represented by this element is the first visible published sheet in the workbook.

- The **NamedRange** attribute (2) is **true**, and one or more autofilters are present in the range defined in the CT_Table element.

It MUST NOT be present otherwise.

PivotTables: A list of PivotTables.

This element MUST NOT be present if the **ChartSheet** attribute (2) is **true**. If the **ChartSheet** attribute (2) is **false**, it MUST be present if any one of the following conditions is **true**:

- The **NamedRange** attribute (2) is **false**, the **Name** attribute (2) is equal to the **SheetName** element specified in [MS-EXSPWS2] CommandParameter *VisibleSheetRangeRequest* parameter sent by the protocol client, and one or more **PivotTable** elements are present in the range defined in the CT_Table element.

- The **NamedRange** attribute (2) is **false**, the **SheetName** element specified in [MS-EXSPWS2] CommandParameter *VisibleSheetRangeRequest* parameter sent by the protocol client is empty, one or more **PivotTable** elements are present in the range defined in the CT_Table element, and one of the following conditions is met:

  - The worksheet represented by this element is the active sheet in the workbook, and the worksheet is a visible published sheet.

  - The active sheet in the workbook is not visible or not published, and the worksheet represented by this element is the first visible published sheet in the workbook.

- The **NamedRange** attribute (2) is **true**, and one or more **PivotTable** elements is present in the range defined in the CT_Table element.

It MUST NOT be present otherwise.

Slicers: A list of slicers.

This element MUST NOT be present if the **ChartSheet** attribute (2) is **true**. If the **ChartSheet** element is **false**, it MUST be present if any one of the following conditions is **true**:

- The **NamedRange** attribute (2) is **false**, the **Name** attribute (2) is equal to the **SheetName** element specified in [MS-EXSPWS2] CommandParameter *VisibleSheetRangeRequest* parameter sent by the protocol client, and one or more slicers are present in the range defined in the CT_Table element.

- The **NamedRange** attribute (2) is **false**, the **SheetName** element specified in [MS-EXSPWS2] CommandParameter *VisibleSheetRangeRequest* parameter sent by the protocol client is empty, one or more slicers are present in the range defined in the CT_Table element, and one of the following conditions is met:

  - The worksheet represented by this element is the active sheet in the workbook, and the worksheet is a visible published sheet.

  - The active sheet in the workbook is not visible or not published, and the worksheet represented by this element is the first and visible published sheet in the workbook.

- The **NamedRange** attribute (2) is **true**, and one or more slicers are present in the range defined in the CT_Table element.

It MUST NOT be present otherwise.

Hyperlinks: A list of hyperlinks.

This element MUST NOT be present if the **ChartSheet** attribute (2) is **true**. If the **ChartSheet** attribute (2) is **false**, it MUST be present if any one of the following conditions is **true**:

- The **NamedRange** attribute (2) is **false**, the **Name** attribute (2) is equal to the **SheetName** element specified in [MS-EXSPWS2] CommandParameter **VisibleSheetRangeRequest** parameter sent by the protocol client, and there are one or more hyperlinks present in the range defined in the CT_Table element.

- The **NamedRange** attribute (2) is **false**, the **SheetName** element specified in [MS-EXSPWS2] CommandParameter **VisibleSheetRangeRequest** parameter sent by the protocol client is empty, there are one or more hyperlinks present in the range defined in the CT_Table element, and one of the following conditions is met:

  - The worksheet represented by this element is the active sheet in the workbook, and the worksheet is a visible published sheet.

  - The active sheet in the workbook is not visible or not published, and the worksheet represented by this element is the first and visible published sheet in the workbook.

- The **NamedRange** attribute (2) is **true**, and there are one or more hyperlinks present in the range defined in the CT_Table element.

It MUST NOT be present otherwise.

Images: A list of worksheet images.

This element MUST be present if any one of the following conditions is **true**:

- The **ChartSheet** attribute (2) is **true**, and the **Name** attribute (2) is equal to the **SheetName** element specified in [MS-EXSPWS2] CommandParameter *VisibleSheetRangeRequest* parameter sent by the protocol client.

- The **ChartSheet** attribute (2) is **true**, the **SheetName** element specified in [MS-EXSPWS2] CommandParameter *VisibleSheetRangeRequest* parameter sent by the protocol client is empty, and one of the following conditions is met:

- ▪The chart sheet represented by this element is the active sheet in the workbook, and the chart sheet is a visible published sheet.

- ▪The active sheet in the workbook is not visible or not published, and the chart sheet represented by this element is the first visible published sheet in the workbook.

- ▪ The **NamedRange** attribute (2) is **false**, the **Name** attribute (2) is equal to the **SheetName** element specified in [MS-EXSPWS2] CommandParameter *VisibleSheetRangeRequest* parameter sent by the protocol client, and one or more worksheet images are present in the range defined in the CT_Table element.

- ▪ The **NamedRange** attribute (2) is **false**, the **SheetName** element specified in [MS-EXSPWS2] CommandParameter *VisibleSheetRangeRequest* parameter sent by the protocol client is empty, one or more worksheet images are present in the range defined in the CT_Table element, and one of the following conditions is met:

  - ▪The worksheet represented by this element is the active sheet in the workbook, and the worksheet is a visible published sheet.

  - ▪The active sheet in the workbook is not visible or not published, and the worksheet represented by this element is the first visible published sheet in the workbook.

- ▪ The **NamedRange** attribute (2) is **true**, and one or more worksheet images are present in the range specified in the CT_Table element.

It MUST NOT be present otherwise.

Table: This element contains information about a range, represented in tabular format.

This element MUST NOT be present if the **ChartSheet** attribute (2) is **true**. If the **ChartSheet** element is **false**, it MUST be present if any one of the following conditions is **true**:

- ▪ The **NamedRange** attribute (2) is **false**, and the **Name** attribute (2) is equal to the **SheetName** element specified in [MS-EXSPWS2] CommandParameter *VisibleSheetRangeRequest* parameter sent by the protocol client.

- ▪ The **NamedRange** attribute (2) is **false**, the **SheetName** element specified in [MS-EXSPWS2] CommandParameter *VisibleSheetRangeRequest* parameter sent by the protocol client is empty, and one of the following conditions is met:

  - ▪The worksheet represented by this element is the active sheet in the workbook, and the worksheet is a visible published sheet.

  - ▪The active sheet in the workbook is not visible or not published, and the worksheet represented by this element is the first visible published sheet in the workbook.

- ▪ The **NamedRange** attribute (2) is **true**.

It MUST NOT be present otherwise.

Attributes:

ActiveSheet: Specifies whether the **Worksheet** element is the active sheet. This attribute (2) MUST be **true** if this **Worksheet** is the active sheet and MUST NOT be present otherwise. There MUST be only one **Worksheet** element in the workbook in which this attribute (2) is set to **true**, across the list of worksheets.

ChartSheet: Specifies whether the **Worksheet** element is a **chart sheet** or a named object of type chart. This attribute (2) MUST be set to **true** if the **Worksheet** element represents a chart sheet. If it represents a named object of type chart; this attribute (2) MUST NOT be present.

Name: The name of the sheet (1) or the named object represented by the **Worksheet** element. The type of this attribute (2) MUST be ST_SheetName if the **NamedRange** attribute (2) is **false**; it MUST be ST_ObjectName if the **NamedRange** attribute (2) is **true**. This attribute (2) MUST be unique across the list of worksheets in the workbook.

NameRTL: Specifies whether the sheet name is in right-to-left format. This attribute (2) MUST be set to **true** when the sheet name is in right-to-left format. This attribute (2) MUST NOT be present if the sheet name is not in right-to-left format.

NamedRange: Specifies whether the **Worksheet** element represents a named object. This attribute (2) MUST be set to **true** if the **Worksheet** element represents a named object. This attribute (2) MUST NOT be present if the **Worksheet** element does not represent a named object.

SheetName: The name of the sheet (1) on which the named object resides, if the **Worksheet** element is a named object. This attribute (2) MUST be present if the **NamedRange** attribute (2) is **true**; otherwise, this attribute (2) MUST NOT be present.

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

```
<xs:complexType name="CT_Worksheet">
  <xs:sequence>
    <xs:element name="WorksheetOptions" minOccurs="0" maxOccurs="1"
type="CT_WorksheetOptions"/>
    <xs:element name="autofilters" minOccurs="0" maxOccurs="1" type="CT_autofilters"/>
    <xs:element name="PivotTables" minOccurs="0" maxOccurs="1" type="CT_PivotTables"/>
    <xs:element name="Slicers" maxOccurs="1" minOccurs="0" type="CT_Slicers"/>
    <xs:element name="Hyperlinks" minOccurs="0" maxOccurs="1" type="CT_Hyperlinks"/>
    <xs:element name="Images" maxOccurs="1" minOccurs="0" type="CT_Images"/>
    <xs:element name="Table" minOccurs="0" maxOccurs="1" type="CT_Table"/>
  </xs:sequence>
  <xs:attribute name="ActiveSheet" type="xs:boolean" default="false" use="optional"/>
  <xs:attribute name="ChartSheet" type="xs:boolean" default="false" use="optional"/>
  <xs:attribute name="Name" type="ST_SheetOrObjectName" use="required"/>
  <xs:attribute name="NameRTL" type="xs:boolean" default="false" use="optional"/>
  <xs:attribute name="NamedRange" type="xs:boolean" default="false" use="optional"/>
  <xs:attribute name="SheetName" type="ST_SheetName" use="optional"/>
</xs:complexType>
```

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

2.2.39   CT_Workbook

Referenced by: Workbook

Specifies a workbook.

Child Elements:

WorkbookOptions: A collection of settings for the workbook.

Parameters: List of workbook parameters as specified in CT_Parameters. If there are no workbook parameters, this element MUST NOT be present.

NamedObjects: List of named objects as specified in CT_NamedObjects. If there are no named objects, this element MUST NOT be present.

Styles: An unordered collection of CT_Style elements as specified in CT_Styles. MUST NOT be present when one of the following conditions is **true**:

▪ The requested range is a chart sheet.

▪ The requested range is a named object containing a single chart, and a border is not specified.

Worksheet: A sheet (1) or a named object in the workbook. When this element represents a sheet (1), there MUST be an entry for every published sheet in the workbook and the order of entries MUST be the same as in the workbook. In **named object view** mode, there MUST be a single **Worksheet** element representing the named object.

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

```
<xs:complexType name="CT_Workbook" final="restriction">
  <xs:sequence>
    <xs:element name="WorkbookOptions" type="CT_WorkbookOptions"/>
    <xs:element name="Parameters" maxOccurs="1" minOccurs="0" type="CT_Parameters"/>
    <xs:element name="NamedObjects" minOccurs="0" maxOccurs="1" type="CT_NamedObjects"/>
    <xs:element name="Styles" minOccurs="0" maxOccurs="1" type="CT_Styles"/>
    <xs:element name="Worksheet" minOccurs="1" maxOccurs="unbounded" type="CT_Worksheet"/>
  </xs:sequence>
</xs:complexType>
```

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

2.2.40 CT_Data

Referenced by: CT_Cell

The data in the worksheet cell.

Attributes:

RTF: Specifies whether the data in the worksheet cell represented by the parent CT_Cell element has **rich text** formatting.

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

```
<xs:complexType name="CT_Data">
  <xs:simpleContent>
    <xs:extension base="xs:string">
      <xs:attribute name="RTF" type="xs:boolean" default="false" use="optional"/>
    </xs:extension>
  </xs:simpleContent>
</xs:complexType>
```

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

2.2.41 CT_Cell

Referenced by: CT_RowAxisItem

A worksheet cell that is not empty or that has a **border style** or cell style other than the default.

Child Elements:

Data: Information pertaining to the worksheet cell value. This element MUST be present if the worksheet cell is not empty.

Attributes:

BorderID: The border style associated with the worksheet cell.

Index: The index of the column (2) associated with the worksheet cell. This attribute (2) MUST NOT be present for the first CT_Cell in the CT_RowAxisItem element, otherwise this attribute (2) MUST be present when one or more preceding **adjacent cell** CT_Cell elements are omitted. CT_Cell elements are omitted in the following situations:

- The worksheet cell is hidden.

- The worksheet cell is part of a **merged range** and is not the first worksheet cell in a given merged range.

- The worksheet cell is empty, the default ST_cellStyleID is applied, the default ST_borderStyleID is applied, and there are neither **filtering control** nor PivotTable drill indicators.

StyleID: The formatting style associated with the worksheet cell.

SpanType: Specifies the reason why the worksheet cell occupies more than one row (2) or column (2). This attribute (2) MUST NOT be present if the cell does not occupy more than one row (2) or column (2).

SpillOrigin: The index of the column (2) associated with the first worksheet cell in a merged range. This attribute (2) MUST be present when **SpanType** is "Spill" and MUST NOT be present otherwise.

DatabarLength: The percentage of the worksheet cell width that contains the **data bar**. This attribute (2) MUST be present when the worksheet cell contains a data bar and MUST NOT be present otherwise. If present, the value of this attribute (2) MUST be positive when **DatabarAxisPosition** is not present.

If present, the value of this attribute (2) MUST be positive when any of the following conditions are met:

- **DatabarDirection** is "LeftToRight", and the data bar is to the right of the data bar axis.

- **DatabarDirection** is "Context", and the CT_WorksheetOptions **DisplayRightToLeft** attribute (2) is false and the data bar is to the right of the data bar axis.

- **DatabarDirection** is "RightToLeft", and the data bar is to the left of the data bar axis.

- **DatabarDirection** is "Context", and the CT_WorksheetOptions **DisplayRightToLeft** attribute (2) is true and the data bar is to the left of the data bar axis.

If **DatabarLength** is present and the aforementioned conditions are not met, the value of this attribute (2) MUST be negative.

DatabarColor: The color of the data bar in the worksheet cell. This attribute (2) MUST be present when **DatabarLength** is present and MUST NOT be present otherwise.

DatabarStyle: The type of fill color effect for the data bar in the worksheet cell. This attribute (2) MUST be present when **DatabarLength** is present and MUST NOT be present otherwise.

DatabarBorderColor: The color of the data bar border. This attribute (2) MUST be present when **DatabarLength** is present and there is a border on the data bar and MUST NOT be present otherwise.

DatabarDirection: The direction of the data bar in the worksheet cell. This attribute (2) MUST be present when **DatabarLength** is present and MUST NOT be present otherwise.

DatabarAxisPosition: The percentage of the worksheet cell width where the data bar axis is located from the left edge of the worksheet cell. This attribute (2) MUST be present when **DatabarLength** is present and there is a data bar axis and MUST NOT be present otherwise.

If **DatabarAxisPosition** is present, the position of the data bar within the worksheet cell MUST be to the right of the data bar axis when any of the following conditions are met:

- **DatabarDirection** is "LeftToRight", and the value of **DatabarLength** is positive.

- **DatabarDirection** is "RightToLeft", and the value of **DatabarLength** is negative.

- **DatabarDirection** is "Context", the CT_WorksheetOptions **DisplayRightToLeft** attribute (2) is **false**, and the value of **DatabarLength** is positive.

- **DatabarDirection** is "Context", the CT_WorksheetOptions **DisplayRightToLeft** attribute (2) is **true**, and the value of **DatabarLength** is negative.

If **DatabarAxisPosition** is present and the aforementioned conditions are not met, the position of the data bar within the worksheet cell MUST be to the left of the data bar axis.

DatabarAxisColor: The color of the data bar axis line. This attribute (2) MUST be present when **DatabarLength** is present and there is a data bar axis and MUST NOT be present otherwise.

HasDropDown: Specifies whether a PivotTable filtering control is associated with the worksheet cell.

KpiSet: Mapping to a particular set of **key performance indicator (KPI)** to use for conditional formatting in the worksheet cell. If this attribute (2) is present, it MUST have one of the values described in the following table.

Value	Meaning	KpiIcon range
-1	No key performance indicators.	N/A
0	Equivalent to the [MS-XLSX] ST_IconSetType **3Arrows** enumeration value.	0 to 2
1	Equivalent to the [MS-XLSX] ST_IconSetType **3ArrowsGray** enumeration value.	0 to 2
2	Equivalent to the [MS-XLSX] ST_IconSetType **3Flags** enumeration value.	0 to 2
3	Equivalent to the [MS-XLSX] ST_IconSetType **3TrafficLights1** enumeration value.	0 to 2

Value	Meaning	KpiIcon range
4	Equivalent to the [MS-XLSX] ST_IconSetType **3TrafficLights2** enumeration value.	0 to 2
5	Equivalent to the [MS-XLSX] ST_IconSetType **3Signs** enumeration value.	0 to 2
6	Equivalent to the [MS-XLSX] ST_IconSetType **3Symbols** enumeration value.	0 to 2
7	Equivalent to the [MS-XLSX] ST_IconSetType **3Symbols2** enumeration value.	0 to 2
8	Equivalent to the [MS-XLSX] ST_IconSetType **4Arrows** enumeration value.	0 to 3
9	Equivalent to the [MS-XLSX] ST_IconSetType **4ArrowsGray** enumeration value.	0 to 3
10	Equivalent to the [MS-XLSX] ST_IconSetType **4RedToBlack** enumeration value.	0 to 3
11	Equivalent to the [MS-XLSX] ST_IconSetType **4Rating** enumeration value.	0 to 3
12	Equivalent to the [MS-XLSX] ST_IconSetType **4TrafficLights** enumeration value.	0 to 3
13	Equivalent to the [MS-XLSX] ST_IconSetType **5Arrows** enumeration value.	0 to 4
14	Equivalent to the [MS-XLSX] ST_IconSetType **5ArrowsGray** enumeration value.	0 to 4
15	Equivalent to the [MS-XLSX] ST_IconSetType **5Ratings** enumeration value.	0 to 4
16	Equivalent to the [MS-XLSX] ST_IconSetType **5Quarters** enumeration value.	0 to 4
17	Equivalent to the [MS-XLSX] ST_IconSetType **3Stars** enumeration value.	0 to 2
18	Equivalent to the [MS-XLSX] ST_IconSetType **3Triangles** enumeration value.	0 to 2
19	Equivalent to the [MS-XLSX] ST_IconSetType **5Boxes** enumeration value.	0 to 4

KpiIcon: Mapping to an icon within the set of key performance indicator (KPI) icons specified by the **KpiSet** attribute (2). This attribute (2) MUST be present when the **KpiSet** attribute (2) is present and has a value other than -1 and MUST have a value within the range specified in the "KpiIcon Range" column (2) in the previous table for the row (2) corresponding to the value of **KpiSet**. It MUST NOT be present otherwise.

KpiSize: The size of the KPI icon to use. This attribute (2) MUST be present when the **KpiSet** attribute (2) is present and has a value other than -1. It otherwise MUST be omitted.

MergeDown: The number of additional rows (2) in the merged range excluding the current worksheet cell. This attribute (2) MUST be present if any one of the following conditions is **true**:

- The CT_WorksheetOptions **DisplayRightToLeft** attribute (2) is false and the worksheet cell is the upper-left visible worksheet cell in a merged range.

- The CT_WorksheetOptions **DisplayRightToLeft** attribute (2) is true and the worksheet cell is the upper-right visible worksheet cell in a merged range.

It MUST NOT be present otherwise.

MergeAcross: The number of additional columns (2) in the merged range excluding the current worksheet cell. This attribute (2) MUST be present if any one of the following conditions is true:

- The CT_WorksheetOptions **DisplayRightToLeft** attribute (2) is false and the worksheet cell is the upper-left visible worksheet cell in a merged range.

- The CT_WorksheetOptions **DisplayRightToLeft** attribute (2) is true and the worksheet cell is the upper-right visible worksheet cell in a merged range.

It MUST NOT be present otherwise.

FirstRow: The first row (2) of the merged range to which the worksheet cell belongs. This attribute (2) MUST be present if the worksheet cell is part of a merged range and the merged range is not completely contained within the requested range, and MUST NOT be present otherwise.

FirstColumn: The first column (2) of the merged range to which the worksheet cell belongs. This attribute (2) MUST be present if the worksheet cell is part of a merged range and the merged range is not completely contained within the requested range, and MUST NOT be present otherwise.

LastRow: The last row (2) of the merged range to which the worksheet cell belongs. This attribute (2) MUST be present if the worksheet cell is part of a merged range and the merged range is not completely contained within the requested range, and MUST NOT be present otherwise.

LastColumn: The last column (2) of the merged range to which the worksheet cell belongs. This attribute (2) MUST be present if the worksheet cell is part of a merged range and the merged range is not completely contained within the requested range, and MUST NOT be present otherwise.

XOriginDelta: This attribute (2) MUST be present if the worksheet cell is part of a merged range and the merged range is not completely contained within the requested range, and MUST NOT be present otherwise. If present, the value of this attribute (2) MUST be one of the following:

- If the CT_WorksheetOptions **DisplayRightToLeft** attribute (2) is **false**, the X coordinate in points of the left edge of the first column (2) in the merged range relative to the left edge of the worksheet cell.

- If the CT_WorksheetOptions **DisplayRightToLeft** attribute (2) is **true**, the X coordinate in points of the right edge of the worksheet cell relative to the right edge of the first column (2) in the merged range.

YOriginDelta: The Y coordinate in points of the top edge of the first row (2) in the merged range relative to the top edge of the worksheet cell. This attribute (2) MUST be present if the worksheet cell is part of a merged range and the merged range is not completely contained within the requested range, and MUST NOT be present otherwise.

Width: The total width in points of the merged range to which the worksheet cell belongs. This attribute (2) MUST be present if the worksheet cell is part of a merged range and the merged range is not completely contained within the requested range, and MUST NOT be present otherwise.

Height: The total height in points of the merged range to which the worksheet cell belongs. This attribute (2) MUST be present if the worksheet cell is part of a merged range and the merged range is not completely contained within the requested range, and MUST NOT be present otherwise.

OriginalText: The contents of a worksheet cell as it is displayed to the user. This attribute (2) MUST be present when the worksheet cell has a tool tip, rich text formatting, or the worksheet cell value is clipped, and MUST NOT be present otherwise.

DropDownType: The filter applied to the filtering control. This attribute (2) MUST NOT be present when the **HasDropDown** attribute is false or not present.

IsPivotPageField: Specifies whether the worksheet cell is a PivotTable page field. This attribute (2) MUST be omitted if the **HasDropDown** attribute (2) is **false**.

PageFieldID: The identifier for the PivotTable page field filter associated with the worksheet cell. This attribute (2) MUST be omitted if the **IsPivotPageField** attribute (2) is false.

Drillable: Specifies whether the worksheet cell is a **row field** or a **column field** in an **OLAP** PivotTable. This attribute (2) MUST be present and set to true for all worksheet cells that are row (2) fields or column fields in an OLAP PivotTable. It MUST NOT be present otherwise.

HasDrillIndicator: Specifies whether there is a PivotTable drill indicator present in the worksheet cell. This attribute (2) MUST be present and set to **true** for all worksheet cells that are row (2) fields or column fields in a PivotTable and have a drill indicator. It MUST NOT be present otherwise.

CompactAxis: Specifies whether the row (2) field has a **compact axis**. This attribute (2) MUST be present and set to **true** if the **HasDrillIndicator** attribute (2) is **true** and the row (2) field represented by the worksheet cell has a compact axis. It MUST NOT be present otherwise.

ExtraIndentSpace: Specifies whether the cell contents require additional indentation. This attribute (2) MUST be present and set to true if any one of the following conditions is **true**:

- The **HasDrillIndicator** attribute (2) is true and the **CompactAxis** attribute (2) is not true.

- The worksheet cell represents a row (2) field in a PivotTable and the row (2) field has a compact axis and the row (2) field has child items.

It MUST NOT be present otherwise.

WideIndent: Specifies whether indentation for the cell contents is incremented during rendering. This attribute (2) MUST be present and set to true if the worksheet cell represents a row (2)field in a PivotTable and if the row (2) field has a compact axis and the indentation for row (2) captions is set to 1 character in the worksheet. It MUST NOT be present otherwise.

Expanded: Specifies whether the drill indicator is in an expanded or collapsed state when the worksheet cell has a PivotTable drill indicator. This attribute (2) MUST be present and set to **true** if the **HasDrillIndicator** attribute (2) is **true** and the PivotTable drill indicator in the worksheet cell is in an expanded state. It MUST NOT be present otherwise.

Horizontal: The type of horizontal alignment applied to the key performance indicator (KPI) icon in a worksheet cell with conditional formatting. This attribute (2) MUST NOT be present if the **iconOnly** attribute (2) is not **true**. If the **iconOnly** attribute (2) is true, this attribute (2) MUST be present if horizontal alignment is applied. It MUST NOT be present otherwise.

iconOnly: Specifies whether only the key performance indicator (KPI) icon is shown in the worksheet cell, without the data in the worksheet cell. This attribute (2) MUST be present and set to true if a key performance indicator (KPI) icon is present in the worksheet cell, without the data in the worksheet cell. It MUST NOT be present otherwise.

FormulaError: Specifies whether the worksheet cell contents contains an invalid formula. MUST be present and set to true if the cell contents contains an invalid formula. It MUST NOT be present otherwise.

HasPhonInfo: Specifies whether the worksheet cell contains **phonetic information**. MUST be present and set to true if the cell contents contains phonetic information. It MUST NOT be present otherwise.

FormulaBarText: The cell contents of a worksheet cell.

HasSparkline: Specifies whether there is a **sparkline** present in the worksheet cell. This attribute (2) MUST be present and set to true for all worksheet cells that contain sparklines. It MUST NOT be present otherwise.

SparklineClusterOffsetTop: The Y coordinate in pixels of the offset of the origin of the sparkline for the worksheet cell relative to the top edge of the sparkline image. This attribute (2) MUST be present if **HasSparkline** is present and MUST NOT be present otherwise.

SparklineClusterOffsetLeft: The X coordinate in pixels of the offset of the origin of the sparkline for the worksheet cell relative to the left edge of the sparkline image. This attribute (2) MUST be present if **HasSparkline** is present and MUST NOT be present otherwise.

SparklineClusterFirstRow: The first row (2) of the requested range. MUST be present if **HasSparkline** is present and MUST NOT be present otherwise.

SparklineClusterLastRow: The last row (2) of the requested range. MUST be present if **HasSparkline** is present and MUST NOT be present otherwise.

SparklineClusterFirstColumn: The first column (2) of the requested range. MUST be present if **HasSparkline** is present and MUST NOT be present otherwise.

SparklineClusterLastColumn: The last column (2) of the requested range. MUST be present if **HasSparkline** is present and MUST NOT be present otherwise.

SparklineVersion: A unique identifier for the state of the sparkline on the protocol server. MUST be present if **HasSparkline** is present and MUST NOT be present otherwise.

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

```
<xs:complexType name="CT_Cell">
  <xs:sequence>
    <xs:element name="Data" minOccurs="0" maxOccurs="1" type="CT_Data"/>
  </xs:sequence>
  <xs:attribute name="BorderID" type="ST_borderStyleID" default="bD" use="optional"/>
  <xs:attribute name="Index" type="ST_excelColNumber1Based" use="optional"/>
  <xs:attribute name="StyleID" type="ST_cellStyleID" default="sD" use="optional"/>
  <xs:attribute name="SpanType" type="ST_enmCellSpanType" use="optional" default="None"/>
  <xs:attribute name="SpillOrigin" type="ST_excelColNumber1Based" use="optional"/>
  <xs:attribute name="DatabarLength" type="ST_databarLengthPercentage" default="0"
use="optional"/>
  <xs:attribute name="DatabarColor" type="ST_rgbTuple" use="optional"/>
  <xs:attribute name="DatabarStyle" type="ST_enmDatabarStyle" use="optional"
default="Gradient"/>
  <xs:attribute name="DatabarBorderColor" type="ST_rgbTuple" use="optional"/>
  <xs:attribute name="DatabarDirection" type="ST_enmReadOrder" use="optional"
default="Context"/>
  <xs:attribute name="DatabarAxisPosition" type="ST_databarLengthPercentage" default="0"
use="optional"/>
  <xs:attribute name="DatabarAxisColor" type="ST_rgbTuple" use="optional"/>
  <xs:attribute name="HasDropDown" type="xs:boolean" use="optional"/>
  <xs:attribute name="KpiSet" use="optional" default="-1" type="ST_KpiSet"/>
```

```
    <xs:attribute name="KpiIcon" use="optional" type="ST_KpiIcon"/>
    <xs:attribute name="KpiSize" use="optional" type="ST_KpiSize"/>
    <xs:attribute name="MergeDown" use="optional" type="ST_MergeDown"/>
    <xs:attribute name="MergeAcross" use="optional" type="ST_MergeAcross"/>
    <xs:attribute name="FirstRow" type="ST_excelRowNumber" use="optional" default="0"/>
    <xs:attribute name="FirstColumn" type="ST_excelColNumber" use="optional" default="0"/>
    <xs:attribute name="LastRow" type="ST_excelRowNumber" use="optional" default="0"/>
    <xs:attribute name="LastColumn" type="ST_excelColNumber" use="optional" default="0"/>
    <xs:attribute name="XOriginDelta" type="ST_nonPositiveDouble" default="0" use="optional"/>
    <xs:attribute name="YOriginDelta" type="ST_nonPositiveDouble" default="0" use="optional"/>
    <xs:attribute name="Width" type="ST_nonNegativeDouble" default="0" use="optional"/>
    <xs:attribute name="Height" type="ST_nonNegativeDouble" default="0" use="optional"/>
    <xs:attribute name="OriginalText" use="optional" type="xs:string"/>
    <xs:attribute name="DropDownType" type="ST_enmFilterItemType" use="optional"
default="None"/>
    <xs:attribute name="IsPivotPageField" type="xs:boolean" use="optional"/>
    <xs:attribute name="PageFieldID" type="xs:string" use="optional"/>
    <xs:attribute name="Drillable" type="xs:boolean" use="optional"/>
    <xs:attribute name="HasDrillIndicator" type="xs:boolean" default="false" use="optional"/>
    <xs:attribute name="CompactAxis" type="xs:boolean" default="false" use="optional"/>
    <xs:attribute name="ExtraIndentSpace" type="xs:boolean" use="optional"/>
    <xs:attribute name="WideIndent" type="xs:boolean" use="optional"/>
    <xs:attribute name="Expanded" type="xs:boolean" use="optional"/>
    <xs:attribute name="Horizontal" type="ST_enmHorizontalAlignment" default="Automatic"
use="optional"/>
    <xs:attribute name="iconOnly" type="xs:boolean" use="optional"/>
    <xs:attribute name="FormulaError" type="xs:boolean" default="false" use="optional"/>
    <xs:attribute name="HasPhonInfo" type="xs:boolean" default="false" use="optional"/>
    <xs:attribute name="FormulaBarText" type="xs:string" use="optional"/>
    <xs:attribute name="HasSparkline" type="xs:boolean" default="false" use="optional"/>
    <xs:attribute name="SparklineClusterOffsetTop" type="xs:nonNegativeInteger" default="0"
use="optional"/>
    <xs:attribute name="SparklineClusterOffsetLeft" type="xs:nonNegativeInteger" use="optional"
default="0"/>
    <xs:attribute name="SparklineClusterFirstRow" type="ST_excelRowNumber" use="optional"/>
    <xs:attribute name="SparklineClusterLastRow" type="ST_excelRowNumber" use="optional"/>
    <xs:attribute name="SparklineClusterFirstColumn" type="ST_excelColNumber" use="optional"/>
    <xs:attribute name="SparklineClusterLastColumn" type="ST_excelColNumber" use="optional"/>
    <xs:attribute name="SparklineVersion" type="xs:int" use="optional" default="0"/>
  </xs:complexType>
```

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

2.2.42   CT_RowAxisItem

Referenced by: CT_Table

Represents a single row (2) or multiple contiguous hidden rows, from the range defined in the parent CT_Table element.

Child Elements:

Cell: A worksheet cell that has data or that has formatting applied to it. This element MUST NOT be present if the **Hidden** attribute (2) is true. If the **Hidden** attribute (2) is not true, there MUST be an element for every worksheet cell in the row (2) that has data or that has formatting applied to it.

Attributes:

Span: If the element represents more than one row (2), this attribute (2) denotes the additional number of rows (2) represented by the element. This attribute (2) MUST be present if the **Hidden** attribute (2) is true and there are more than one contiguous hidden rows (2). It MUST NOT be present otherwise.

Hidden: Specifies whether the rows (2) are hidden. This attribute (2) MUST be present and set to true if the rows (2) represented by the element are hidden.

collapsed: If the row (2) represented by this element is part of a **group (4)**, this attribute (2) denotes whether the outlining at the current outline level (1) is collapsed. This attribute (2) MUST be present and set to true if the **Hidden** attribute (2) is not true and the row (2) is part of a group (4) and outlining for the outline level (1) of the row (2) is collapsed. It MUST NOT be present otherwise.

outlineLevel: The outline level (1) of outlining at the row (2) represented by the current element. This attribute (2) MUST be present if the **Hidden** attribute (2) is not true and the row (2) is part of a group (4). It MUST NOT be present otherwise.

adjacentOutlineLevel: The outline level (1) of outlining at an adjacent row (2) to the row (2) represented by the current element. This attribute (2) MUST be present and set to the outline level (1) of outlining of the previous row (2) if all of the following conditions are met:

- The current element is the first CT_RowAxisItem element in the parent CT_Table element.

- The row (2) is not the first row (2) in the worksheet.

- The **Hidden** attribute (2) is false and the row (2) is part of a group (4).

This attribute (2) MUST be present and set to the outlining level of outlining of the next row (2) if all of the following conditions are met:

- The current element is the last CT_RowAxisItem element in the parent CT_Table element.

- The row (2) is not the last row (2) in the worksheet.

- The **Hidden** attribute (2) is false and the row (2) is part of a group (4).

It MUST NOT be present otherwise.

Index: Index of the row (2) represented by the element. This attribute (2) MUST NOT be present for the first CT_RowAxisItem element in the parent CT_Table element. If it is not the first CT_RowAxisItem element, it MUST be present if the previous CT_RowAxisItem element has a **Hidden** attribute (2) set to true. It MUST NOT be present otherwise.

Height: Height of the row (2) in points. This attribute (2) MUST be present if the **Hidden** attribute (2) is not true. It MUST NOT be present otherwise.

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

```
<xs:complexType name="CT_RowAxisItem">
  <xs:sequence>
    <xs:element name="Cell" minOccurs="0" maxOccurs="16384" type="CT_Cell"/>
  </xs:sequence>
  <xs:attribute name="Span" use="optional" default="0" type="ST_excelRowNumber"/>
  <xs:attribute name="Hidden" type="xs:boolean" use="optional" default="false"/>
  <xs:attribute name="collapsed" type="xs:boolean" default="false" use="optional"/>
  <xs:attribute name="outlineLevel" type="ST_excelOutlineLevels" use="optional" default="0"/>
```

```
      <xs:attribute name="adjacentOutlineLevel" type="ST_excelOutlineLevels" use="optional"
  default="0"/>
      <xs:attribute name="Index" type="ST_excelRowNumber1Based" use="optional"/>
      <xs:attribute name="Height" type="ST_rowHeight" use="optional"/>
  </xs:complexType>
```

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

2.2.43   CT_ColumnAxisItem

Referenced by: CT_Table

Represents one or more contiguous columns (2) having identical hidden status, **style**, outline level (1) and width, from the range defined in the parent CT_Table element.

Attributes:

Span: If the element represents more than one column (2), this attribute (2) denotes the additional number of columns (2) represented by the element. This attribute (2) MUST be present if the element represents more than one column (2); it MUST NOT be present otherwise. This attribute (2) MUST NOT be present if the **collapsed** attribute (2) is present and set to **true**.

Hidden: Specifies whether the columns (2) are hidden. This attribute (2) MUST be present and set to **true** if the columns (2) represented by the element are hidden.

collapsed: If the column (2) represented by this element is part of a group (4), this attribute (2) denotes whether the outlining at the current outline level (1) is collapsed. This attribute (2) MUST be present and set to **true** if the column (2) is part of a group (4) and outlining for the outline level (1) of the column (2) is collapsed and the **Hidden** attribute (2) is **false**. This attribute (2) MUST NOT be present if the **Span** attribute (2) is present.

outlineLevel: The outline level (1) of outlining at the columns (2) represented by the current element. This attribute (2) MUST be present if the columns (2) are part of a group (4) and the **Hidden** attribute (2) is **false**; it MUST NOT be present otherwise.

adjacentOutlineLevel: The outline level (1) of outlining at an adjacent column (2) to the column (2) represented by the current element. This attribute (2) MUST be present and set to the outline level (1) of outlining of the previous column (2) if all of the following conditions are met:

▪ The current element is the first CT_ColumnAxisItem element in the parent CT_Table element.

▪ The column (2) is not the first column (2) in the worksheet.

▪ The **Hidden** attribute (2) is **false**, and the column (2) is part of a group (4).

This attribute (2) MUST be present and set to the outlining level of outlining of the next column (2) if all of the following conditions are met:

▪ The current element is the last CT_ColumnAxisItem element in the parent CT_Table element.

▪ The column (2) is not the last column (2) in the worksheet.

▪ The **Hidden** attribute (2) is **false**, and the column (2) is part of a group (4).

It MUST NOT be present otherwise.

Index: Index of the first column (2) in the set of columns (2) represented by the element. This attribute (2) MUST NOT be present for the first CT_ColumnAxisItem element in the parent CT_Table element. If it is not the first CT_ColumnAxisItem element, it MUST be present if any one of the following conditions is **true**:

- The previous CT_ColumnAxisItem element has a **Span** attribute (2).

- The previous CT_ColumnAxisItem element has a **Hidden** attribute (2) set to **true**.

It MUST NOT be present otherwise.

Width: The width of the columns (2), in points. This attribute (2) MUST NOT be present if the **Hidden** attribute (2) is present and set to true. If the **Hidden** attribute (2) is set to false, it MUST be present if any one of the following conditions is **true**:

- The value of the **Width** attribute (2) in the previous CT_ColumnAxisItem element is different from the width of the columns (2) represented by this element.

- The **Hidden** attribute (2) in the previous CT_ColumnAxisItem element is **true**.

- The value of the **collapsed** or **outlineLevel** attributes are true on the element or the preceding sibling CT_ColumnAxisItem element.

- The **collapsed** or the **outlineLevel** attribute is present on the element.

- This is the first CT_ColumnAxisItem child element of the CT_Table element.

- This is the last CT_ColumnAxisItem child element of the CT_Table element.

It MUST NOT be present otherwise.

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

```
<xs:complexType name="CT_ColumnAxisItem">
  <xs:attribute name="Span" use="optional" default="0" type="ST_excelColNumber"/>
  <xs:attribute name="Hidden" type="xs:boolean" use="optional" default="false"/>
  <xs:attribute name="collapsed" type="xs:boolean" default="false" use="optional"/>
  <xs:attribute name="outlineLevel" type="ST_excelOutlineLevels" use="optional" default="0"/>
  <xs:attribute name="adjacentOutlineLevel" type="ST_excelOutlineLevels" use="optional"
default="0"/>
  <xs:attribute name="Index" type="ST_excelColNumber1Based" use="optional"/>
  <xs:attribute name="Width" type="ST_columnWidth" use="optional"/>
</xs:complexType>
```

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

2.3 Simple Types

The following sections list the data types of the **XML attributes** in this format, as specified by [XMLSCHEMA1].

2.3.1 ST_ObjectName

Referenced by: CT_Parameter, CT_NamedObject, CT_Location, ST_SheetOrObjectName

The name of a named object or workbook parameter.

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

```
<xs:simpleType name="ST_ObjectName">
  <xs:restriction base="xs:string">
    <xs:minLength value="1"/>
    <xs:maxLength value="255"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.2 ST_SheetName

Referenced by: CT_NamedObject, CT_Location, ST_SheetOrObjectName, CT_Worksheet

The name of a sheet (1).

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

```
<xs:simpleType name="ST_SheetName">
  <xs:restriction base="xs:string">
    <xs:minLength value="1"/>
    <xs:maxLength value="31"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.3 ST_SheetOrObjectName

Referenced by: CT_Worksheet

The name of a named object, workbook parameter, or sheet (1).

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

```
<xs:simpleType name="ST_SheetOrObjectName">
  <xs:union memberTypes="ST_SheetName ST_ObjectName"/>
</xs:simpleType>
```

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

2.3.4 ST_Comment

Referenced by: CT_Parameter

A comment associated with a workbook parameter.

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

```
<xs:simpleType name="ST_Comment">
  <xs:restriction base="xs:string">
    <xs:maxLength value="255"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.5 ST_Size

Referenced by: CT_Font

Font size in points.

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

```
<xs:simpleType name="ST_Size">
  <xs:restriction base="xs:double">
    <xs:minInclusive value="1.0"/>
    <xs:maxInclusive value="409.0"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.6 ST_Rotate

Referenced by: CT_Alignment

Angle of rotation in degrees.

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

```
<xs:simpleType name="ST_Rotate">
  <xs:restriction base="xs:int">
    <xs:minInclusive value="-90"/>
    <xs:maxInclusive value="90"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.7 ST_degree

Referenced by: CT_gradient

The angle of rotation in degrees of the gradient CT_stop.

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

```
<xs:simpleType name="ST_degree">
```

```
<xs:restriction base="xs:double">
  <xs:minInclusive value="0.0"/>
  <xs:maxExclusive value="360.0"/>
</xs:restriction>
</xs:simpleType>
```

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

2.3.8 ST_Weight

Referenced by: CT_Border

A border thickness, in pixels.

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

```
<xs:simpleType name="ST_Weight">
  <xs:restriction base="xs:int">
    <xs:minInclusive value="0"/>
    <xs:maxInclusive value="3"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.9 ST_ID

Referenced by: CT_Style

A unique identifier for either a cell or border CT_Style element within the CT_Styles collection.

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

```
<xs:simpleType name="ST_ID">
  <xs:union memberTypes="ST_cellStyleID ST_borderStyleID"/>
</xs:simpleType>
```

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

2.3.10 ST_value

Referenced by: CT_Criteria

A criteria value.

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

```
<xs:simpleType name="ST_value">
  <xs:restriction base="xs:string">
    <xs:maxLength value="32767"/>
  </xs:restriction>
```

```
      </xs:simpleType>
```

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

2.3.11 ST_value1

Referenced by: CT_top10

A top N filter or a bottom N filter value.

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

```
<xs:simpleType name="ST_value1">
  <xs:restriction base="xs:int">
    <xs:minInclusive value="0"/>
    <xs:maxInclusive value="500"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.12 ST_Type

Referenced by: CT_autofilter

Specifies whether an AutoFilter is part of a table. The following table describes possible values.

Value	Meaning
Sheet	The autofilter is not a part of a table.
Table	The autofilter is a part of a table.

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

```
<xs:simpleType name="ST_Type">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Sheet"/>
    <xs:enumeration value="Table"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.13 ST_DefaultRowHeight

Referenced by: CT_Table

The range of sizes in points for the default row (2) height.

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

```
<xs:simpleType name="ST_DefaultRowHeight">
  <xs:union>
    <xs:simpleType>
      <xs:restriction base="ST_rowHeight"/>
    </xs:simpleType>
    <xs:simpleType>
      <xs:restriction base="xs:double">
        <xs:enumeration value="0"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:union>
</xs:simpleType>
```

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

2.3.14 ST_DefaultColumnWidth

Referenced by: CT_Table

The range of sizes in points for the default column (2) width.

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

```
<xs:simpleType name="ST_DefaultColumnWidth">
  <xs:union>
    <xs:simpleType>
      <xs:restriction base="ST_columnWidth"/>
    </xs:simpleType>
    <xs:simpleType>
      <xs:restriction base="xs:double">
        <xs:enumeration value="0"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:union>
</xs:simpleType>
```

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

2.3.15 ST_SelectionTop

Referenced by: CT_Table

The range of values for a selection's row (2) number.

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

```
<xs:simpleType name="ST_SelectionTop">
  <xs:restriction base="xs:int">
    <xs:minInclusive value="0"/>
    <xs:maxInclusive value="1048576"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.16 ST_SelectionLeft

Referenced by: CT_Table

The range of values for a selection's column (2) number.

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

```
<xs:simpleType name="ST_SelectionLeft">
  <xs:restriction base="xs:int">
    <xs:minInclusive value="0"/>
    <xs:maxInclusive value="16384"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.17 ST_cellStyleID

Referenced by: ST_ID, CT_Cell

A unique identifier for a cell CT_Style element within the CT_Styles collection.

The default worksheet cell and worksheet header (1) style is 'sD'.

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

```
<xs:simpleType name="ST_cellStyleID" final="restriction">
  <xs:restriction base="xs:string">
    <xs:pattern value="sD|0|[1-9][0-9]*"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.18 ST_borderStyleID

Referenced by: ST_ID, CT_Image, CT_Cell

A unique identifier for a border CT_Style element within the CT_Styles collection.

The default worksheet cell border style is "bD".

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

```
<xs:simpleType name="ST_borderStyleID" final="restriction">
  <xs:restriction base="xs:string">
    <xs:pattern value="bD|\-[1-9][0-9]*"/>
  </xs:restriction>
```

```
    </xs:simpleType>
```

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

2.3.19 ST_rgbTuple

Referenced by: CT_Font, CT_Interior, CT_stop, CT_Border, CT_WorksheetOptions, CT_Cell

A color as specified in [HTML] section 6.5, in unabbreviated form.

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

```
<xs:simpleType name="ST_rgbTuple" final="restriction">
  <xs:restriction base="xs:string">
    <xs:pattern value="#[0-9|A-F|a-f]{6}"/>
    <xs:length value="7"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.20 ST_enmBorderPosition

Referenced by: CT_Border

Specifies the position to which border information is applied.

The following table shows the enumeration values for this type.

Value	Meaning
None	Border position undefined. MUST NOT be used.
Left	Border information for left edge. In sheets with a right-to-left reading order this position corresponds to the right-most side of the element on the screen.
Right	Border information for right edge. In sheets with a right-to-left reading order this position corresponds to the left-most side of the element on the screen.
Top	Border information for top edge.
Bottom	Border information for bottom edge.

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

```
<xs:simpleType name="ST_enmBorderPosition">
  <xs:restriction base="xs:string">
    <xs:enumeration value="None"/>
    <xs:enumeration value="Left"/>
    <xs:enumeration value="Right"/>
    <xs:enumeration value="Top"/>
    <xs:enumeration value="Bottom"/>
  </xs:restriction>
```

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```
        </xs:simpleType>
```

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

2.3.21   ST_enmChartCategory

Referenced by: CT_ChartMetaData

Specifies the category of a chart.

The following table shows the enumeration values for this type.

Value	Meaning
Unsupported	A chart that does not fit into any of the following categories.
Combo	A chart with different chart types for different series.
Surface	A **surface chart**.
Column	A **column chart**.
Column3D	A 3D column chart.
Bar	A chart with horizontally oriented bars used to compare multiple values.
Bar3D	A 3D chart with horizontally oriented bars used to compare multiple values.
Line	A **line chart**.
Line3D	A 3D line chart.
Pie	A chart that shows the contribution of each value to the total in a circular shape.
Scatter	A **scatter chart**.
Bubble	A chart that compares sets of three values, with the third value determining the size of the bubble.
Area	A chart that shows the area under each point as filled in.
Doughnut	A chart that shows the contribution of each value to the total while allowing for multiple series.
Radar	A chart that displays points relative to a center.
Stock	A **stock chart**.

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

```
  <xs:simpleType name="ST_enmChartCategory">
    <xs:restriction base="xs:string">
      <xs:enumeration value="Unsupported"/>
      <xs:enumeration value="Combo"/>
      <xs:enumeration value="Surface"/>
      <xs:enumeration value="Column"/>
      <xs:enumeration value="Column3D"/>
```

```
              <xs:enumeration value="Bar"/>
              <xs:enumeration value="Bar3D"/>
              <xs:enumeration value="Line"/>
              <xs:enumeration value="Line3D"/>
              <xs:enumeration value="Pie"/>
              <xs:enumeration value="Scatter"/>
              <xs:enumeration value="Bubble"/>
              <xs:enumeration value="Area"/>
              <xs:enumeration value="Doughnut"/>
              <xs:enumeration value="Radar"/>
              <xs:enumeration value="Stock"/>
           </xs:restriction>
        </xs:simpleType>
```

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

2.3.22 ST_enmBorderLineStyle

Referenced by: CT_Border

The visual appearance of a border line.

The following table shows the enumeration values for this type.

Value	Meaning
None	No border.
Continuous	Equivalent to the [ISO/IEC-29500-1] **ST_BorderStyle** medium enumeration value.
Dash	Equivalent to the [ISO/IEC-29500-1] **ST_BorderStyle** dash enumeration value.
Dot	Equivalent to the [ISO/IEC-29500-1] **ST_BorderStyle** dot enumeration value.
DashDot	Equivalent to the [ISO/IEC-29500-1] **ST_BorderStyle** dashDot enumeration value.
DashDotDot	Equivalent to the [ISO/IEC-29500-1] **ST_BorderStyle** dashDotDot enumeration value.
SlantDashDot	Equivalent to the [ISO/IEC-29500-1] **ST_BorderStyle** slantDashDot enumeration value.
Double	Equivalent to the [ISO/IEC-29500-1] **ST_BorderStyle** double enumeration value.

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

```
  <xs:simpleType name="ST_enmBorderLineStyle">
    <xs:restriction base="xs:string">
      <xs:enumeration value="None"/>
      <xs:enumeration value="Continuous"/>
      <xs:enumeration value="Dash"/>
      <xs:enumeration value="Dot"/>
      <xs:enumeration value="DashDot"/>
      <xs:enumeration value="DashDotDot"/>
      <xs:enumeration value="SlantDashDot"/>
      <xs:enumeration value="Double"/>
    </xs:restriction>
```

```
</xs:simpleType>
```

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

2.3.23   ST_enmHorizontalAlignment

Referenced by: CT_Alignment, CT_Cell

The horizontal alignment and internal spacing of the worksheet cell value or conditional formatting.

The following table shows the enumeration values for this type.

Value	Meaning
Automatic	Equivalent to the [ISO/IEC-29500-1] **ST_HorizontalAlignment** general enumeration value.
Center	Equivalent to the [ISO/IEC-29500-1] **ST_HorizontalAlignment** center enumeration value.
Left	Equivalent to the [ISO/IEC-29500-1] **ST_HorizontalAlignment** left enumeration value.
Right	Equivalent to the [ISO/IEC-29500-1] **ST_HorizontalAlignment** right enumeration value.
Fill	Equivalent to the [ISO/IEC-29500-1] **ST_HorizontalAlignment** fill enumeration value.
Justify	Equivalent to the [ISO/IEC-29500-1] **ST_HorizontalAlignment** justify enumeration value.
CenterAcrossSelection	Equivalent to the [ISO/IEC-29500-1] **ST_HorizontalAlignment** centerContinuous enumeration value.
Distributed	Equivalent to the [ISO/IEC-29500-1] **ST_HorizontalAlignment** distributed enumeration value.
JustifyDistributed	Combination of **Justify** and **Distributed** enumeration values.

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

```
<xs:simpleType name="ST_enmHorizontalAlignment">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Automatic"/>
    <xs:enumeration value="Center"/>
    <xs:enumeration value="Left"/>
    <xs:enumeration value="Right"/>
    <xs:enumeration value="Fill"/>
    <xs:enumeration value="Justify"/>
    <xs:enumeration value="CenterAcrossSelection"/>
    <xs:enumeration value="Distributed"/>
    <xs:enumeration value="JustifyDistributed"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.24 ST_enmVerticalAlignment

Referenced by: CT_Alignment

The vertical alignment and internal spacing of the worksheet cell value or conditional formatting.

The following table shows the enumeration values for this type.

Value	Meaning
Automatic	Equivalent to the [ISO/IEC-29500-1] **ST_VerticalAlignment** bottom enumeration value.
Top	Equivalent to the [ISO/IEC-29500-1] **ST_VerticalAlignment** top enumeration value.
Bottom	Equivalent to the [ISO/IEC-29500-1] **ST_VerticalAlignment** bottom enumeration value.
Center	Equivalent to the [ISO/IEC-29500-1] **ST_VerticalAlignment** center enumeration value.
Justify	Equivalent to the [ISO/IEC-29500-1] **ST_VerticalAlignment** justify enumeration value.
Distributed	Equivalent to the [ISO/IEC-29500-1] **ST_VerticalAlignment** distributed enumeration value.
JustifyDistributed	Combination of **Justify** and **Distributed** enumeration values.

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

```
<xs:simpleType name="ST_enmVerticalAlignment">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Automatic"/>
    <xs:enumeration value="Top"/>
    <xs:enumeration value="Bottom"/>
    <xs:enumeration value="Center"/>
    <xs:enumeration value="Justify"/>
    <xs:enumeration value="Distributed"/>
    <xs:enumeration value="JustifyDistributed"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.25 ST_enmAutoFilterCriteriaOperationType

Referenced by: CT_Criteria

This enumeration defines a set of comparison operators. The operator is applied between cell contents and the value attribute (2) in Criteria.

The following table shows the enumeration values for this type.

Value	Meaning
EQ	Equals comparison operator.
NEQ	Not equals comparison operator.
GT	Greater than comparison operator.
GTEQ	Greater than or equal to comparison operator.
LT	Less than comparison operator.
LTEQ	Less than or equal to comparison operator.

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

```
<xs:simpleType name="ST_enmAutoFilterCriteriaOperationType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="EQ"/>
    <xs:enumeration value="NEQ"/>
    <xs:enumeration value="GT"/>
    <xs:enumeration value="GTEQ"/>
    <xs:enumeration value="LT"/>
    <xs:enumeration value="LTEQ"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.26   ST_enmAutoFilterCriteriaRelationOperator

Referenced by: CT_Criteria

This enumeration defines a set of logical operators. It is applied to the **Relation** attribute (2) of the Criteria element to define the relationship between two Criteria elements.

The following table shows the enumeration values for this type.

Value	Meaning
Nil	Indicates that only one Criteria element is applied and no logical operator is required.
And	AND logical operator: The condition in both the Criteria elements needs to be met.
Or	OR logical operator: The condition in either one or both the Criteria elements needs to be met.

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

```
<xs:simpleType name="ST_enmAutoFilterCriteriaRelationOperator">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Nil"/>
    <xs:enumeration value="And"/>
    <xs:enumeration value="Or"/>
  </xs:restriction>
```

```
    </xs:simpleType>
```

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

2.3.27   ST_enmAutoFilterItemType

Referenced by: CT_item

This enumeration defines a set of data types. It is applied to the **DataType** attribute (2) of an item to indicate the nature of the underlying worksheet cell values of that item.

The following table shows the enumeration values for this type.

Value	Meaning
Number	Underlying worksheet cell values are numbers, as determined by the protocol server.
Text	Underlying worksheet cell values are strings, as determined by the protocol server.
Date	Underlying worksheet cell values represent dates, as determined by the protocol server.

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

```
<xs:simpleType name="ST_enmAutoFilterItemType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Number"/>
    <xs:enumeration value="Text"/>
    <xs:enumeration value="Date"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.28   ST_enmAutoFilterItemCriteriaType

Referenced by: CT_item

This enumeration defines a set of filters. Each set of filters can be applied to either dates or numbers. It is applied to the **CriteriaType** attribute (2) in an item.

The following table shows the enumeration values for this type.

Value	Meaning
Nil	Default value for no filter applied.
AboveAverage	Number filter in which all worksheet cell values except those above the average of the worksheet cell values being filtered are filtered out.
BelowAverage	Number filter in which all worksheet cell values except those below the average of the worksheet cell values being filtered are filtered out.
Tomorrow	Date filter in which all worksheet cell values except those with the date for the following day are filtered out.

Value	Meaning
Today	Date filter in which all worksheet cell values except those with the date for today are filtered out.
Yesterday	Date filter in which all worksheet cell values except those with the date for the previous day are filtered out.
NextWeek	Date filter in which all worksheet cell values except those in the following week are filtered out.
ThisWeek	Date filter in which all worksheet cell values except those in the current week are filtered out.
LastWeek	Date filter in which all worksheet cell values except those in the previous week are filtered out.
NextMonth	Date filter in which all worksheet cell values except those in the following month are filtered out.
ThisMonth	Date filter in which all worksheet cell values except those in the current month are filtered out.
LastMonth	Date filter in which all worksheet cell values except those in the previous month are filtered out.
NextQuarter	Date filter in which all worksheet cell values except those in the following quarter are filtered out.
ThisQuarter	Date filter in which all worksheet cell values except those in the current quarter are filtered out.
LastQuarter	Date filter in which all worksheet cell values except those in the previous quarter are filtered out.
NextYear	Date filter in which all worksheet cell values except those in the following year are filtered out.
ThisYear	Date filter in which all worksheet cell values except those in the current year are filtered out.
LastYear	Date filter in which all worksheet cell values except those in the previous year are filtered out.
YearToDate	Date filter in which all worksheet cell values except those in the current year up to and inclusive of the current date are filtered out.
Q1	Date filter in which all worksheet cell values except those in the first quarter of the current year are filtered out.
Q2	Date filter in which all worksheet cell values except those in the second quarter of the current year are filtered out.
Q3	Date filter in which all worksheet cell values except those in the third quarter of the current year are filtered out.
Q4	Date filter in which all worksheet cell values except those in the fourth quarter of the current year are filtered out.
M1	Date filter in which all worksheet cell values except those in the month of January are filtered out.

Value	Meaning
M2	Date filter in which all worksheet cell values except those in the month of February are filtered out.
M3	Date filter in which all worksheet cell values except those in the month of March are filtered out.
M4	Date filter in which all worksheet cell values except those in the month of April are filtered out.
M5	Date filter in which all worksheet cell values except those in the month of May are filtered out.
M6	Date filter in which all worksheet cell values except those in the month of June are filtered out.
M7	Date filter in which all worksheet cell values except those in the month of July are filtered out.
M8	Date filter in which all worksheet cell values except those in the month of August are filtered out.
M9	Date filter in which all worksheet cell values except those in the month of September are filtered out.
M10	Date filter in which all worksheet cell values except those in the month of October are filtered out.
M11	Date filter in which all worksheet cell values except those in the month of November are filtered out.
M12	Date filter in which all worksheet cell values except those in the month of December are filtered out.

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

```
<xs:simpleType name="ST_enmAutoFilterItemCriteriaType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Nil"/>
    <xs:enumeration value="AboveAverage"/>
    <xs:enumeration value="BelowAverage"/>
    <xs:enumeration value="Tomorrow"/>
    <xs:enumeration value="Today"/>
    <xs:enumeration value="Yesterday"/>
    <xs:enumeration value="NextWeek"/>
    <xs:enumeration value="ThisWeek"/>
    <xs:enumeration value="LastWeek"/>
    <xs:enumeration value="NextMonth"/>
    <xs:enumeration value="ThisMonth"/>
    <xs:enumeration value="LastMonth"/>
    <xs:enumeration value="NextQuarter"/>
    <xs:enumeration value="ThisQuarter"/>
    <xs:enumeration value="LastQuarter"/>
    <xs:enumeration value="NextYear"/>
    <xs:enumeration value="ThisYear"/>
    <xs:enumeration value="LastYear"/>
    <xs:enumeration value="YearToDate"/>
```

```
            <xs:enumeration value="Q1"/>
            <xs:enumeration value="Q2"/>
            <xs:enumeration value="Q3"/>
            <xs:enumeration value="Q4"/>
            <xs:enumeration value="M1"/>
            <xs:enumeration value="M2"/>
            <xs:enumeration value="M3"/>
            <xs:enumeration value="M4"/>
            <xs:enumeration value="M5"/>
            <xs:enumeration value="M6"/>
            <xs:enumeration value="M7"/>
            <xs:enumeration value="M8"/>
            <xs:enumeration value="M9"/>
            <xs:enumeration value="M10"/>
            <xs:enumeration value="M11"/>
            <xs:enumeration value="M12"/>
        </xs:restriction>
    </xs:simpleType>
```

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

2.3.29   ST_excelRowNumber

Referenced by: CT_autofilter, CT_range, CT_Location, CT_Hyperlink, CT_Table, CT_RowAxisItem, CT_Cell

The range of values for a 0-based row (2) number.

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

```
<xs:simpleType name="ST_excelRowNumber">
    <xs:restriction base="xs:int">
        <xs:minInclusive value="0"/>
        <xs:maxInclusive value="1048575"/>
    </xs:restriction>
</xs:simpleType>
```

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

2.3.30   ST_excelColNumber

Referenced by: CT_item, CT_autofilter, CT_range, CT_Location, CT_Hyperlink, CT_Table, CT_ColumnAxisItem, CT_Cell

The range of values for a 0-based column (2) number.

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

```
<xs:simpleType name="ST_excelColNumber">
    <xs:restriction base="xs:int">
        <xs:minInclusive value="0"/>
        <xs:maxInclusive value="16383"/>
    </xs:restriction>
```

```
      </xs:simpleType>
```

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

2.3.31 ST_excelRowNumber1Based

Referenced by: CT_NamedObject, CT_Table, CT_RowAxisItem

The range of values for 1-based row (2) number.

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

```
<xs:simpleType name="ST_excelRowNumber1Based">
  <xs:restriction base="xs:int">
    <xs:minInclusive value="1"/>
    <xs:maxInclusive value="1048576"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.32 ST_excelColNumber1Based

Referenced by: CT_NamedObject, CT_Table, CT_ColumnAxisItem, CT_Cell

The range of values for 1-based column (2) number.

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

```
<xs:simpleType name="ST_excelColNumber1Based">
  <xs:restriction base="xs:int">
    <xs:minInclusive value="1"/>
    <xs:maxInclusive value="16384"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.33 ST_excelOutlineLevels

Referenced by: CT_Table, CT_ColumnAxisItem, CT_RowAxisItem

The range of values for defining the outline level (1) in a set of grouped rows (2) or columns (2).

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

```
<xs:simpleType name="ST_excelOutlineLevels">
  <xs:restriction base="xs:short">
    <xs:minInclusive value="0"/>
    <xs:maxInclusive value="8"/>
  </xs:restriction>
```

```
</xs:simpleType>
```

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

2.3.34   ST_rowHeight

Referenced by: CT_RowAxisItem

The range of sizes in points for row (2) height.

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

```
<xs:simpleType name="ST_rowHeight">
  <xs:restriction base="xs:double">
    <xs:minInclusive value="0.2"/>
    <xs:maxInclusive value="409.6"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.35   ST_columnWidth

Referenced by: CT_ColumnAxisItem

The range of sizes in points for column (2) width.

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

```
<xs:simpleType name="ST_columnWidth">
  <xs:restriction base="xs:double">
    <xs:minInclusive value="0.75"/>
    <xs:maxInclusive value="1343"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.36   ST_enmFilterItemType

Referenced by: CT_item, CT_Cell

This enumeration defines whether filtering or sorting is applied as well as the sort order (2) if sorting is applied. It is used on the **DropDownType** attribute (2) in a Cell and the **Type** attribute (2) in an item.

The following table shows the enumeration values for this type.

Value	Meaning
None	No filter or **sort** is applied.

Value	Meaning
Filtered	A filter is applied to the worksheet cells.
SortedAsc	Worksheet cells are sorted in **ascending order**.
SortedDesc	Worksheet cells are sorted in **descending order**.
BothAsc	A filter is applied to the worksheet cells and they are sorted in ascending order.
BothDesc	A filter is applied to the worksheet cells and they are sorted in descending order.
Sorted	Worksheet cells are sorted but the sort order (2) is not known.
Both	A filter is applied to the worksheet cells and they are sorted but the **sort order (2)** is not known.

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

```
<xs:simpleType name="ST_enmFilterItemType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="None"/>
    <xs:enumeration value="Filtered"/>
    <xs:enumeration value="SortedAsc"/>
    <xs:enumeration value="SortedDesc"/>
    <xs:enumeration value="BothAsc"/>
    <xs:enumeration value="BothDesc"/>
    <xs:enumeration value="Sorted"/>
    <xs:enumeration value="Both"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.37   ST_KpiSet

Referenced by: CT_Cell

The set of key performance indicator (KPI) to use for conditional formatting in a worksheet cell.

The following table shows the values for this type.

Value	Meaning
-1	No key performance indicators.
0	Equivalent to the [MS-XLSX] ST_IconSetType 3Arrows enumeration value.
1	Equivalent to the [MS-XLSX] ST_IconSetType 3ArrowsGray enumeration value.
2	Equivalent to the [MS-XLSX] ST_IconSetType 3Flags enumeration value.
3	Equivalent to the [MS-XLSX] ST_IconSetType 3TrafficLights1 enumeration value.
4	Equivalent to the [MS-XLSX] ST_IconSetType 3TrafficLights2 enumeration value.

Value	Meaning
5	Equivalent to the [MS-XLSX] ST_IconSetType 3Signs enumeration value.
6	Equivalent to the [MS-XLSX] ST_IconSetType 3Symbols enumeration value.
7	Equivalent to the [MS-XLSX] ST_IconSetType 3Symbols2 enumeration value.
8	Equivalent to the [MS-XLSX] ST_IconSetType 4Arrows enumeration value.
9	Equivalent to the [MS-XLSX] ST_IconSetType 4ArrowsGray enumeration value.
10	Equivalent to the [MS-XLSX] ST_IconSetType 4RedToBlack enumeration value.
11	Equivalent to the [MS-XLSX] ST_IconSetType 4Rating enumeration value.
12	Equivalent to the [MS-XLSX] ST_IconSetType 4TrafficLights enumeration value.
13	Equivalent to the [MS-XLSX] ST_IconSetType 5Arrows enumeration value.
14	Equivalent to the [MS-XLSX] ST_IconSetType 5ArrowsGray enumeration value.
15	Equivalent to the [MS-XLSX] ST_IconSetType 5Ratings enumeration value.
16	Equivalent to the [MS-XLSX] ST_IconSetType 5Quarters enumeration value.
17	Equivalent to the [MS-XLSX] ST_IconSetType 3Stars enumeration value.
18	Equivalent to the [MS-XLSX] ST_IconSetType 3Triangles enumeration value.
19	Equivalent to the [MS-XLSX] ST_IconSetType 5Boxes enumeration value.

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

```
<xs:simpleType name="ST_KpiSet">
  <xs:restriction base="xs:short">
    <xs:enumeration value="-1"/>
    <xs:enumeration value="0"/>
    <xs:enumeration value="1"/>
    <xs:enumeration value="2"/>
    <xs:enumeration value="3"/>
    <xs:enumeration value="4"/>
    <xs:enumeration value="5"/>
    <xs:enumeration value="6"/>
    <xs:enumeration value="7"/>
    <xs:enumeration value="8"/>
    <xs:enumeration value="9"/>
    <xs:enumeration value="10"/>
    <xs:enumeration value="11"/>
    <xs:enumeration value="12"/>
    <xs:enumeration value="13"/>
    <xs:enumeration value="14"/>
    <xs:enumeration value="15"/>
    <xs:enumeration value="16"/>
    <xs:enumeration value="17"/>
    <xs:enumeration value="18"/>
    <xs:enumeration value="19"/>
  </xs:restriction>
```

```
</xs:simpleType>
```

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

2.3.38 ST_KpiIcon

Referenced by: CT_Cell

Specifies a specific icon within the set of key performance indicator (KPI) icons specified in ST_KpiSet.

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

```
<xs:simpleType name="ST_KpiIcon">
  <xs:restriction base="xs:short">
    <xs:minInclusive value="0"/>
    <xs:maxInclusive value="4"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.39 ST_KpiSize

Referenced by: CT_Cell

The size of a key performance indicator (KPI) icon to use for conditional formatting in a worksheet cell.

The following table shows the values for this type.

Value	Meaning
0	Large icon.
1	Medium icon.
2	Small icon.

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

```
<xs:simpleType name="ST_KpiSize">
  <xs:restriction base="xs:short">
    <xs:enumeration value="0"/>
    <xs:enumeration value="1"/>
    <xs:enumeration value="2"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.40 ST_MergeDown

Referenced by: CT_Cell

The number of rows (2) in a merged range.

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

```
<xs:simpleType name="ST_MergeDown">
  <xs:restriction base="xs:int">
    <xs:minInclusive value="1"/>
    <xs:maxInclusive value="1048575"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.41 ST_MergeAcross

Referenced by: CT_Cell

The number of columns (2) in a merged range.

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

```
<xs:simpleType name="ST_MergeAcross">
  <xs:restriction base="xs:int">
    <xs:minInclusive value="1"/>
    <xs:maxInclusive value="16383"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.42 ST_enmImageType

Referenced by: CT_Image

Enumerates the different types of worksheet images.

The following table shows the enumeration values for this type.

Value	Meaning
none	Represents an invalid or uninitialized value. MUST NOT be used.
chart	A chart image.
image	A non-chart image.

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

```
<xs:simpleType name="ST_enmImageType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="none"/>
    <xs:enumeration value="chart"/>
    <xs:enumeration value="image"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.43   ST_enmReadOrder

Referenced by: CT_Alignment, CT_Cell

Horizontal text reading order.

The following table shows the enumeration values for this type.

Value	Meaning
Context	Same reading order as the sheet (1).
LeftToRight	Left-to-right reading order.
RightToLeft	Right-to-left reading order.

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

```
<xs:simpleType name="ST_enmReadOrder">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Context"/>
    <xs:enumeration value="LeftToRight"/>
    <xs:enumeration value="RightToLeft"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.44   ST_enmGradientType

Referenced by: CT_gradient

Background gradient fill effect.

The following table shows the enumeration values for this type.

Value	Meaning
Linear	Equivalent to the **linear** enumeration value of the **ST_GradientType** simple type specified in [ISO/IEC-29500-1].
Path	Equivalent to the **path** enumeration value of the **ST_GradientType** simple type specified in [ISO/IEC-29500-1].

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

```
<xs:simpleType name="ST_enmGradientType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Linear"/>
    <xs:enumeration value="Path"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.45 ST_enmFontVerticalAlignment

Referenced by: CT_Font

Vertical text position relative to the baseline.

The following table shows the enumeration values for this type.

Value	Meaning
None	Equivalent to the [ISO/IEC-29500-1] **ST_VerticalAlignRun** baseline enumeration value.
Subscript	Equivalent to the [ISO/IEC-29500-1] **ST_VerticalAlignRun** subscript enumeration value.
Superscript	Equivalent to the [ISO/IEC-29500-1] **ST_VerticalAlignRun** superscript enumeration value.

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

```
<xs:simpleType name="ST_enmFontVerticalAlignment">
  <xs:restriction base="xs:string">
    <xs:enumeration value="None"/>
    <xs:enumeration value="Subscript"/>
    <xs:enumeration value="Superscript"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.46 ST_enmPivotRangeOperation

Referenced by: CT_Operation

Enumerates the types of operations that are allowed on a PivotTable.

The following table shows the enumeration values for this type.

Value	Meaning
Refresh	Indicates that the source of the PivotTable data can be refreshed to retrieve updated data.

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

```
<xs:simpleType name="ST_enmPivotRangeOperation">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Refresh"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.47 ST_enmFontUnderline

Referenced by: CT_Font

Underline style for worksheet cell text.

The following table shows the enumeration values for this type.

Value	Meaning
None	Equivalent to the [ISO/IEC-29500-1] **ST_UnderlineValues** none enumeration value.
Single	Equivalent to the [ISO/IEC-29500-1] **ST_UnderlineValues** single enumeration value.
Double	Equivalent to the [ISO/IEC-29500-1] **ST_UnderlineValues** double enumeration value.
SingleAccounting	Equivalent to the [ISO/IEC-29500-1] **ST_UnderlineValues** singleAccounting enumeration value.
DoubleAccounting	Equivalent to the [ISO/IEC-29500-1] **ST_UnderlineValues** doubleAccounting enumeration value.

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

```
<xs:simpleType name="ST_enmFontUnderline">
  <xs:restriction base="xs:string">
    <xs:enumeration value="None"/>
    <xs:enumeration value="Single"/>
    <xs:enumeration value="Double"/>
    <xs:enumeration value="SingleAccounting"/>
    <xs:enumeration value="DoubleAccounting"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.48 ST_enmNamedObjectType

Referenced by: CT_NamedObject, CT_Location

The type of a named object.

The following table shows the enumeration values for this type.

Value	Meaning
InvalidNamedObjectType	Represents an invalid or uninitialized value. MUST NOT be used.
Chart	The named object is a chart.
PivotTable	The named object is a PivotTable.
Table	The named object is a table.
NamedRange	The named object is a named range.

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

```
<xs:simpleType name="ST_enmNamedObjectType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="InvalidNamedObjectType"/>
    <xs:enumeration value="Chart"/>
    <xs:enumeration value="PivotTable"/>
    <xs:enumeration value="Table"/>
    <xs:enumeration value="NamedRange"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.49   ST_enmDatabarStyle

Referenced by: CT_Cell

The fill color for a data bar.

The following table shows the enumeration values for this type.

Value	Meaning
Gradient	The data bar has a gradient fill effect.
Solid	The data bar has a solid fill color.

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

```
<xs:simpleType name="ST_enmDatabarStyle">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Gradient"/>
    <xs:enumeration value="Solid"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.50 ST_enmCellSpanType

Referenced by: CT_Cell

Specifies the reason why a worksheet cell occupies more than one row (2) or column (2).

The following table shows the enumeration values for this type.

Value	Meaning
Merge	The worksheet cell is part of a merged range.
Spill	Specified when all of the following conditions are met: ▪ The worksheet cell's contents do not fit within the bounds specified by its column width. ▪ The adjacent cell is empty.
None	Represents an invalid or uninitialized value. MUST NOT be used.

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

```
<xs:simpleType name="ST_enmCellSpanType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Merge"/>
    <xs:enumeration value="Spill"/>
    <xs:enumeration value="None"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.51 ST_enmPattern

Referenced by: CT_Interior

A **patterned overlay mask**.

The following table shows the enumeration values for this type.

Value	Meaning
None	Equivalent to the [ISO/IEC-29500-1] **ST PatternType** none enumeration value. MUST NOT be used.
Solid	Equivalent to the [ISO/IEC-29500-1] **ST PatternType** solid enumeration value.
Gray50	Equivalent to the [ISO/IEC-29500-1] **ST PatternType** mediumGray enumeration value.
Gray75	Equivalent to the [ISO/IEC-29500-1] **ST PatternType** darkGray enumeration value.
Gray25	Equivalent to the [ISO/IEC-29500-1] **ST PatternType** lightGray enumeration value.

Value	Meaning
HorzStripe	Equivalent to the [ISO/IEC-29500-1] **ST PatternType** darkHorizontal enumeration value.
VertStripe	Equivalent to the [ISO/IEC-29500-1] **ST PatternType** darkVertical enumeration value.
ReverseDiagStripe	Equivalent to the [ISO/IEC-29500-1] **ST PatternType** darkDown enumeration value.
DiagStripe	Equivalent to the [ISO/IEC-29500-1] **ST PatternType** darkUp enumeration value.
DiagCross	Equivalent to the [ISO/IEC-29500-1] **ST PatternType** darkGrid enumeration value.
ThickDiagCross	Equivalent to the [ISO/IEC-29500-1] **ST PatternType** darkTrellis enumeration value.
ThinHorzStripe	Equivalent to the [ISO/IEC-29500-1] **ST PatternType** lightHorizontal enumeration value.
ThinVertStripe	Equivalent to the [ISO/IEC-29500-1] **ST PatternType** lightVertical enumeration value.
ThinReverseDiagStripe	Equivalent to the [ISO/IEC-29500-1] **ST PatternType** lightDown enumeration value.
ThinDiagStripe	Equivalent to the [ISO/IEC-29500-1] **ST PatternType** lightUp enumeration value.
ThinHorzCross	Equivalent to the [ISO/IEC-29500-1] **ST PatternType** lightGrid enumeration value.
ThinDiagCross	Equivalent to the [ISO/IEC-29500-1] **ST PatternType** lightTrellis enumeration value.
Gray125	Equivalent to the [ISO/IEC-29500-1] **ST PatternType** gray125 enumeration value.
Gray0625	Equivalent to the [ISO/IEC-29500-1] **ST PatternType** gray0625 enumeration value.

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

```
<xs:simpleType name="ST_enmPattern">
  <xs:restriction base="xs:string">
    <xs:enumeration value="None"/>
    <xs:enumeration value="Solid"/>
    <xs:enumeration value="Gray50"/>
    <xs:enumeration value="Gray75"/>
    <xs:enumeration value="Gray25"/>
    <xs:enumeration value="HorzStripe"/>
    <xs:enumeration value="VertStripe"/>
    <xs:enumeration value="ReverseDiagStripe"/>
    <xs:enumeration value="DiagStripe"/>
    <xs:enumeration value="DiagCross"/>
    <xs:enumeration value="ThickDiagCross"/>
```

```
      <xs:enumeration value="ThinHorzStripe"/>
      <xs:enumeration value="ThinVertStripe"/>
      <xs:enumeration value="ThinReverseDiagStripe"/>
      <xs:enumeration value="ThinDiagStripe"/>
      <xs:enumeration value="ThinHorzCross"/>
      <xs:enumeration value="ThinDiagCross"/>
      <xs:enumeration value="Gray125"/>
      <xs:enumeration value="Gray0625"/>
    </xs:restriction>
  </xs:simpleType>
```

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

2.3.52   ST_percentage

Referenced by: CT_stop, CT_gradient

A percentage specified in decimal form.

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

```
  <xs:simpleType name="ST_percentage">
    <xs:restriction base="xs:double">
      <xs:minInclusive value="0.0"/>
      <xs:maxInclusive value="1.0"/>
    </xs:restriction>
  </xs:simpleType>
```

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

2.3.53   ST_databarLengthPercentage

Referenced by: CT_Cell

A positive or negative percentage specified in integer form.

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

```
  <xs:simpleType name="ST_databarLengthPercentage">
    <xs:restriction base="xs:int">
      <xs:minInclusive value="-100"/>
      <xs:maxInclusive value="100"/>
    </xs:restriction>
  </xs:simpleType>
```

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

2.3.54   ST_nonNegativeDouble

Referenced by: CT_Image, CT_Cell, CT_Slicer

Decimal value that MUST be greater than or equal to zero.

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

```
<xs:simpleType name="ST_nonNegativeDouble">
  <xs:restriction base="xs:double">
    <xs:minInclusive value="0"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.55   ST_nonPositiveDouble

Referenced by: CT_Cell

Decimal value that MUST be less than or equal to zero.

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

```
<xs:simpleType name="ST_nonPositiveDouble">
  <xs:restriction base="xs:double">
    <xs:maxInclusive value="0"/>
  </xs:restriction>
</xs:simpleType>
```

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

2.3.56   ST_nonEmptyString

Referenced by: CT_DataField, CT_PivotTable, CT_Hyperlink, CT_Image, CT_Slicer

A non-empty string.

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

```
<xs:simpleType name="ST_nonEmptyString">
  <xs:restriction base="xs:string">
    <xs:minLength value="1"/>
  </xs:restriction>
</xs:simpleType>
```

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

3   Structure Examples

This sample structure is a representation of a workbook containing sales information that is passed between a protocol client and protocol server.

```
<Workbook>
  <WorkbookOptions/>
  <Parameters>
    <Parameter IsPivotPageField="1" RequiresConnection="1" Name="Geography"></Parameter>
  </Parameters>
  <NamedObjects>
    <NamedObject DisplayOutlines="1" SheetName="Sheet1" Name="Chart 1" Type="Chart"/>
    <NamedObject DisplayOutlines="1" LastNonEmptyRow="8" LastNonEmptyColumn="6"
CurrentFirstRow="1" FirstVisibleRow="1" LastVisibleRow="8" CurrentFirstColumn="1"
FirstVisibleColumn="1" LastVisibleColumn="6" SheetName="Sheet1" Name="PivotTable1"
Type="PivotTable"/>
  </NamedObjects>
  <Styles>
    <Style ID="sD">
      <Font Size="11" FontName="Calibri" Color="#000000"/>
    </Style>
    <Style ID="1">
      <Font Size="11" FontName="Calibri" Color="#000000"/>
      <Interior Color="#DCE6F1" Pattern="Solid"/>
    </Style>
    <Style ID="2">
      <Font Size="11" FontName="Calibri" Color="#000000"/>
      <Alignment Horizontal="Left"/>
      <Interior Color="#DCE6F1" Pattern="Solid"/>
    </Style>
    <Style ID="3">
      <Font Bold="1" Size="11" FontName="Calibri" Color="#000000"/>
      <Interior Color="#DCE6F1" Pattern="Solid"/>
    </Style>
    <Style ID="4">
      <Font Bold="1" Size="11" FontName="Calibri" Color="#000000"/>
      <Alignment Horizontal="Left"/>
      <Interior Color="#DCE6F1" Pattern="Solid"/>
    </Style>
    <Style ID="5">
      <Font Bold="1" Size="11" FontName="Calibri" Color="#000000"/>
      <Interior Color="#DCE6F1" Pattern="Solid"/>
    </Style>
    <Style ID="6">
      <Font Bold="1" Size="11" FontName="Calibri" Color="#000000"/>
      <Alignment Horizontal="Left"/>
      <Interior Color="#DCE6F1" Pattern="Solid"/>
    </Style>
    <Style ID="7">
      <Font Size="11" FontName="Calibri" Color="#000000"/>
      <Alignment Horizontal="Left"/>
    </Style>
    <Style ID="8">
      <Font Size="11" FontName="Calibri" Color="#000000"/>
    </Style>
    <Style ID="9">
      <Font Size="11" FontName="Calibri" Color="#000000"/>
      <Alignment Horizontal="Right"/>
```

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```
  </Style>
  <Style ID="10">
    <Font Bold="1" Size="11" FontName="Calibri" Color="#000000"/>
    <Alignment Horizontal="Left"/>
    <Interior Color="#DCE6F1" Pattern="Solid"/>
  </Style>
  <Style ID="11">
    <Font Bold="1" Size="11" FontName="Calibri" Color="#000000"/>
    <Interior Color="#DCE6F1" Pattern="Solid"/>
  </Style>
  <Style ID="12">
    <Font Bold="1" Size="11" FontName="Calibri" Color="#000000"/>
    <Alignment Horizontal="Right"/>
    <Interior Color="#DCE6F1" Pattern="Solid"/>
  </Style>
  <Style ID="-1">
    <Borders/>
  </Style>
  <Style ID="bD">
    <Borders>
      <Border Weight="1" Position="Right" LineStyle="Continuous" Color="#D0D7E5"/>
      <Border Weight="1" Position="Bottom" LineStyle="Continuous" Color="#D0D7E5"/>
    </Borders>
  </Style>
  <Style ID="-3">
    <Borders>
      <Border Weight="1" Position="Bottom" LineStyle="Continuous" Color="#95B3D7"/>
    </Borders>
  </Style>
  <Style ID="-4">
    <Borders>
      <Border Weight="1" Position="Top" LineStyle="Continuous" Color="#FFFFFF"/>
    </Borders>
  </Style>
  <Style ID="-5">
    <Borders>
      <Border Weight="1" Position="Top" LineStyle="Continuous" Color="#FFFFFF"/>
      <Border Weight="1" Position="Bottom" LineStyle="Continuous" Color="#95B3D7"/>
    </Borders>
  </Style>
  <Style ID="-6">
    <Borders>
      <Border Weight="1" Position="Top" LineStyle="Continuous" Color="#FFFFFF"/>
      <Border Weight="1" Position="Left" LineStyle="Continuous" Color="#FFFFFF"/>
      <Border Weight="1" Position="Bottom" LineStyle="Continuous" Color="#95B3D7"/>
    </Borders>
  </Style>
  <Style ID="-7">
    <Borders>
      <Border Weight="1" Position="Left" LineStyle="Continuous" Color="#FFFFFF"/>
    </Borders>
  </Style>
  <Style ID="-8">
    <Borders>
      <Border Weight="1" Position="Right" LineStyle="Continuous" Color="#FFFFFF"/>
    </Borders>
  </Style>
  <Style ID="-9">
    <Borders>
```

```
      <Border Weight="1" Position="Left" LineStyle="Continuous" Color="#FFFFFF"/>
      <Border Weight="1" Position="Bottom" LineStyle="Continuous" Color="#95B3D7"/>
    </Borders>
  </Style>
  <Style ID="-10">
    <Borders>
      <Border Weight="1" Position="Right" LineStyle="Continuous" Color="#FFFFFF"/>
      <Border Weight="1" Position="Bottom" LineStyle="Continuous" Color="#95B3D7"/>
    </Borders>
  </Style>
  <Style ID="-11">
    <Borders>
      <Border Weight="1" Position="Top" LineStyle="Continuous" Color="#95B3D7"/>
    </Borders>
  </Style>
  <Style ID="-12">
    <Borders>
      <Border Weight="1" Position="Bottom" LineStyle="Continuous" Color="#FFFFFF"/>
    </Borders>
  </Style>
  <Style ID="-13">
    <Borders>
      <Border Weight="1" Position="Top" LineStyle="Continuous" Color="#95B3D7"/>
      <Border Weight="1" Position="Bottom" LineStyle="Continuous" Color="#FFFFFF"/>
    </Borders>
  </Style>
  <Style ID="-14">
    <Borders>
      <Border Weight="1" Position="Top" LineStyle="Continuous" Color="#95B3D7"/>
      <Border Weight="1" Position="Left" LineStyle="Continuous" Color="#FFFFFF"/>
      <Border Weight="1" Position="Bottom" LineStyle="Continuous" Color="#FFFFFF"/>
    </Borders>
  </Style>
  <Style ID="-15">
    <Borders>
      <Border Weight="1" Position="Top" LineStyle="Continuous" Color="#95B3D7"/>
      <Border Weight="1" Position="Right" LineStyle="Continuous" Color="#FFFFFF"/>
      <Border Weight="1" Position="Bottom" LineStyle="Continuous" Color="#FFFFFF"/>
    </Borders>
  </Style>
  <Style ID="-16">
    <Borders>
      <Border Weight="1" Position="Top" LineStyle="Continuous" Color="#FFFFFF"/>
      <Border Weight="1" Position="Right" LineStyle="Continuous" Color="#DCE6F1"/>
      <Border Weight="1" Position="Bottom" LineStyle="Continuous" Color="#95B3D7"/>
    </Borders>
  </Style>
  <Style ID="-17">
    <Borders>
      <Border Weight="1" Position="Top" LineStyle="Continuous" Color="#D0D7E5"/>
    </Borders>
  </Style>
  <Style ID="-18">
    <Borders>
      <Border Weight="1" Position="Top" LineStyle="Continuous" Color="#D0D7E5"/>
      <Border Weight="1" Position="Right" LineStyle="Continuous" Color="#D0D7E5"/>
    </Borders>
  </Style>
  <Style ID="-19">
```

```
    <Borders>
      <Border Weight="1" Position="Top" LineStyle="Continuous" Color="#FFFFFF"/>
      <Border Weight="1" Position="Left" LineStyle="Continuous" Color="#FFFFFF"/>
    </Borders>
</Style>
<Style ID="-20">
  <Borders>
    <Border Weight="1" Position="Top" LineStyle="Continuous" Color="#95B3D7"/>
    <Border Weight="1" Position="Left" LineStyle="Continuous" Color="#D0D7E5"/>
  </Borders>
</Style>
<Style ID="-21">
  <Borders>
    <Border Weight="1" Position="Top" LineStyle="Continuous" Color="#FFFFFF"/>
    <Border Weight="1" Position="Right" LineStyle="Continuous" Color="#DCE6F1"/>
  </Borders>
</Style>
<Style ID="-22">
  <Borders>
    <Border Weight="1" Position="Top" LineStyle="Continuous" Color="#95B3D7"/>
    <Border Weight="1" Position="Left" LineStyle="Continuous" Color="#D0D7E5"/>
    <Border Weight="1" Position="Right" LineStyle="Continuous" Color="#D0D7E5"/>
  </Borders>
</Style>
<Style ID="-23">
  <Borders>
    <Border Weight="1" Position="Top" LineStyle="Continuous" Color="#D0D7E5"/>
    <Border Weight="1" Position="Right" LineStyle="Continuous" Color="#D0D7E5"/>
    <Border Weight="1" Position="Bottom" LineStyle="Continuous" Color="#D0D7E5"/>
  </Borders>
</Style>
<Style ID="-24">
  <Borders>
    <Border Weight="1" Position="Top" LineStyle="Continuous" Color="#95B3D7"/>
    <Border Weight="1" Position="Right" LineStyle="Continuous" Color="#D0D7E5"/>
  </Borders>
</Style>
<Style ID="-25">
  <Borders>
    <Border Weight="1" Position="Right" LineStyle="Continuous" Color="#D0D7E5"/>
  </Borders>
</Style>
<Style ID="-26">
  <Borders>
    <Border Weight="1" Position="Top" LineStyle="Continuous" Color="#95B3D7"/>
    <Border Weight="1" Position="Left" LineStyle="Continuous" Color="#D0D7E5"/>
    <Border Weight="1" Position="Right" LineStyle="Continuous" Color="#D0D7E5"/>
    <Border Weight="1" Position="Bottom" LineStyle="Continuous" Color="#DCE6F1"/>
  </Borders>
</Style>
<Style ID="-27">
  <Borders>
    <Border Weight="1" Position="Top" LineStyle="Continuous" Color="#95B3D7"/>
    <Border Weight="1" Position="Right" LineStyle="Continuous" Color="#D0D7E5"/>
    <Border Weight="1" Position="Bottom" LineStyle="Continuous" Color="#DCE6F1"/>
  </Borders>
</Style>
<Style ID="-28">
  <Borders>
```

```
      <Border Weight="1" Position="Right" LineStyle="Continuous" Color="#D0D7E5"/>
      <Border Weight="1" Position="Bottom" LineStyle="Continuous" Color="#DCE6F1"/>
    </Borders>
  </Style>
  <Style ID="-29">
    <Borders>
      <Border Weight="1" Position="Top" LineStyle="Continuous" Color="#95B3D7"/>
      <Border Weight="1" Position="Left" LineStyle="Continuous" Color="#D0D7E5"/>
      <Border Weight="1" Position="Right" LineStyle="Continuous" Color="#D0D7E5"/>
      <Border Weight="1" Position="Bottom" LineStyle="Continuous" Color="#D0D7E5"/>
    </Borders>
  </Style>
  <Style ID="-30">
    <Borders>
      <Border Weight="1" Position="Left" LineStyle="Continuous" Color="#D0D7E5"/>
    </Borders>
  </Style>
  <Style ID="-31">
    <Borders>
      <Border Weight="1" Position="Top" LineStyle="Continuous" Color="#95B3D7"/>
      <Border Weight="1" Position="Right" LineStyle="Continuous" Color="#D0D7E5"/>
      <Border Weight="1" Position="Bottom" LineStyle="Continuous" Color="#D0D7E5"/>
    </Borders>
  </Style>
  <Style ID="-32">
    <Borders>
      <Border Weight="1" Position="Left" LineStyle="Continuous" Color="#D0D7E5"/>
      <Border Weight="1" Position="Right" LineStyle="Continuous" Color="#D0D7E5"/>
    </Borders>
  </Style>
  <Style ID="-33">
    <Borders>
      <Border Weight="1" Position="Left" LineStyle="Continuous" Color="#D0D7E5"/>
      <Border Weight="1" Position="Right" LineStyle="Continuous" Color="#D0D7E5"/>
      <Border Weight="1" Position="Bottom" LineStyle="Continuous" Color="#D0D7E5"/>
    </Borders>
  </Style>
  <Style ID="-34">
    <Borders>
      <Border Weight="1" Position="Left" LineStyle="Continuous" Color="#D0D7E5"/>
      <Border Weight="1" Position="Bottom" LineStyle="Continuous" Color="#FFFFFF"/>
    </Borders>
  </Style>
  <Style ID="-35">
    <Borders>
      <Border Weight="1" Position="Left" LineStyle="Continuous" Color="#D0D7E5"/>
      <Border Weight="1" Position="Right" LineStyle="Continuous" Color="#D0D7E5"/>
      <Border Weight="1" Position="Bottom" LineStyle="Continuous" Color="#FFFFFF"/>
    </Borders>
  </Style>
  <Style ID="-36">
    <Borders>
      <Border Weight="1" Position="Right" LineStyle="Continuous" Color="#D0D7E5"/>
      <Border Weight="1" Position="Bottom" LineStyle="Continuous" Color="#FFFFFF"/>
    </Borders>
  </Style>
</Styles>
<Worksheet NamedRange="1" ActiveSheet="1" Name="PivotTable1" SheetName="Sheet1">
  <WorksheetOptions DisplayOutlines="1"/>
```

```
    <PivotTables>
      <PivotTable ExternalSourceIndex="0" RequiresConnection="1" AdvancedFilters="1"
Name="PivotTable1" DataConnectionName="xlextdat9 Adventure Works DW Adventure Works">
        <Ranges>
          <range FirstColumn="0" FirstRow="0" LastColumn="1" LastRow="0">
            <Operations>
              <Operation Type="Refresh"/>
            </Operations>
          </range>
          <range FirstColumn="0" FirstRow="2" LastColumn="5" LastRow="7">
            <Operations>
              <Operation Type="Refresh"/>
            </Operations>
          </range>
        </Ranges>
        <DataFields>
          <DataField Name="Internet Sales Amount" Id="[Measures].[Internet Sales Amount]"/>
          <DataField Name="Internet Order Quantity" Id="[Measures].[Internet Order
Quantity]"/>
          <DataField Name="Internet Extended Amount" Id="[Measures].[Internet Extended
Amount]"/>
          <DataField Name="Internet Tax Amount" Id="[Measures].[Internet Tax Amount]"/>
          <DataField Name="Internet Freight Cost" Id="[Measures].[Internet Freight Cost]"/>
          <DataField Name="Internet Total Product Cost" Id="[Measures].[Internet Total
Product Cost]"/>
          <DataField Name="Internet Standard Product Cost" Id="[Measures].[Internet Standard
Product Cost]"/>
          <DataField Name="Internet Order Count" Id="[Measures].[Internet Order Count]"/>
          <DataField Name="Customer Count" Id="[Measures].[Customer Count]"/>
          <DataField Name="Reseller Sales Amount" Id="[Measures].[Reseller Sales Amount]"/>
          <DataField Name="Reseller Order Quantity" Id="[Measures].[Reseller Order
Quantity]"/>
          <DataField Name="Reseller Extended Amount" Id="[Measures].[Reseller Extended
Amount]"/>
          <DataField Name="Reseller Tax Amount" Id="[Measures].[Reseller Tax Amount]"/>
          <DataField Name="Reseller Freight Cost" Id="[Measures].[Reseller Freight Cost]"/>
          <DataField Name="Discount Amount" Id="[Measures].[Discount Amount]"/>
          <DataField Name="Reseller Total Product Cost" Id="[Measures].[Reseller Total
Product Cost]"/>
          <DataField Name="Reseller Standard Product Cost" Id="[Measures].[Reseller Standard
Product Cost]"/>
          <DataField Name="Reseller Order Count" Id="[Measures].[Reseller Order Count]"/>
          <DataField Name="Order Quantity" Id="[Measures].[Order Quantity]"/>
          <DataField Name="Extended Amount" Id="[Measures].[Extended Amount]"/>
          <DataField Name="Standard Product Cost" Id="[Measures].[Standard Product Cost]"/>
          <DataField Name="Total Product Cost" Id="[Measures].[Total Product Cost]"/>
          <DataField Name="Sales Amount" Id="[Measures].[Sales Amount]"/>
          <DataField Name="Tax Amount" Id="[Measures].[Tax Amount]"/>
          <DataField Name="Freight Cost" Id="[Measures].[Freight Cost]"/>
          <DataField Name="Order Count" Id="[Measures].[Order Count]"/>
          <DataField Name="Sales Amount Quota" Id="[Measures].[Sales Amount Quota]"/>
          <DataField Name="Amount" Id="[Measures].[Amount]"/>
          <DataField Name="Average Rate" Id="[Measures].[Average Rate]"/>
          <DataField Name="End of Day Rate" Id="[Measures].[End of Day Rate]"/>
          <DataField Name="Internet Gross Profit" Id="[Measures].[Internet Gross Profit]"/>
          <DataField Name="Internet Gross Profit Margin" Id="[Measures].[Internet Gross
Profit Margin]"/>
          <DataField Name="Internet Average Unit Price" Id="[Measures].[Internet Average Unit
Price]"/>
```

```
        <DataField Name="Internet Average Sales Amount" Id="[Measures].[Internet Average
Sales Amount]"/>
        <DataField Name="Internet Ratio to All Products" Id="[Measures].[Internet Ratio to
All Products]"/>
        <DataField Name="Internet Ratio to Parent Product" Id="[Measures].[Internet Ratio
to Parent Product]"/>
        <DataField Name="Growth in Customer Base" Id="[Measures].[Growth in Customer
Base]"/>
        <DataField Name="Reseller Gross Profit" Id="[Measures].[Reseller Gross Profit]"/>
        <DataField Name="Reseller Gross Profit Margin" Id="[Measures].[Reseller Gross
Profit Margin]"/>
        <DataField Name="Reseller Average Unit Price" Id="[Measures].[Reseller Average Unit
Price]"/>
        <DataField Name="Reseller Average Sales Amount" Id="[Measures].[Reseller Average
Sales Amount]"/>
        <DataField Name="Reseller Ratio to All Products" Id="[Measures].[Reseller Ratio to
All Products]"/>
        <DataField Name="Reseller Ratio to Parent Product" Id="[Measures].[Reseller Ratio
to Parent Product]"/>
        <DataField Name="Discount Percentage" Id="[Measures].[Discount Percentage]"/>
        <DataField Name="Average Unit Price" Id="[Measures].[Average Unit Price]"/>
        <DataField Name="Average Sales Amount" Id="[Measures].[Average Sales Amount]"/>
        <DataField Name="Gross Profit" Id="[Measures].[Gross Profit]"/>
        <DataField Name="Gross Profit Margin" Id="[Measures].[Gross Profit Margin]"/>
        <DataField Name="Expense to Revenue Ratio" Id="[Measures].[Expense to Revenue
Ratio]"/>
        <DataField Name="Ratio to All Products" Id="[Measures].[Ratio to All Products]"/>
        <DataField Name="Ratio to Parent Product" Id="[Measures].[Ratio to Parent
Product]"/>
        <DataField Name="Internet Unit Price" Id="[Measures].[Internet Unit Price]"/>
        <DataField Name="Internet Transaction Count" Id="[Measures].[Internet Transaction
Count]"/>
        <DataField Name="Sales Reason Count" Id="[Measures].[Sales Reason Count]"/>
        <DataField Name="Reseller Unit Price" Id="[Measures].[Reseller Unit Price]"/>
        <DataField Name="Unit Price Discount Percent" Id="[Measures].[Unit Price Discount
Percent]"/>
        <DataField Name="Reseller Transaction Count" Id="[Measures].[Reseller Transaction
Count]"/>
        <DataField Name="Unit Price" Id="[Measures].[Unit Price]"/>
        <DataField Name="Transaction Count" Id="[Measures].[Transaction Count]"/>
        <DataField Name="Net Income" Id="[Measures].[Net Income Value]"/>
        <DataField Name="Net Income Goal" Id="[Measures].[Net Income Goal]"/>
        <DataField Name="Net Income Status" Id="[Measures].[Net Income Status]"/>
        <DataField Name="Net Income Trend" Id="[Measures].[Net Income Trend]"/>
        <DataField Name="Operating Profit" Id="[Measures].[Operating Profit Value]"/>
        <DataField Name="Operating Profit Goal" Id="[Measures].[Operating Profit Goal]"/>
        <DataField Name="Operating Profit Status" Id="[Measures].[Operating Profit
Status]"/>
        <DataField Name="Operating Profit Trend" Id="[Measures].[Operating Profit Trend]"/>
        <DataField Name="Operating Expenses" Id="[Measures].[Operating Expenses Value]"/>
        <DataField Name="Operating Expenses Goal" Id="[Measures].[Operating Expenses
Goal]"/>
        <DataField Name="Operating Expenses Status" Id="[Measures].[Operating Expenses
Status]"/>
        <DataField Name="Operating Expenses Trend" Id="[Measures].[Operating Expenses
Trend]"/>
        <DataField Name="Financial Gross Margin" Id="[Measures].[Financial Gross Margin
Value]"/>
        <DataField Name="Financial Gross Margin Goal" Id="[Measures].[Financial Gross
Margin Goal]"/>
```

```
            <DataField Name="Financial Gross Margin Status" Id="[Measures].[Financial Gross
Margin Status]"/>
            <DataField Name="Financial Gross Margin Trend" Id="[Measures].[Financial Gross
Margin Trend]"/>
            <DataField Name="Return on Assets" Id="[Measures].[Return on Assets Value]"/>
            <DataField Name="Return on Assets Goal" Id="[Measures].[Return on Assets Goal]"/>
            <DataField Name="Return on Assets Status" Id="[Measures].[Return on Assets
Status]"/>
            <DataField Name="Return on Assets Trend" Id="[Measures].[Return on Assets Trend]"/>
            <DataField Name="Product Gross Profit Margin Goal" Id="[Measures].[Product Gross
Profit Margin Goal]"/>
            <DataField Name="Product Gross Profit Margin Status" Id="[Measures].[Product Gross
Profit Margin Status]"/>
            <DataField Name="Product Gross Profit Margin Trend" Id="[Measures].[Product Gross
Profit Margin Trend]"/>
            <DataField Name="Financial Variance" Id="[Measures].[Financial Variance Value]"/>
            <DataField Name="Financial Variance Goal" Id="[Measures].[Financial Variance
Goal]"/>
            <DataField Name="Financial Variance Status" Id="[Measures].[Financial Variance
Status]"/>
            <DataField Name="Financial Variance Trend" Id="[Measures].[Financial Variance
Trend]"/>
            <DataField Name="Expense to Revenue Ratio Goal" Id="[Measures].[Expense to Revenue
Ratio Goal]"/>
            <DataField Name="Expense to Revenue Ratio Status" Id="[Measures].[Expense to
Revenue Ratio Status]"/>
            <DataField Name="Expense to Revenue Ratio Trend" Id="[Measures].[Expense to Revenue
Ratio Trend]"/>
            <DataField Name="Revenue Goal" Id="[Measures].[Revenue Goal]"/>
            <DataField Name="Revenue Status" Id="[Measures].[Revenue Status]"/>
            <DataField Name="Revenue Trend" Id="[Measures].[Revenue Trend]"/>
            <DataField Name="Channel Revenue Status" Id="[Measures].[Channel Revenue Status]"/>
            <DataField Name="Channel Revenue Trend" Id="[Measures].[Channel Revenue Trend]"/>
            <DataField Name="Internet Revenue Goal" Id="[Measures].[Internet Revenue Goal]"/>
            <DataField Name="Internet Revenue Status" Id="[Measures].[Internet Revenue
Status]"/>
            <DataField Name="Internet Revenue Trend" Id="[Measures].[Internet Revenue Trend]"/>
            <DataField Name="Growth in Customer Base Goal" Id="[Measures].[Growth in Customer
Base Goal]"/>
            <DataField Name="Growth in Customer Base Status" Id="[Measures].[Growth in Customer
Base Status]"/>
            <DataField Name="Growth in Customer Base Trend" Id="[Measures].[Growth in Customer
Base Trend]"/>
        </DataFields>
      </PivotTable>
    </PivotTables>
    <Table LastNonEmptyRow="8" LastNonEmptyColumn="6" CurrentFirstRow="1" FirstVisibleRow="1"
LastVisibleRow="8" CurrentFirstColumn="1" FirstVisibleColumn="1" LastVisibleColumn="6"
DefaultRowHeight="15" DefaultRowHeightPixels="20" DefaultColumnWidth="48"
DefaultColumnWidthPixels="64" DefaultIndentWidth="6.75" DefaultIndentWidthPixels="9">
        <Column Width="111" WidthPixels="148"/>
        <Column Width="85.5" WidthPixels="114"/>
        <Column Width="71.25" WidthPixels="95" Span="3"/>
        <Row Height="15" HeightPixels="20">
          <Cell StyleID="2" BorderID="-19">
            <Data>Customer Geography</Data>
          </Cell>
          <Cell StyleID="2" BorderID="-21" HasDropDown="1" IsPivotPageField="1" PageFieldID="9"
DropDownType="Filtered">
            <Data>United States</Data>
          </Cell>
```

```
              <Cell BorderID="-23"/>
              <Cell BorderID="-23"/>
              <Cell BorderID="-23"/>
              <Cell BorderID="-23"/>
          </Row>
          <Row Height="15" HeightPixels="20">
              <Cell BorderID="-26"/>
              <Cell BorderID="-27"/>
              <Cell BorderID="-28"/>
              <Cell BorderID="-28"/>
              <Cell BorderID="-28"/>
              <Cell BorderID="-28"/>
          </Row>
          <Row Height="15" HeightPixels="20">
              <Cell StyleID="4" BorderID="-7">
                <Data>Internet Sales Amount</Data>
              </Cell>
              <Cell StyleID="4" BorderID="-1" HasDropDown="1">
                <Data>Column Labels</Data>
              </Cell>
              <Cell StyleID="3" BorderID="-1"/>
              <Cell StyleID="3" BorderID="-1"/>
              <Cell StyleID="3" BorderID="-1"/>
              <Cell StyleID="3" BorderID="-8"/>
          </Row>
          <Row Height="15" HeightPixels="20">
              <Cell StyleID="6" BorderID="-7" HasDropDown="1">
                <Data>Row Labels</Data>
              </Cell>
              <Cell StyleID="6" BorderID="-1" HasDrillIndicator="1" Drillable="1"
   ExtraIndentSpace="1">
                  <Data>CY 2001</Data>
              </Cell>
              <Cell StyleID="6" BorderID="-1" HasDrillIndicator="1" Drillable="1"
   ExtraIndentSpace="1">
                  <Data>CY 2002</Data>
              </Cell>
              <Cell StyleID="6" BorderID="-1" HasDrillIndicator="1" Drillable="1"
   ExtraIndentSpace="1">
                  <Data>CY 2003</Data>
              </Cell>
              <Cell StyleID="6" BorderID="-1" HasDrillIndicator="1" Drillable="1"
   ExtraIndentSpace="1">
                  <Data>CY 2004</Data>
              </Cell>
              <Cell StyleID="6" BorderID="-8">
                <Data>Grand Total</Data>
              </Cell>
          </Row>
          <Row Height="15" HeightPixels="20">
              <Cell StyleID="7" BorderID="-29" HasDrillIndicator="1" Drillable="1"
   ExtraIndentSpace="1">
                  <Data>Accessories</Data>
              </Cell>
              <Cell StyleID="8" BorderID="-31"/>
              <Cell StyleID="8" BorderID="-31"/>
              <Cell StyleID="9" BorderID="-31" FormulaBarText="108251.16">
                <Data xml:space="preserve">$108,251.16 </Data>
              </Cell>
```

```
      <Cell StyleID="9" BorderID="-31" FormulaBarText="148170.91">
        <Data xml:space="preserve">$148,170.91 </Data>
      </Cell>
      <Cell StyleID="9" BorderID="-31" FormulaBarText="256422.07">
        <Data xml:space="preserve">$256,422.07 </Data>
      </Cell>
    </Row>
    <Row Height="15" HeightPixels="20">
      <Cell StyleID="7" BorderID="-33" HasDrillIndicator="1" Drillable="1"
 ExtraIndentSpace="1">
        <Data>Bikes</Data>
      </Cell>
      <Cell StyleID="9" FormulaBarText="1100549.4498">
        <Data xml:space="preserve">$1,100,549.45 </Data>
      </Cell>
      <Cell StyleID="9" FormulaBarText="2126696.546">
        <Data xml:space="preserve">$2,126,696.55 </Data>
      </Cell>
      <Cell StyleID="9" FormulaBarText="2677338.345">
        <Data xml:space="preserve">$2,677,338.35 </Data>
      </Cell>
      <Cell StyleID="9" FormulaBarText="3095275.19">
        <Data xml:space="preserve">$3,095,275.19 </Data>
      </Cell>
      <Cell StyleID="9" FormulaBarText="8999859.5308">
        <Data xml:space="preserve">$8,999,859.53 </Data>
      </Cell>
    </Row>
    <Row Height="15" HeightPixels="20">
      <Cell StyleID="7" BorderID="-32" HasDrillIndicator="1" Drillable="1"
 ExtraIndentSpace="1">
        <Data>Clothing</Data>
      </Cell>
      <Cell StyleID="8" BorderID="-25"/>
      <Cell StyleID="8" BorderID="-25"/>
      <Cell StyleID="9" BorderID="-25" FormulaBarText="52922.85">
        <Data xml:space="preserve">$52,922.85 </Data>
      </Cell>
      <Cell StyleID="9" BorderID="-25" FormulaBarText="80585.06">
        <Data xml:space="preserve">$80,585.06 </Data>
      </Cell>
      <Cell StyleID="9" BorderID="-25" FormulaBarText="133507.91">
        <Data xml:space="preserve">$133,507.91 </Data>
      </Cell>
    </Row>
    <Row Height="15" HeightPixels="20">
      <Cell StyleID="10" BorderID="-14">
        <Data>Grand Total</Data>
      </Cell>
      <Cell StyleID="12" BorderID="-13" FormulaBarText="1100549.4498">
        <Data xml:space="preserve">$1,100,549.45 </Data>
      </Cell>
      <Cell StyleID="12" BorderID="-13" FormulaBarText="2126696.546">
        <Data xml:space="preserve">$2,126,696.55 </Data>
      </Cell>
      <Cell StyleID="12" BorderID="-13" FormulaBarText="2838512.355">
        <Data xml:space="preserve">$2,838,512.36 </Data>
      </Cell>
      <Cell StyleID="12" BorderID="-13" FormulaBarText="3324031.16">
```

```
        <Data xml:space="preserve">$3,324,031.16 </Data>
      </Cell>
      <Cell StyleID="12" BorderID="-15" FormulaBarText="9389789.5108">
        <Data xml:space="preserve">$9,389,789.51 </Data>
      </Cell>
    </Row>
  </Table>
 </Worksheet>
</Workbook>
```

4   Security Considerations

None.

5   Appendix A: Full XML Schemas

For ease of implementation, this section provides the full W3C XML Schemas for the new elements, attributes, complex types, and simple types specified in the preceding sections.

5.1   SpreadsheetDataXML

```
<xs:schema id="SpreadsheetDataXML" xmlns="" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:element name="Workbook" type="CT_Workbook">
    <xs:key name="styleIDKey">
      <xs:selector xpath="./Styles/Style"/>
      <xs:field xpath="@ID"/>
    </xs:key>
    <xs:keyref name="tableStyleIDKeyRef" refer="styleIDKey">
      <xs:selector xpath="./Worksheet/Table"/>
      <xs:field xpath="@StyleID"/>
    </xs:keyref>
    <xs:keyref name="columnStyleIDKeyRef" refer="styleIDKey">
      <xs:selector xpath="./Worksheet/Table/Column"/>
      <xs:field xpath="@StyleID"/>
    </xs:keyref>
    <xs:keyref name="columnBorderStyleIDKeyRef" refer="styleIDKey">
      <xs:selector xpath="./Worksheet/Table/Column"/>
      <xs:field xpath="@BorderID"/>
    </xs:keyref>
    <xs:keyref name="rowStyleIDKeyRef" refer="styleIDKey">
      <xs:selector xpath="./Worksheet/Table/Row"/>
      <xs:field xpath="@StyleID"/>
    </xs:keyref>
    <xs:keyref name="rowBorderStyleIDKeyRef" refer="styleIDKey">
      <xs:selector xpath="./Worksheet/Table/Row"/>
      <xs:field xpath="@BorderID"/>
    </xs:keyref>
    <xs:keyref name="cellStyleIDKeyRef" refer="styleIDKey">
      <xs:selector xpath="./Worksheet/Table/Row/Cell"/>
      <xs:field xpath="@StyleID"/>
    </xs:keyref>
    <xs:keyref name="cellBorderStyleIDKeyRef" refer="styleIDKey">
      <xs:selector xpath="./Worksheet/Table/Row/Cell"/>
      <xs:field xpath="@BorderID"/>
    </xs:keyref>
    <xs:keyref name="imagesBorderStyleIDKeyRef" refer="styleIDKey">
      <xs:selector xpath="./Worksheet/Images/Image"/>
      <xs:field xpath="@BorderID"/>
    </xs:keyref>
  </xs:element>
  <xs:complexType name="CT_WorkbookOptions">
    <xs:sequence>
      <xs:element name="HideWorkbookTabs" minOccurs="0" maxOccurs="1"/>
    </xs:sequence>
  </xs:complexType>
  <xs:simpleType name="ST_ObjectName">
    <xs:restriction base="xs:string">
      <xs:minLength value="1"/>
      <xs:maxLength value="255"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:simpleType name="ST_SheetName">
```

```xml
      <xs:restriction base="xs:string">
        <xs:minLength value="1"/>
        <xs:maxLength value="31"/>
      </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="ST_SheetOrObjectName">
      <xs:union memberTypes="ST_SheetName ST_ObjectName"/>
    </xs:simpleType>
    <xs:simpleType name="ST_Comment">
      <xs:restriction base="xs:string">
        <xs:maxLength value="255"/>
      </xs:restriction>
    </xs:simpleType>
    <xs:complexType name="CT_Parameter">
      <xs:attribute name="Name" use="required" type="ST_ObjectName"/>
      <xs:attribute name="Comment" use="optional" type="ST_Comment"/>
      <xs:attribute name="IsPivotPageField" type="xs:boolean" default="false" use="optional"/>
      <xs:attribute name="IsSlicer" type="xs:boolean" default="false" use="optional"/>
      <xs:attribute name="RequiresConnection" type="xs:boolean" default="false"
 use="optional"/>
    </xs:complexType>
    <xs:complexType name="CT_Parameters">
      <xs:sequence>
        <xs:element name="Parameter" minOccurs="1" maxOccurs="255" type="CT_Parameter"/>
      </xs:sequence>
    </xs:complexType>
    <xs:complexType name="CT_NamedObject">
      <xs:attribute name="Name" type="ST_ObjectName" use="required"/>
      <xs:attribute name="Type" type="ST_enmNamedObjectType" use="required"/>
      <xs:attribute name="SheetName" type="ST_SheetName" use="required"/>
      <xs:attribute name="DisplayRightToLeft" type="xs:boolean" default="false"
 use="optional"/>
      <xs:attribute name="LastNonEmptyRow" type="ST_excelRowNumber1Based" use="optional"/>
      <xs:attribute name="LastNonEmptyColumn" type="ST_excelColNumber1Based" use="optional"/>
      <xs:attribute name="CurrentFirstRow" type="ST_excelRowNumber1Based" use="optional"/>
      <xs:attribute name="FirstVisibleRow" type="ST_excelRowNumber1Based" use="optional"/>
      <xs:attribute name="LastVisibleRow" type="ST_excelRowNumber1Based" use="optional"/>
      <xs:attribute name="CurrentFirstColumn" type="ST_excelColNumber1Based" use="optional"/>
      <xs:attribute name="FirstVisibleColumn" type="ST_excelColNumber1Based" use="optional"/>
      <xs:attribute name="LastVisibleColumn" type="ST_excelColNumber1Based" use="optional"/>
      <xs:attribute name="DisplayOutlines" type="xs:boolean" default="false" use="optional"/>
    </xs:complexType>
    <xs:complexType name="CT_NamedObjects">
      <xs:sequence>
        <xs:element name="NamedObject" minOccurs="1" maxOccurs="unbounded"
 type="CT_NamedObject"/>
      </xs:sequence>
    </xs:complexType>
    <xs:simpleType name="ST_Size">
      <xs:restriction base="xs:double">
        <xs:minInclusive value="1.0"/>
        <xs:maxInclusive value="409.0"/>
      </xs:restriction>
    </xs:simpleType>
    <xs:complexType name="CT_Font">
      <xs:attribute name="Size" default="11" use="optional" type="ST_Size"/>
      <xs:attribute name="FontName" type="xs:string" use="required"/>
      <xs:attribute name="Color" type="ST_rgbTuple" default="#000000" use="optional"/>
      <xs:attribute name="Bold" type="xs:boolean" default="false" use="optional"/>
```

```
      <xs:attribute name="Italic" type="xs:boolean" default="false" use="optional"/>
      <xs:attribute name="StrikeThrough" type="xs:boolean" default="false" use="optional"/>
      <xs:attribute name="VerticalAlign" type="ST_enmFontVerticalAlignment" default="None"
  use="optional"/>
      <xs:attribute name="Underline" type="ST_enmFontUnderline" default="None" use="optional"/>
  </xs:complexType>
  <xs:simpleType name="ST_Rotate">
    <xs:restriction base="xs:int">
      <xs:minInclusive value="-90"/>
      <xs:maxInclusive value="90"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:complexType name="CT_Alignment">
    <xs:attribute name="Horizontal" type="ST_enmHorizontalAlignment" default="Automatic"
  use="optional"/>
    <xs:attribute name="WrapText" type="xs:boolean" default="false" use="optional"/>
    <xs:attribute name="Rotate" default="0" use="optional" type="ST_Rotate"/>
    <xs:attribute name="VerticalText" type="xs:boolean" default="false" use="optional"/>
    <xs:attribute name="Vertical" type="ST_enmVerticalAlignment" default="Bottom"
  use="optional"/>
    <xs:attribute name="ReadingOrder" type="ST_enmReadOrder" default="Context"
  use="optional"/>
    <xs:attribute name="ShrinkToFit" type="xs:boolean" default="false" use="optional"/>
    <xs:attribute name="Indent" type="xs:unsignedInt" default="0" use="optional"/>
  </xs:complexType>
  <xs:complexType name="CT_Interior">
    <xs:attribute name="Color" type="ST_rgbTuple"/>
    <xs:attribute name="Pattern" type="ST_enmPattern" use="optional"/>
    <xs:attribute name="PatternColor" type="ST_rgbTuple" use="optional"/>
  </xs:complexType>
  <xs:complexType name="CT_stop">
    <xs:attribute name="position" type="ST_percentage" use="required"/>
    <xs:attribute name="Color" type="ST_rgbTuple" use="required"/>
  </xs:complexType>
  <xs:simpleType name="ST_degree">
    <xs:restriction base="xs:double">
      <xs:minInclusive value="0.0"/>
      <xs:maxExclusive value="360.0"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:complexType name="CT_gradient">
    <xs:sequence>
      <xs:element name="stop" minOccurs="2" maxOccurs="3" type="CT_stop"/>
    </xs:sequence>
    <xs:attribute name="degree" default="0.0" use="optional" type="ST_degree"/>
    <xs:attribute name="type" type="ST_enmGradientType" default="Linear" use="optional"/>
    <xs:attribute name="left" type="ST_percentage" default="0" use="optional"/>
    <xs:attribute name="right" type="ST_percentage" default="0" use="optional"/>
    <xs:attribute name="top" type="ST_percentage" default="0" use="optional"/>
    <xs:attribute name="bottom" type="ST_percentage" default="0" use="optional"/>
  </xs:complexType>
  <xs:simpleType name="ST_Weight">
    <xs:restriction base="xs:int">
      <xs:minInclusive value="0"/>
      <xs:maxInclusive value="3"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:complexType name="CT_Border">
    <xs:attribute name="Position" type="ST_enmBorderPosition" use="required"/>
```

```
        <xs:attribute name="LineStyle" type="ST_enmBorderLineStyle" default="None"
use="optional"/>
        <xs:attribute name="Weight" use="required" type="ST_Weight"/>
        <xs:attribute name="Color" type="ST_rgbTuple" use="required"/>
    </xs:complexType>
    <xs:complexType name="CT_Borders">
        <xs:sequence>
            <xs:element name="Border" minOccurs="0" maxOccurs="4" type="CT_Border"/>
        </xs:sequence>
    </xs:complexType>
    <xs:simpleType name="ST_ID">
        <xs:union memberTypes="ST_cellStyleID ST_borderStyleID"/>
    </xs:simpleType>
    <xs:complexType name="CT_Style">
        <xs:choice>
            <xs:group ref="cellStyle"/>
            <xs:group ref="borderStyle"/>
        </xs:choice>
        <xs:attribute name="ID" use="required" type="ST_ID"/>
    </xs:complexType>
    <xs:group name="cellStyle">
        <xs:sequence>
            <xs:element name="Font" minOccurs="0" maxOccurs="1" type="CT_Font"/>
            <xs:element name="Alignment" minOccurs="0" maxOccurs="1" type="CT_Alignment"/>
            <xs:choice minOccurs="0" maxOccurs="1">
                <xs:element name="Interior" type="CT_Interior"/>
                <xs:element name="gradient" type="CT_gradient"/>
            </xs:choice>
        </xs:sequence>
    </xs:group>
    <xs:group name="borderStyle">
        <xs:sequence>
            <xs:element name="Borders" minOccurs="0" maxOccurs="1" type="CT_Borders"/>
        </xs:sequence>
    </xs:group>
    <xs:complexType name="CT_Styles">
        <xs:sequence>
            <xs:element name="Style" minOccurs="1" maxOccurs="unbounded" type="CT_Style"/>
        </xs:sequence>
    </xs:complexType>
    <xs:complexType name="CT_WorksheetOptions">
        <xs:attribute name="DoNotDisplayGridlines" type="xs:boolean" default="false"
use="optional"/>
        <xs:attribute name="DoNotDisplayHeadings" type="xs:boolean" use="optional"/>
        <xs:attribute name="DisplayRightToLeft" type="xs:boolean" use="optional"/>
        <xs:attribute name="TabColor" type="ST_rgbTuple" use="optional"/>
        <xs:attribute name="DisplayOutlines" type="xs:boolean" default="false" use="optional"/>
    </xs:complexType>
    <xs:simpleType name="ST_value">
        <xs:restriction base="xs:string">
            <xs:maxLength value="32767"/>
        </xs:restriction>
    </xs:simpleType>
    <xs:complexType name="CT_Criteria">
        <xs:attribute name="Type" type="ST_enmAutoFilterCriteriaOperationType" default="EQ"
use="optional"/>
        <xs:attribute name="Relation" type="ST_enmAutoFilterCriteriaRelationOperator"
default="Nil" use="optional"/>
        <xs:attribute name="value" use="required" type="ST_value"/>
```

```
      </xs:complexType>
      <xs:simpleType name="ST_value1">
        <xs:restriction base="xs:int">
          <xs:minInclusive value="0"/>
          <xs:maxInclusive value="500"/>
        </xs:restriction>
      </xs:simpleType>
      <xs:complexType name="CT_top10">
        <xs:attribute name="percent" type="xs:boolean" use="required"/>
        <xs:attribute name="top" type="xs:boolean" use="required"/>
        <xs:attribute name="value" use="required" type="ST_value1"/>
      </xs:complexType>
      <xs:complexType name="CT_item">
        <xs:sequence>
          <xs:element name="Criteria" minOccurs="0" maxOccurs="2" type="CT_Criteria"/>
          <xs:element name="top10" minOccurs="0" maxOccurs="1" type="CT_top10"/>
        </xs:sequence>
        <xs:attribute name="Index" type="ST_excelColNumber" default="0" use="optional"/>
        <xs:attribute name="Name" type="xs:string" use="optional"/>
        <xs:attribute name="Top10" type="xs:boolean" default="false" use="optional"/>
        <xs:attribute name="Type" type="ST_enmFilterItemType" default="None" use="optional"/>
        <xs:attribute name="CriteriaType" type="ST_enmAutoFilterItemCriteriaType" default="Nil"
  use="optional"/>
        <xs:attribute name="DataType" type="ST_enmAutoFilterItemType" default="Number"
  use="optional"/>
        <xs:attribute name="Filter" type="xs:boolean" default="false" use="optional"/>
        <xs:attribute name="Custom" type="xs:boolean" default="false" use="optional"/>
      </xs:complexType>
      <xs:simpleType name="ST_Type">
        <xs:restriction base="xs:string">
          <xs:enumeration value="Sheet"/>
          <xs:enumeration value="Table"/>
        </xs:restriction>
      </xs:simpleType>
      <xs:complexType name="CT_autofilter">
        <xs:sequence>
          <xs:element name="item" minOccurs="0" maxOccurs="16384" type="CT_item"/>
        </xs:sequence>
        <xs:attribute name="ID" type="xs:int" default="0" use="optional"/>
        <xs:attribute name="Row" type="ST_excelRowNumber" default="0" use="optional"/>
        <xs:attribute name="ColFirst" type="ST_excelColNumber" default="0" use="optional"/>
        <xs:attribute name="Type" use="required" type="ST_Type"/>
      </xs:complexType>
      <xs:complexType name="CT_autofilters">
        <xs:sequence>
          <xs:element name="autofilter" minOccurs="1" maxOccurs="unbounded"
  type="CT_autofilter"/>
        </xs:sequence>
      </xs:complexType>
      <xs:complexType name="CT_Operation">
        <xs:attribute name="Type" type="ST_enmPivotRangeOperation"/>
      </xs:complexType>
      <xs:complexType name="CT_Operations">
        <xs:sequence>
          <xs:element name="Operation" minOccurs="1" maxOccurs="unbounded" type="CT_Operation"/>
        </xs:sequence>
      </xs:complexType>
      <xs:complexType name="CT_range">
        <xs:sequence>
```

```
        <xs:element name="Operations" minOccurs="1" maxOccurs="1" type="CT_Operations"/>
      </xs:sequence>
      <xs:attribute name="FirstColumn" type="ST_excelColNumber" use="optional" default="0"/>
      <xs:attribute name="FirstRow" type="ST_excelRowNumber" use="optional" default="0"/>
      <xs:attribute name="LastColumn" type="ST_excelColNumber" use="optional" default="0"/>
      <xs:attribute name="LastRow" type="ST_excelRowNumber" use="optional" default="0"/>
    </xs:complexType>
    <xs:complexType name="CT_Ranges">
      <xs:sequence>
        <xs:element name="range" minOccurs="0" maxOccurs="unbounded" type="CT_range"/>
      </xs:sequence>
    </xs:complexType>
    <xs:complexType name="CT_DataField">
      <xs:attribute name="Name" type="ST_nonEmptyString"/>
      <xs:attribute name="Id" type="ST_nonEmptyString"/>
    </xs:complexType>
    <xs:complexType name="CT_DataFields">
      <xs:sequence>
        <xs:element name="DataField" minOccurs="1" maxOccurs="unbounded" type="CT_DataField"/>
      </xs:sequence>
    </xs:complexType>
    <xs:complexType name="CT_PivotTable">
      <xs:sequence>
        <xs:element name="Ranges" minOccurs="1" maxOccurs="1" type="CT_Ranges"/>
        <xs:element name="DataFields" minOccurs="0" maxOccurs="1" type="CT_DataFields"/>
      </xs:sequence>
      <xs:attribute name="ExternalSourceIndex" type="xs:nonNegativeInteger" default="0"
  use="optional"/>
      <xs:attribute name="AdvancedFilters" type="xs:boolean" default="false" use="optional"/>
      <xs:attribute name="LocalSource" type="xs:boolean" use="optional" default="false"/>
      <xs:attribute name="Name" type="ST_nonEmptyString"/>
      <xs:attribute name="DataConnectionName" type="ST_nonEmptyString"/>
      <xs:attribute name="ShowDrillIndicators" type="xs:boolean" default="true"
  use="optional"/>
      <xs:attribute name="RequiresConnection" type="xs:boolean" use="optional"
  default="false"/>
    </xs:complexType>
    <xs:complexType name="CT_PivotTables">
      <xs:sequence>
        <xs:element name="PivotTable" minOccurs="1" maxOccurs="unbounded"
  type="CT_PivotTable"/>
      </xs:sequence>
    </xs:complexType>
    <xs:complexType name="CT_Location">
      <xs:attribute name="top" type="ST_excelRowNumber" use="required"/>
      <xs:attribute name="left" type="ST_excelColNumber" use="required"/>
      <xs:attribute name="bottom" type="ST_excelRowNumber" use="required"/>
      <xs:attribute name="right" type="ST_excelColNumber" use="required"/>
      <xs:attribute name="SheetName" type="ST_SheetName" use="required"/>
      <xs:attribute name="Type" type="ST_enmNamedObjectType" use="optional"
  default="InvalidNamedObjectType"/>
      <xs:attribute name="ObjectName" type="ST_ObjectName" use="optional"/>
    </xs:complexType>
    <xs:complexType name="CT_Hyperlink">
      <xs:sequence>
        <xs:choice>
          <xs:element name="Target" type="ST_nonEmptyString"/>
          <xs:element name="Location" type="CT_Location"/>
        </xs:choice>
```

```xml
        <xs:element name="Tooltip" type="xs:string" minOccurs="0" maxOccurs="1"/>
      </xs:sequence>
      <xs:attribute name="top" type="ST_excelRowNumber" use="required"/>
      <xs:attribute name="left" type="ST_excelColNumber" use="required"/>
      <xs:attribute name="bottom" type="ST_excelRowNumber" use="required"/>
      <xs:attribute name="right" type="ST_excelColNumber" use="required"/>
    </xs:complexType>
    <xs:complexType name="CT_Hyperlinks">
      <xs:sequence>
        <xs:element name="Hyperlink" minOccurs="0" maxOccurs="unbounded" type="CT_Hyperlink"/>
      </xs:sequence>
    </xs:complexType>
    <xs:complexType name="CT_ChartMetaData">
      <xs:sequence/>
      <xs:attribute name="ChartCategory" type="ST_enmChartCategory" use="required"/>
      <xs:attribute name="IsStackedType" type="xs:boolean" use="required"/>
      <xs:attribute name="Is100PercentStackedType" type="xs:boolean" use="required"/>
      <xs:attribute name="HasSimpleDataRange" type="xs:boolean" use="optional"/>
      <xs:attribute name="DataRangeForDisplay" type="xs:string" use="optional"/>
      <xs:attribute name="IsPivotChart" type="xs:boolean" use="optional"/>
      <xs:attribute name="DataSourceEmpty" type="xs:boolean" default="false" use="optional"/>
      <xs:attribute name="HasNoVisibleSeries" type="xs:boolean" default="false"
  use="optional"/>
    </xs:complexType>
    <xs:complexType name="CT_Image">
      <xs:sequence>
        <xs:element name="ChartMetaData" minOccurs="0" maxOccurs="1" type="CT_ChartMetaData"/>
      </xs:sequence>
      <xs:attribute name="Id" type="ST_nonEmptyString" use="required"/>
      <xs:attribute name="ImageName" type="xs:string" use="required"/>
      <xs:attribute name="Type" type="ST_enmImageType" use="optional" default="chart"/>
      <xs:attribute name="Version" type="xs:int" use="required"/>
      <xs:attribute name="Width" type="ST_nonNegativeDouble" use="required"/>
      <xs:attribute name="Height" type="ST_nonNegativeDouble" use="required"/>
      <xs:attribute name="BorderID" type="ST_borderStyleID" use="optional"/>
      <xs:attribute name="ZOrder" type="xs:int" use="required"/>
      <xs:attribute name="XOriginDelta" type="xs:double" default="0" use="optional"/>
      <xs:attribute name="YOriginDelta" type="xs:double" default="0" use="optional"/>
      <xs:attribute name="AbsoluteLeft" type="xs:double" use="required"/>
      <xs:attribute name="AbsoluteTop" type="xs:double" use="required"/>
      <xs:attribute name="AbsoluteRight" type="xs:double" use="required"/>
      <xs:attribute name="AbsoluteBottom" type="xs:double" use="required"/>
      <xs:attribute name="ClippedWidth" type="ST_nonNegativeDouble" default="0"
  use="optional"/>
      <xs:attribute name="ClippedHeight" type="ST_nonNegativeDouble" default="0"
  use="optional"/>
      <xs:attribute name="Visible" type="xs:boolean" default="true" use="optional"/>
      <xs:attribute name="AltText" type="xs:string" use="optional"/>
      <xs:attribute name="LockAspectRatio" type="xs:boolean" default="false" use="optional"/>
    </xs:complexType>
    <xs:complexType name="CT_Images">
      <xs:sequence>
        <xs:element name="Image" minOccurs="1" maxOccurs="unbounded" type="CT_Image"/>
      </xs:sequence>
    </xs:complexType>
    <xs:simpleType name="ST_DefaultRowHeight">
      <xs:union>
        <xs:simpleType>
          <xs:restriction base="ST_rowHeight"/>
```

```xml
        </xs:simpleType>
        <xs:simpleType>
          <xs:restriction base="xs:double">
            <xs:enumeration value="0"/>
          </xs:restriction>
        </xs:simpleType>
      </xs:union>
    </xs:simpleType>
    <xs:simpleType name="ST_DefaultColumnWidth">
      <xs:union>
        <xs:simpleType>
          <xs:restriction base="ST_columnWidth"/>
        </xs:simpleType>
        <xs:simpleType>
          <xs:restriction base="xs:double">
            <xs:enumeration value="0"/>
          </xs:restriction>
        </xs:simpleType>
      </xs:union>
    </xs:simpleType>
    <xs:simpleType name="ST_SelectionTop">
      <xs:restriction base="xs:int">
        <xs:minInclusive value="0"/>
        <xs:maxInclusive value="1048576"/>
      </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="ST_SelectionLeft">
      <xs:restriction base="xs:int">
        <xs:minInclusive value="0"/>
        <xs:maxInclusive value="16384"/>
      </xs:restriction>
    </xs:simpleType>
    <xs:complexType name="CT_Table">
      <xs:sequence>
        <xs:element name="Column" minOccurs="0" maxOccurs="16384" type="CT_ColumnAxisItem"/>
        <xs:element name="Row" minOccurs="0" maxOccurs="1048576" type="CT_RowAxisItem"/>
      </xs:sequence>
      <xs:attribute name="LastNonEmptyRow" type="ST_excelRowNumber1Based" use="required"/>
      <xs:attribute name="LastNonEmptyColumn" type="ST_excelColNumber1Based" use="required"/>
      <xs:attribute name="CurrentFirstRow" type="ST_excelRowNumber1Based" use="required"/>
      <xs:attribute name="FirstVisibleRow" type="ST_excelRowNumber1Based" use="required"/>
      <xs:attribute name="CurrentFirstRowVisibleOffset" type="ST_excelRowNumber" default="0"
  use="optional"/>
      <xs:attribute name="LastVisibleRow" type="ST_excelRowNumber1Based" default="1048576"
  use="optional"/>
      <xs:attribute name="CurrentFirstColumn" type="ST_excelColNumber1Based" use="required"/>
      <xs:attribute name="FirstVisibleColumn" type="ST_excelColNumber1Based" use="required"/>
      <xs:attribute name="CurrentFirstColumnVisibleOffset" type="ST_excelColNumber" default="0"
  use="optional"/>
      <xs:attribute name="LastVisibleColumn" type="ST_excelColNumber1Based" default="16384"
  use="optional"/>
      <xs:attribute name="DefaultRowHeight" default="12.75" use="optional"
  type="ST_DefaultRowHeight"/>
      <xs:attribute name="DefaultColumnWidth" default="48" use="optional"
  type="ST_DefaultColumnWidth"/>
      <xs:attribute name="DefaultIndentWidth" type="xs:double" default="9" use="optional"/>
      <xs:attribute name="SelectionTop" default="0" use="optional" type="ST_SelectionTop"/>
      <xs:attribute name="SelectionLeft" default="0" use="optional" type="ST_SelectionLeft"/>
      <xs:attribute name="summaryRight" type="xs:boolean" default="true" use="optional"/>
```

```
    <xs:attribute name="summaryBelow" type="xs:boolean" default="true" use="optional"/>
    <xs:attribute name="outlineLevelCol" type="ST_excelOutlineLevels" use="optional"
default="0"/>
    <xs:attribute name="outlineLevelRow" type="ST_excelOutlineLevels" use="optional"
default="0"/>
  </xs:complexType>
  <xs:complexType name="CT_Slicer">
    <xs:sequence/>
    <xs:attribute name="Name" type="ST_nonEmptyString" use="required"/>
    <xs:attribute name="Caption" type="xs:string" use="required"/>
    <xs:attribute name="SlicerCacheId" type="xs:int" use="required"/>
    <xs:attribute name="SlicerViewId" type="xs:int" use="required"/>
    <xs:attribute name="ExternalSourceIndex" type="xs:int" default="0" use="optional"/>
    <xs:attribute name="Version" type="xs:int" use="required"/>
    <xs:attribute name="Width" type="ST_nonNegativeDouble" use="required"/>
    <xs:attribute name="Height" type="ST_nonNegativeDouble" use="required"/>
    <xs:attribute name="ZOrder" type="xs:int" use="required"/>
    <xs:attribute name="XOriginDelta" type="xs:double" default="0" use="optional"/>
    <xs:attribute name="YOriginDelta" type="xs:double" default="0" use="optional"/>
    <xs:attribute name="ClippedWidth" type="ST_nonNegativeDouble" default="0"
use="optional"/>
    <xs:attribute name="ClippedHeight" type="ST_nonNegativeDouble" default="0"
use="optional"/>
    <xs:attribute name="Visible" type="xs:boolean" default="true" use="optional"/>
    <xs:attribute name="HasConnection" type="xs:boolean" default="true" use="optional"/>
  </xs:complexType>
  <xs:complexType name="CT_Slicers">
    <xs:sequence>
      <xs:element name="Slicer" minOccurs="0" maxOccurs="unbounded" type="CT_Slicer"/>
    </xs:sequence>
  </xs:complexType>
  <xs:complexType name="CT_Worksheet">
    <xs:sequence>
      <xs:element name="WorksheetOptions" minOccurs="0" maxOccurs="1"
type="CT_WorksheetOptions"/>
      <xs:element name="autofilters" minOccurs="0" maxOccurs="1" type="CT_autofilters"/>
      <xs:element name="PivotTables" minOccurs="0" maxOccurs="1" type="CT_PivotTables"/>
      <xs:element name="Slicers" maxOccurs="1" minOccurs="0" type="CT_Slicers"/>
      <xs:element name="Hyperlinks" minOccurs="0" maxOccurs="1" type="CT_Hyperlinks"/>
      <xs:element name="Images" maxOccurs="1" minOccurs="0" type="CT_Images"/>
      <xs:element name="Table" minOccurs="0" maxOccurs="1" type="CT_Table"/>
    </xs:sequence>
    <xs:attribute name="ActiveSheet" type="xs:boolean" default="false" use="optional"/>
    <xs:attribute name="ChartSheet" type="xs:boolean" default="false" use="optional"/>
    <xs:attribute name="Name" type="ST_SheetOrObjectName" use="required"/>
    <xs:attribute name="NameRTL" type="xs:boolean" default="false" use="optional"/>
    <xs:attribute name="NamedRange" type="xs:boolean" default="false" use="optional"/>
    <xs:attribute name="SheetName" type="ST_SheetName" use="optional"/>
  </xs:complexType>
  <xs:complexType name="CT_Workbook" final="restriction">
    <xs:sequence>
      <xs:element name="WorkbookOptions" type="CT_WorkbookOptions"/>
      <xs:element name="Parameters" maxOccurs="1" minOccurs="0" type="CT_Parameters"/>
      <xs:element name="NamedObjects" minOccurs="0" maxOccurs="1" type="CT_NamedObjects"/>
      <xs:element name="Styles" minOccurs="0" maxOccurs="1" type="CT_Styles"/>
      <xs:element name="Worksheet" minOccurs="1" maxOccurs="unbounded" type="CT_Worksheet"/>
    </xs:sequence>
  </xs:complexType>
  <xs:simpleType name="ST_cellStyleID" final="restriction">
```

```xml
        <xs:restriction base="xs:string">
          <xs:pattern value="sD|0|[1-9][0-9]*"/>
        </xs:restriction>
      </xs:simpleType>
      <xs:simpleType name="ST_borderStyleID" final="restriction">
        <xs:restriction base="xs:string">
          <xs:pattern value="bD|\-[1-9][0-9]*"/>
        </xs:restriction>
      </xs:simpleType>
      <xs:simpleType name="ST_rgbTuple" final="restriction">
        <xs:restriction base="xs:string">
          <xs:pattern value="#[0-9|A-F|a-f]{6}"/>
          <xs:length value="7"/>
        </xs:restriction>
      </xs:simpleType>
      <xs:simpleType name="ST_enmBorderPosition">
        <xs:restriction base="xs:string">
          <xs:enumeration value="None"/>
          <xs:enumeration value="Left"/>
          <xs:enumeration value="Right"/>
          <xs:enumeration value="Top"/>
          <xs:enumeration value="Bottom"/>
        </xs:restriction>
      </xs:simpleType>
      <xs:simpleType name="ST_enmChartCategory">
        <xs:restriction base="xs:string">
          <xs:enumeration value="Unsupported"/>
          <xs:enumeration value="Combo"/>
          <xs:enumeration value="Surface"/>
          <xs:enumeration value="Column"/>
          <xs:enumeration value="Column3D"/>
          <xs:enumeration value="Bar"/>
          <xs:enumeration value="Bar3D"/>
          <xs:enumeration value="Line"/>
          <xs:enumeration value="Line3D"/>
          <xs:enumeration value="Pie"/>
          <xs:enumeration value="Scatter"/>
          <xs:enumeration value="Bubble"/>
          <xs:enumeration value="Area"/>
          <xs:enumeration value="Doughnut"/>
          <xs:enumeration value="Radar"/>
          <xs:enumeration value="Stock"/>
        </xs:restriction>
      </xs:simpleType>
      <xs:simpleType name="ST_enmBorderLineStyle">
        <xs:restriction base="xs:string">
          <xs:enumeration value="None"/>
          <xs:enumeration value="Continuous"/>
          <xs:enumeration value="Dash"/>
          <xs:enumeration value="Dot"/>
          <xs:enumeration value="DashDot"/>
          <xs:enumeration value="DashDotDot"/>
          <xs:enumeration value="SlantDashDot"/>
          <xs:enumeration value="Double"/>
        </xs:restriction>
      </xs:simpleType>
      <xs:simpleType name="ST_enmHorizontalAlignment">
        <xs:restriction base="xs:string">
          <xs:enumeration value="Automatic"/>
```

```
          <xs:enumeration value="Center"/>
          <xs:enumeration value="Left"/>
          <xs:enumeration value="Right"/>
          <xs:enumeration value="Fill"/>
          <xs:enumeration value="Justify"/>
          <xs:enumeration value="CenterAcrossSelection"/>
          <xs:enumeration value="Distributed"/>
          <xs:enumeration value="JustifyDistributed"/>
        </xs:restriction>
      </xs:simpleType>
      <xs:simpleType name="ST_enmVerticalAlignment">
        <xs:restriction base="xs:string">
          <xs:enumeration value="Automatic"/>
          <xs:enumeration value="Top"/>
          <xs:enumeration value="Bottom"/>
          <xs:enumeration value="Center"/>
          <xs:enumeration value="Justify"/>
          <xs:enumeration value="Distributed"/>
          <xs:enumeration value="JustifyDistributed"/>
        </xs:restriction>
      </xs:simpleType>
      <xs:simpleType name="ST_enmAutoFilterCriteriaOperationType">
        <xs:restriction base="xs:string">
          <xs:enumeration value="EQ"/>
          <xs:enumeration value="NEQ"/>
          <xs:enumeration value="GT"/>
          <xs:enumeration value="GTEQ"/>
          <xs:enumeration value="LT"/>
          <xs:enumeration value="LTEQ"/>
        </xs:restriction>
      </xs:simpleType>
      <xs:simpleType name="ST_enmAutoFilterCriteriaRelationOperator">
        <xs:restriction base="xs:string">
          <xs:enumeration value="Nil"/>
          <xs:enumeration value="And"/>
          <xs:enumeration value="Or"/>
        </xs:restriction>
      </xs:simpleType>
      <xs:simpleType name="ST_enmAutoFilterItemType">
        <xs:restriction base="xs:string">
          <xs:enumeration value="Number"/>
          <xs:enumeration value="Text"/>
          <xs:enumeration value="Date"/>
        </xs:restriction>
      </xs:simpleType>
      <xs:simpleType name="ST_enmAutoFilterItemCriteriaType">
        <xs:restriction base="xs:string">
          <xs:enumeration value="Nil"/>
          <xs:enumeration value="AboveAverage"/>
          <xs:enumeration value="BelowAverage"/>
          <xs:enumeration value="Tomorrow"/>
          <xs:enumeration value="Today"/>
          <xs:enumeration value="Yesterday"/>
          <xs:enumeration value="NextWeek"/>
          <xs:enumeration value="ThisWeek"/>
          <xs:enumeration value="LastWeek"/>
          <xs:enumeration value="NextMonth"/>
          <xs:enumeration value="ThisMonth"/>
          <xs:enumeration value="LastMonth"/>
```

```xml
              <xs:enumeration value="NextQuarter"/>
              <xs:enumeration value="ThisQuarter"/>
              <xs:enumeration value="LastQuarter"/>
              <xs:enumeration value="NextYear"/>
              <xs:enumeration value="ThisYear"/>
              <xs:enumeration value="LastYear"/>
              <xs:enumeration value="YearToDate"/>
              <xs:enumeration value="Q1"/>
              <xs:enumeration value="Q2"/>
              <xs:enumeration value="Q3"/>
              <xs:enumeration value="Q4"/>
              <xs:enumeration value="M1"/>
              <xs:enumeration value="M2"/>
              <xs:enumeration value="M3"/>
              <xs:enumeration value="M4"/>
              <xs:enumeration value="M5"/>
              <xs:enumeration value="M6"/>
              <xs:enumeration value="M7"/>
              <xs:enumeration value="M8"/>
              <xs:enumeration value="M9"/>
              <xs:enumeration value="M10"/>
              <xs:enumeration value="M11"/>
              <xs:enumeration value="M12"/>
          </xs:restriction>
      </xs:simpleType>
      <xs:simpleType name="ST_excelRowNumber">
        <xs:restriction base="xs:int">
          <xs:minInclusive value="0"/>
          <xs:maxInclusive value="1048575"/>
        </xs:restriction>
      </xs:simpleType>
      <xs:simpleType name="ST_excelColNumber">
        <xs:restriction base="xs:int">
          <xs:minInclusive value="0"/>
          <xs:maxInclusive value="16383"/>
        </xs:restriction>
      </xs:simpleType>
      <xs:simpleType name="ST_excelRowNumber1Based">
        <xs:restriction base="xs:int">
          <xs:minInclusive value="1"/>
          <xs:maxInclusive value="1048576"/>
        </xs:restriction>
      </xs:simpleType>
      <xs:simpleType name="ST_excelColNumber1Based">
        <xs:restriction base="xs:int">
          <xs:minInclusive value="1"/>
          <xs:maxInclusive value="16384"/>
        </xs:restriction>
      </xs:simpleType>
      <xs:simpleType name="ST_excelOutlineLevels">
        <xs:restriction base="xs:short">
          <xs:minInclusive value="0"/>
          <xs:maxInclusive value="8"/>
        </xs:restriction>
      </xs:simpleType>
      <xs:simpleType name="ST_rowHeight">
        <xs:restriction base="xs:double">
          <xs:minInclusive value="0.2"/>
          <xs:maxInclusive value="409.6"/>
```

```xml
      </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="ST_columnWidth">
      <xs:restriction base="xs:double">
        <xs:minInclusive value="0.75"/>
        <xs:maxInclusive value="1343"/>
      </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="ST_enmFilterItemType">
      <xs:restriction base="xs:string">
        <xs:enumeration value="None"/>
        <xs:enumeration value="Filtered"/>
        <xs:enumeration value="SortedAsc"/>
        <xs:enumeration value="SortedDesc"/>
        <xs:enumeration value="BothAsc"/>
        <xs:enumeration value="BothDesc"/>
        <xs:enumeration value="Sorted"/>
        <xs:enumeration value="Both"/>
      </xs:restriction>
    </xs:simpleType>
    <xs:complexType name="CT_Data">
      <xs:simpleContent>
        <xs:extension base="xs:string">
          <xs:attribute name="RTF" type="xs:boolean" default="false" use="optional"/>
        </xs:extension>
      </xs:simpleContent>
    </xs:complexType>
    <xs:simpleType name="ST_KpiSet">
      <xs:restriction base="xs:short">
        <xs:enumeration value="-1"/>
        <xs:enumeration value="0"/>
        <xs:enumeration value="1"/>
        <xs:enumeration value="2"/>
        <xs:enumeration value="3"/>
        <xs:enumeration value="4"/>
        <xs:enumeration value="5"/>
        <xs:enumeration value="6"/>
        <xs:enumeration value="7"/>
        <xs:enumeration value="8"/>
        <xs:enumeration value="9"/>
        <xs:enumeration value="10"/>
        <xs:enumeration value="11"/>
        <xs:enumeration value="12"/>
        <xs:enumeration value="13"/>
        <xs:enumeration value="14"/>
        <xs:enumeration value="15"/>
        <xs:enumeration value="16"/>
        <xs:enumeration value="17"/>
        <xs:enumeration value="18"/>
        <xs:enumeration value="19"/>
      </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="ST_KpiIcon">
      <xs:restriction base="xs:short">
        <xs:minInclusive value="0"/>
        <xs:maxInclusive value="4"/>
      </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="ST_KpiSize">
```

```xml
      <xs:restriction base="xs:short">
        <xs:enumeration value="0"/>
        <xs:enumeration value="1"/>
        <xs:enumeration value="2"/>
      </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="ST_MergeDown">
      <xs:restriction base="xs:int">
        <xs:minInclusive value="1"/>
        <xs:maxInclusive value="1048575"/>
      </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="ST_MergeAcross">
      <xs:restriction base="xs:int">
        <xs:minInclusive value="1"/>
        <xs:maxInclusive value="16383"/>
      </xs:restriction>
    </xs:simpleType>
    <xs:complexType name="CT_Cell">
      <xs:sequence>
        <xs:element name="Data" minOccurs="0" maxOccurs="1" type="CT_Data"/>
      </xs:sequence>
      <xs:attribute name="BorderID" type="ST_borderStyleID" default="bD" use="optional"/>
      <xs:attribute name="Index" type="ST_excelColNumber1Based" use="optional"/>
      <xs:attribute name="StyleID" type="ST_cellStyleID" default="sD" use="optional"/>
      <xs:attribute name="SpanType" type="ST_enmCellSpanType" use="optional" default="None"/>
      <xs:attribute name="SpillOrigin" type="ST_excelColNumber1Based" use="optional"/>
      <xs:attribute name="DatabarLength" type="ST_databarLengthPercentage" default="0"
  use="optional"/>
      <xs:attribute name="DatabarColor" type="ST_rgbTuple" use="optional"/>
      <xs:attribute name="DatabarStyle" type="ST_enmDatabarStyle" use="optional"
  default="Gradient"/>
      <xs:attribute name="DatabarBorderColor" type="ST_rgbTuple" use="optional"/>
      <xs:attribute name="DatabarDirection" type="ST_enmReadOrder" use="optional"
  default="Context"/>
      <xs:attribute name="DatabarAxisPosition" type="ST_databarLengthPercentage" default="0"
  use="optional"/>
      <xs:attribute name="DatabarAxisColor" type="ST_rgbTuple" use="optional"/>
      <xs:attribute name="HasDropDown" type="xs:boolean" use="optional"/>
      <xs:attribute name="KpiSet" use="optional" default="-1" type="ST_KpiSet"/>
      <xs:attribute name="KpiIcon" use="optional" type="ST_KpiIcon"/>
      <xs:attribute name="KpiSize" use="optional" type="ST_KpiSize"/>
      <xs:attribute name="MergeDown" use="optional" type="ST_MergeDown"/>
      <xs:attribute name="MergeAcross" use="optional" type="ST_MergeAcross"/>
      <xs:attribute name="FirstRow" type="ST_excelRowNumber" use="optional" default="0"/>
      <xs:attribute name="FirstColumn" type="ST_excelColNumber" use="optional" default="0"/>
      <xs:attribute name="LastRow" type="ST_excelRowNumber" use="optional" default="0"/>
      <xs:attribute name="LastColumn" type="ST_excelColNumber" use="optional" default="0"/>
      <xs:attribute name="XOriginDelta" type="ST_nonPositiveDouble" default="0"
  use="optional"/>
      <xs:attribute name="YOriginDelta" type="ST_nonPositiveDouble" default="0"
  use="optional"/>
      <xs:attribute name="Width" type="ST_nonNegativeDouble" default="0" use="optional"/>
      <xs:attribute name="Height" type="ST_nonNegativeDouble" default="0" use="optional"/>
      <xs:attribute name="OriginalText" use="optional" type="xs:string"/>
      <xs:attribute name="DropDownType" type="ST_enmFilterItemType" use="optional"
  default="None"/>
      <xs:attribute name="IsPivotPageField" type="xs:boolean" use="optional"/>
      <xs:attribute name="PageFieldID" type="xs:string" use="optional"/>
```

```xml
      <xs:attribute name="Drillable" type="xs:boolean" use="optional"/>
      <xs:attribute name="HasDrillIndicator" type="xs:boolean" default="false" use="optional"/>
      <xs:attribute name="CompactAxis" type="xs:boolean" default="false" use="optional"/>
      <xs:attribute name="ExtraIndentSpace" type="xs:boolean" use="optional"/>
      <xs:attribute name="WideIndent" type="xs:boolean" use="optional"/>
      <xs:attribute name="Expanded" type="xs:boolean" use="optional"/>
      <xs:attribute name="Horizontal" type="ST_enmHorizontalAlignment" default="Automatic"
  use="optional"/>
      <xs:attribute name="iconOnly" type="xs:boolean" use="optional"/>
      <xs:attribute name="FormulaError" type="xs:boolean" default="false" use="optional"/>
      <xs:attribute name="HasPhonInfo" type="xs:boolean" default="false" use="optional"/>
      <xs:attribute name="FormulaBarText" type="xs:string" use="optional"/>
      <xs:attribute name="HasSparkline" type="xs:boolean" default="false" use="optional"/>
      <xs:attribute name="SparklineClusterOffsetTop" type="xs:nonNegativeInteger" default="0"
  use="optional"/>
      <xs:attribute name="SparklineClusterOffsetLeft" type="xs:nonNegativeInteger"
  use="optional" default="0"/>
      <xs:attribute name="SparklineClusterFirstRow" type="ST_excelRowNumber" use="optional"/>
      <xs:attribute name="SparklineClusterLastRow" type="ST_excelRowNumber" use="optional"/>
      <xs:attribute name="SparklineClusterFirstColumn" type="ST_excelColNumber"
  use="optional"/>
      <xs:attribute name="SparklineClusterLastColumn" type="ST_excelColNumber" use="optional"/>
      <xs:attribute name="SparklineVersion" type="xs:int" use="optional" default="0"/>
    </xs:complexType>
    <xs:complexType name="CT_RowAxisItem">
      <xs:sequence>
        <xs:element name="Cell" minOccurs="0" maxOccurs="16384" type="CT_Cell"/>
      </xs:sequence>
      <xs:attribute name="Span" use="optional" default="0" type="ST_excelRowNumber"/>
      <xs:attribute name="Hidden" type="xs:boolean" use="optional" default="false"/>
      <xs:attribute name="collapsed" type="xs:boolean" default="false" use="optional"/>
      <xs:attribute name="outlineLevel" type="ST_excelOutlineLevels" use="optional"
  default="0"/>
      <xs:attribute name="adjacentOutlineLevel" type="ST_excelOutlineLevels" use="optional"
  default="0"/>
      <xs:attribute name="Index" type="ST_excelRowNumber1Based" use="optional"/>
      <xs:attribute name="Height" type="ST_rowHeight" use="optional"/>
    </xs:complexType>
    <xs:complexType name="CT_ColumnAxisItem">
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      <xs:attribute name="collapsed" type="xs:boolean" default="false" use="optional"/>
      <xs:attribute name="outlineLevel" type="ST_excelOutlineLevels" use="optional"
  default="0"/>
      <xs:attribute name="adjacentOutlineLevel" type="ST_excelOutlineLevels" use="optional"
  default="0"/>
      <xs:attribute name="Index" type="ST_excelColNumber1Based" use="optional"/>
      <xs:attribute name="Width" type="ST_columnWidth" use="optional"/>
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    <xs:simpleType name="ST_enmImageType">
      <xs:restriction base="xs:string">
        <xs:enumeration value="none"/>
        <xs:enumeration value="chart"/>
        <xs:enumeration value="image"/>
      </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="ST_enmReadOrder">
      <xs:restriction base="xs:string">
        <xs:enumeration value="Context"/>
        <xs:enumeration value="LeftToRight"/>
```

```
        <xs:enumeration value="RightToLeft"/>
      </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="ST_enmGradientType">
      <xs:restriction base="xs:string">
        <xs:enumeration value="Linear"/>
        <xs:enumeration value="Path"/>
      </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="ST_enmFontVerticalAlignment">
      <xs:restriction base="xs:string">
        <xs:enumeration value="None"/>
        <xs:enumeration value="Subscript"/>
        <xs:enumeration value="Superscript"/>
      </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="ST_enmPivotRangeOperation">
      <xs:restriction base="xs:string">
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      </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="ST_enmFontUnderline">
      <xs:restriction base="xs:string">
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        <xs:enumeration value="Single"/>
        <xs:enumeration value="Double"/>
        <xs:enumeration value="SingleAccounting"/>
        <xs:enumeration value="DoubleAccounting"/>
      </xs:restriction>
    </xs:simpleType>
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      <xs:restriction base="xs:string">
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        <xs:enumeration value="Chart"/>
        <xs:enumeration value="PivotTable"/>
        <xs:enumeration value="Table"/>
        <xs:enumeration value="NamedRange"/>
      </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="ST_enmDatabarStyle">
      <xs:restriction base="xs:string">
        <xs:enumeration value="Gradient"/>
        <xs:enumeration value="Solid"/>
      </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="ST_enmCellSpanType">
      <xs:restriction base="xs:string">
        <xs:enumeration value="Merge"/>
        <xs:enumeration value="Spill"/>
        <xs:enumeration value="None"/>
      </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="ST_enmPattern">
      <xs:restriction base="xs:string">
        <xs:enumeration value="None"/>
        <xs:enumeration value="Solid"/>
        <xs:enumeration value="Gray50"/>
        <xs:enumeration value="Gray75"/>
        <xs:enumeration value="Gray25"/>
```

```
          <xs:enumeration value="HorzStripe"/>
          <xs:enumeration value="VertStripe"/>
          <xs:enumeration value="ReverseDiagStripe"/>
          <xs:enumeration value="DiagStripe"/>
          <xs:enumeration value="DiagCross"/>
          <xs:enumeration value="ThickDiagCross"/>
          <xs:enumeration value="ThinHorzStripe"/>
          <xs:enumeration value="ThinVertStripe"/>
          <xs:enumeration value="ThinReverseDiagStripe"/>
          <xs:enumeration value="ThinDiagStripe"/>
          <xs:enumeration value="ThinHorzCross"/>
          <xs:enumeration value="ThinDiagCross"/>
          <xs:enumeration value="Gray125"/>
          <xs:enumeration value="Gray0625"/>
      </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="ST_percentage">
      <xs:restriction base="xs:double">
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        <xs:maxInclusive value="1.0"/>
      </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="ST_databarLengthPercentage">
      <xs:restriction base="xs:int">
        <xs:minInclusive value="-100"/>
        <xs:maxInclusive value="100"/>
      </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="ST_nonNegativeDouble">
      <xs:restriction base="xs:double">
        <xs:minInclusive value="0"/>
      </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="ST_nonPositiveDouble">
      <xs:restriction base="xs:double">
        <xs:maxInclusive value="0"/>
      </xs:restriction>
    </xs:simpleType>
    <xs:simpleType name="ST_nonEmptyString">
      <xs:restriction base="xs:string">
        <xs:minLength value="1"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:schema>
```

6   Appendix B: Product Behavior

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

- Microsoft® SharePoint® Server 2010

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

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

<1> Section 2.2.30: Other than the normative definition of this attribute (2), Excel Calculation Services 2010 places no additional restrictions on the protocol server with respect to the contents of the Target attribute (2).

7 Change Tracking

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

8 Index