[MS-PWVRSC]: PowerPoint Web Viewer Rendered Static Content Structure

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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	1.05	No change	No changes to the meaning, language, or formatting of the technical content.
01/20/2012	2.0	Major	Significantly changed the technical content.
04/11/2012	2.0	No change	No changes to the meaning, language, or formatting of the technical content.
07/16/2012	2.1	Minor	Clarified the meaning of the technical content.

Table of Contents

Release: July 16, 2012

1 Introduction

This document specifies the PowerPoint Web Viewer Rendered Static Content Structure, which is used by a protocol server to send presentation content to a protocol client through the Office Mobile PowerPoint Web Handler Protocol Specification [MS-OMPWHP].

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-OFCGLOS]:

horizontal alignment
horizontal indent
notes slide
presentation
presentation slide
slide
slide show
slide show broadcast
Uniform Resource Locator (URL)

The following terms are specific to this document:

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

1.2 References

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

1.2.1 Normative References

We conduct frequent surveys of the normative references to assure their continued availability. If you have any issue with finding a normative reference, please contact dochelp@microsoft.com. 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.

[MS-OMPWHP] Microsoft Corporation, "Office Mobile PowerPoint Web Handler Protocol Specification".

[MS-PWVPDP] Microsoft Corporation, "PowerPoint Web Viewer Presentation Data Protocol Specification".

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

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

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

1.2.2 Informative References

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

1.3 Structure Overview (Synopsis)

A **presentation** consists of **slides**, pictures, and other content. A protocol client can use the Office Mobile PowerPoint Web Handler Protocol Specification [MS-OMPWHP] to request specific pieces of presentation content stored on a protocol server. This structure specifies a set of data types that enable the transfer of such presentation content.

1.4 Relationship to Protocols and Other Structures

This structure is used by the Office Mobile PowerPoint Web Handler Protocol Specification [MS-OMPWHP].

1.5 Applicability Statement

This structure is applicable to the communication described in the Office Mobile PowerPoint Web Handler Protocol Specification [MS-OMPWHP].

1.6 Versioning and Localization

This document covers versioning issues in the following areas:

- **Structure Versions**: This structure specifies the only version of this structure.

- **Localization**: This structure specifies no locale-specific processes or data.

1.7 Vendor-Extensible Fields

None.

2 Structures

2.1 Global Elements

2.1.1 mobilePres

Target namespace: http://schemas.microsoft.com/server/powerpoint/2009/mobile

A CT_MobilePres element that specifies information about a presentation.

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

```
<xsd:element name="mobilePres" type="CT_MobilePres"/>
```

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

2.1.2 pres

Target namespace: http://schemas.microsoft.com/server/powerpoint/2009/mobile

Reserved. MUST be ignored.

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

```
<xsd:element name="pres" type="CT_Presentation"/>
```

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

2.1.3 sld

Target namespace: http://schemas.microsoft.com/server/powerpoint/2009/mobile

A CT_Slide element that specifies information about the content of a **presentation slide**.

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

```
<xsd:element name="sld" type="CT_Slide"/>
```

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

2.2 Global Attributes

None.

2.3 Complex Types

The following table summarizes the set of common XML Schema complex type definitions defined by this specification. XML Schema complex type definitions that are specific to a particular operation are described with the operation.

Complex type	Description
CT_SlideEntry	A complex type that specifies information about a presentation slide.
CT_SlideEntryList	A complex type that specifies a set of slides as a sequence of CT_SlideEntry elements.
CT_CustomShow	A complex type that specifies a custom show in the presentation.
CT_CustomShowList	A complex type that specifies a set of custom shows as a sequence of CT_CustomShow elements.
CT_EmptyType	A complex type that specifies an empty type. Can be used where no specific element needs to be present.
CT_IndexRange	A complex type that specifies a zero-based index range of a list.
CT_DocumentProperties	A complex type that specifies document-level properties of the presentation.
CT_ShowProperties	A complex type that specifies the presentation slides that will be shown in a **slide show**.
CT_Presentation	A complex type that specifies information about a presentation.
CT_SlideImage	A complex type that specifies information required to retrieve the image of a presentation slide.
CT_SlideInfo	A complex type that specifies information required to retrieve knowledge about a presentation slide.
CT_MobilePres	A complex type that specifies information about a presentation and information required to retrieve the image and knowledge about a presentation slide.
CT_Paragraph	A complex type that specifies a paragraph with simple format information.
CT_Placeholder	Reserved. MUST be ignored.
CT_ShapeText	Reserved. MUST be ignored.
CT_SlideText	Reserved. MUST be ignored.
CT_Notes	A complex type that specifies the text content of a **notes slide**.
CT_Slide	A complex type that specifies a presentation slide.

2.3.1 CT_SlideEntry

Target namespace: http://schemas.microsoft.com/server/powerpoint/2009/mobile

Referenced by: CT_SlideEntryList

A complex type that specifies information about a presentation slide.

Attributes:

title: An **xsd:string** attribute ([XMLSCHEMA2] section 3.2.1) that specifies the title of the presentation slide.

id: An ST_SlideId attribute that specifies the unique identifier of the presentation slide.

sldImg: An **xsd:string** attribute ([XMLSCHEMA2] section 3.2.1) that specifies a name that uniquely refers to the image file of the presentation slide.

sldInfo: An **xsd:string** attribute ([XMLSCHEMA2] section 3.2.1) that specifies a name that uniquely refers to detailed information of the presentation slide.

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

```
<xsd:complexType name="CT_SlideEntry">
  <xsd:attribute name="title" type="xsd:string" use="optional" default=""/>
  <xsd:attribute name="id" type="psv:ST_SlideId" use="required"/>
  <xsd:attribute name="sldImg" type="xsd:string" use="required"/>
  <xsd:attribute name="sldInfo" type="xsd:string" use="required"/>
</xsd:complexType>
```

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

2.3.2 CT_SlideEntryList

Target namespace: http://schemas.microsoft.com/server/powerpoint/2009/mobile

Referenced by: CT_Presentation

A complex type that specifies a set of slides as a sequence of CT_SlideEntry elements.

Child Elements:

sld: An element that specifies a CT_SlideEntry.

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

```
<xsd:complexType name="CT_SlideEntryList">
  <xsd:sequence>
    <xsd:element name="sld" type="CT_SlideEntry" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

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

2.3.3 CT_CustomShow

Target namespace: http://schemas.microsoft.com/server/powerpoint/2009/mobile

Referenced by: CT_CustomShowList

A complex type that specifies a custom show in the presentation.

Child Elements:

sld: An ST_SlideId attribute that specifies the unique identifier of the presentation slide.

Attributes:

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

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

```
<xsd:complexType name="CT_CustomShow">
  <xsd:sequence>
    <xsd:element name="sld" type="psv:ST_SlideId" minOccurs="1" maxOccurs="unbounded"/>
  </xsd:sequence>
  <xsd:attribute name="name" type="xsd:string" use="required"/>
</xsd:complexType>
```

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

2.3.4   CT_CustomShowList

Target namespace: http://schemas.microsoft.com/server/powerpoint/2009/mobile

Referenced by: CT_Presentation

A complex type that specifies a set of custom shows as a sequence of CT_CustomShow elements.

Child Elements:

custShow: An element that specifies a CT_CustomShow.

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

```
<xsd:complexType name="CT_CustomShowList">
  <xsd:sequence>
    <xsd:element name="custShow" type="CT_CustomShow" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

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

2.3.5   CT_EmptyType

Target namespace: http://schemas.microsoft.com/server/powerpoint/2009/mobile

Referenced by: CT_ShowProperties

A complex type that specifies an empty type. Can be used where no specific element needs to be present.

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

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

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

2.3.6 CT_IndexRange

Target namespace: http://schemas.microsoft.com/server/powerpoint/2009/mobile

Referenced by: CT_ShowProperties

A complex type that specifies a zero-based index range of a list.

Attributes:

st: An **xsd:unsignedInt** attribute ([XMLSCHEMA2] section 3.2.22) that specifies the inclusive start index of the range.

end: An **xsd:unsignedInt** attribute ([XMLSCHEMA2] section 3.2.22) that specifies the non-inclusive end index of the range.

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

```
<xsd:complexType name="CT_IndexRange">
  <xsd:attribute name="st" type="xsd:unsignedInt" use="required"/>
  <xsd:attribute name="end" type="xsd:unsignedInt" use="required"/>
</xsd:complexType>
```

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

2.3.7 CT_DocumentProperties

Target namespace: http://schemas.microsoft.com/server/powerpoint/2009/mobile

Referenced by: CT_Presentation

A complex type that specifies document-level properties of the presentation.

Attributes:

w: An **xsd:unsignedInt** attribute ([XMLSCHEMA2] section 3.3.22) that specifies the width of a presentation in pixels.

h: An **xsd:unsignedInt** attribute ([XMLSCHEMA2] section 3.3.22) that specifies the height of a presentation in pixels.

authr: Reserved. MUST be ignored.

modBy: Reserved. MUST be ignored.

modTm: Reserved. MUST be ignored.

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

```
<xsd:complexType name="CT_DocumentProperties">
  <xsd:attribute name="w" type="xsd:unsignedInt" use="required"/>
  <xsd:attribute name="h" type="xsd:unsignedInt" use="required"/>
  <xsd:attribute name="authr" type="xsd:string" use="optional" default=""/>
  <xsd:attribute name="modBy" type="xsd:string" use="optional" default=""/>
  <xsd:attribute name="modTm" type="xsd:string" use="optional" default=""/>
```

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

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

2.3.8   CT_ShowProperties

Target namespace: http://schemas.microsoft.com/server/powerpoint/2009/mobile

Referenced by: CT_Presentation

A complex type that specifies the presentation slides that will be shown in a slide show.

Child Elements:

sldAll: A CT_EmptyType element that specifies that all the slides will be shown.

sldRg: A CT_IndexRange element that specifies the range of presentation slides that will be shown. The range MUST be contained within the range of the presentation.

custShow: An **xsd:string** ([XMLSCHEMA2] section 3.2.1) that specifies the name of a custom show. Only presentation slides in the corresponding custom show will be shown. All presentation slides within the custom show MUST be within the presentation.

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

```
  <xsd:complexType name="CT_ShowProperties">
    <xsd:choice minOccurs="1" maxOccurs="1">
      <xsd:element name="sldAll" type="CT_EmptyType"/>
      <xsd:element name="sldRg" type="CT_IndexRange"/>
      <xsd:element name="custShow" type="xsd:string"/>
    </xsd:choice>
  </xsd:complexType>
```

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

2.3.9   CT_Presentation

Target namespace: http://schemas.microsoft.com/server/powerpoint/2009/mobile

Referenced by: CT_MobilePres, pres

A complex type that specifies information about a presentation.

Child Elements:

docPr: A CT_DocumentProperties element that specifies the document level properties of the presentation.

sldLst: A CT_SlideEntryList element that specifies a list of slide entries.

showLst: A CT_CustomShowList element that specifies the custom shows present in the presentation.

showPr: A CT_ShowProperties element that specifies the presentation slides that will be shown. If this element is not present, all the presentation slides will be shown.

Attributes:

ver: An **xsd:unsignedInt** attribute ([XMLSCHEMA2] section 3.3.22) that specifies the schema version of the presentation.

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

```
<xsd:complexType name="CT_Presentation">
  <xsd:sequence>
    <xsd:element name="docPr" type="CT_DocumentProperties" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="sldLst" type="CT_SlideEntryList" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="showLst" type="CT_CustomShowList" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="showPr" type="CT_ShowProperties" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="ver" type="xsd:unsignedInt" use="required"/>
</xsd:complexType>
```

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

2.3.10   CT_SlideImage

Target namespace: http://schemas.microsoft.com/server/powerpoint/2009/mobile

Referenced by: CT_MobilePres

A complex type that specifies information required to retrieve the image of a presentation slide.

Attributes:

url: An **xsd:string** attribute ([XMLSCHEMA2] section 3.2.1) that specifies the relative path to the **URL** which serves presentation slide images. This URL MUST conform to [MS-OMPWHP] section 3.1.4.3.

image: An **xsd:string** attribute ([XMLSCHEMA2] section 3.2.1) that specifies the parameter which defines the presentation slide for which image is requested.

width: An **xsd:string** attribute ([XMLSCHEMA2] section 3.2.1) that specifies the parameter which defines the width of the image requested.

height: An **xsd:string** attribute ([XMLSCHEMA2] section 3.2.1) that specifies the parameter which defines the height of the image requested.

format: An **xsd:string** attribute ([XMLSCHEMA2] section 3.2.1) that specifies the parameter which defines the format of the image requested.

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

```
<xsd:complexType name="CT_SlideImage">
  <xsd:attribute name="url" type="xsd:string" use="required"/>
  <xsd:attribute name="image" type="xsd:string" use="required"/>
  <xsd:attribute name="width" type="xsd:string" use="required"/>
  <xsd:attribute name="height" type="xsd:string" use="required"/>
  <xsd:attribute name="format" type="xsd:string" use="required"/>
</xsd:complexType>
```

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

2.3.11   CT_SlideInfo

Target namespace: http://schemas.microsoft.com/server/powerpoint/2009/mobile

Referenced by: CT_MobilePres

A complex type that specifies information required to retrieve detailed information about a presentation slide.

Attributes:

url: An **xsd:string** attribute([XMLSCHEMA2] section 3.2.1) that specifies the relative path of the URL which serves information about a presentation slide. This URL MUST conform to [MS-OMPWHP] section 3.1.4.2.

info: An **xsd:string** attribute ([XMLSCHEMA2] section 3.2.1) that specifies the parameter which defines the presentation slide for which information is requested.

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

```
<xsd:complexType name="CT_SlideInfo">
  <xsd:attribute name="url" type="xsd:string" use="required"/>
  <xsd:attribute name="info" type="xsd:string" use="required"/>
</xsd:complexType>
```

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

2.3.12   CT_MobilePres

Target namespace: http://schemas.microsoft.com/server/powerpoint/2009/mobile

Referenced by: mobilePres

A complex type that specifies information about a presentation and information required to retrieve the image and knowledge about a presentation slide.

Child Elements:

slideImage: An element that specifies a CT_SlideImage.

slideInfo: An element that specifies a CT_SlideInfo.

pres: An element that specifies a CT_Presentation.

Attributes:

S3StateServiceUrl: An **xsd:string** attribute ([XMLSCHEMA2] section 3.2.1) that specifies the URL that provides information about the state of the presentation. This URL must conform to the PowerPoint Web Viewer Presentation Data Protocol Specification [MS-PWVPDP]. This attribute MUST be present in case of a **slide show broadcast** else this attribute MUST be ignored.

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

```
<xsd:complexType name="CT_MobilePres">
  <xsd:sequence>
    <xsd:element name="slideImage" type="CT_SlideImage" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="slideInfo" type="CT_SlideInfo" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="pres" type="CT_Presentation" minOccurs="1" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="S3StateServiceUrl" type="xsd:string" use="optional"/>
</xsd:complexType>
```

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

2.3.13 CT_Paragraph

Target namespace: http://schemas.microsoft.com/server/powerpoint/2009/mobile

Referenced by: CT_Placeholder, CT_ShapeText, CT_Notes

A complex type that specifies a paragraph with simple format information.

Child Elements:

t: An **xsd:string** ([XMLSCHEMA2] section 3.2.1) that specifies the concatenation of the text of all the runs of the paragraph.

Attributes:

level: An **xsd:unsignedByte** attribute ([XMLSCHEMA2] section 3.3.24) that specifies level of **horizontal indent**.

buChar: An **xsd:string** attribute ([XMLSCHEMA2] section 3.2.1) that specifies the bullet.

align: An ST_Alignment attribute that specifies the **horizontal alignment** of text.

rtl: An **xsd:boolean** ([XMLSCHEMA2] section 3.2.2) attribute that specifies whether the text goes from right to left.

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

```
<xsd:complexType name="CT_Paragraph">
  <xsd:sequence>
    <xsd:element name="t" type="xsd:string" minOccurs="1" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="level" type="xsd:unsignedByte" use="optional" default="1"/>
  <xsd:attribute name="buChar" type="xsd:string" use="optional" default=""/>
  <xsd:attribute name="align" type="ST_Alignment" use="optional" default="l"/>
  <xsd:attribute name="rtl" type="xsd:boolean" use="optional" default="false"/>
</xsd:complexType>
```

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

2.3.14 CT_Placeholder

Target namespace: http://schemas.microsoft.com/server/powerpoint/2009/mobile

Referenced by: CT_SlideText

Reserved. MUST be ignored.

Child Elements:

p: Reserved. MUST be ignored.

Attributes:

type: Reserved. MUST be ignored.

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

```
<xsd:complexType name="CT_Placeholder">
  <xsd:sequence>
    <xsd:element name="p" type="CT_Paragraph" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
  <xsd:attribute name="type" type="ST_PlaceholderType" use="required"/>
</xsd:complexType>
```

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

2.3.15   CT_ShapeText

Target namespace: http://schemas.microsoft.com/server/powerpoint/2009/mobile

Referenced by: CT_SlideText

Reserved. MUST be ignored.

Child Elements:

p: Reserved. MUST be ignored.

Attributes:

type: Reserved. MUST be ignored.

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

```
<xsd:complexType name="CT_ShapeText">
  <xsd:sequence>
    <xsd:element name="p" type="CT_Paragraph" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
  <xsd:attribute name="type" type="ST_ShapeType" use="required"/>
</xsd:complexType>
```

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

2.3.16   CT_SlideText

Target namespace: http://schemas.microsoft.com/server/powerpoint/2009/mobile

Referenced by: CT_Slide

Reserved. MUST be ignored.

Child Elements:

ph: Reserved. MUST be ignored.

sp: Reserved. MUST be ignored.

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

```
<xsd:complexType name="CT_SlideText">
  <xsd:sequence>
    <xsd:element name="ph" type="CT_Placeholder" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element name="sp" type="CT_ShapeText" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

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

2.3.17   CT_Notes

Target namespace: http://schemas.microsoft.com/server/powerpoint/2009/mobile

Referenced by: CT_Slide

A complex type that specifies the text content of a notes slide.

Child Elements:

p: A CT_Paragraph element that specifies a paragraph of text in the notes slide.

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

```
<xsd:complexType name="CT_Notes">
  <xsd:sequence>
    <xsd:element name="p" type="CT_Paragraph" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

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

2.3.18   CT_Slide

Target namespace: http://schemas.microsoft.com/server/powerpoint/2009/mobile

Referenced by: sld

A complex type that specifies a presentation slide.

Child Elements:

sldTxt: Reserved. MUST be ignored.

notes: A CT_Notes element that specifies the user notes for the presentation slide.

errLst: A [CT_ErrorList](#) element that specifies list of errors.

Attributes:

ver: Reserved. MUST be ignored.

hidden: An **xsd:boolean** attribute ([XMLSCHEMA2] section 3.2.2) that specifies whether the presentation slide is hidden.

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

```
<xsd:complexType name="CT_Slide">
  <xsd:sequence>
    <xsd:element name="sldTxt" type="CT_SlideText" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="notes" type="CT_Notes" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="errLst" type="psv:CT_ErrorList" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="ver" type="xsd:unsignedInt" use="required"/>
  <xsd:attribute name="hidden" type="xsd:boolean" use="optional" default="false"/>
</xsd:complexType>
```

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

2.3.19   CT_ErrorList

Target namespace:
http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interface.Shared

Referenced by: [CT_Slide](#)

A complex type that specifies a list of [CT_Error](#) elements.

Child Elements:

err: A CT_Error element.

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

```
<xsd:complexType name="CT_ErrorList">
  <xsd:sequence>
    <xsd:element name="err" type="CT_Error" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

2.3.20   CT_Error

*Target namespace***:**
http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interface.Shared

Referenced by: [CT_ErrorList](#)

Reserved. MUST be ignored.

Child Elements:

p: MUST be ignored.

Attributes:

id: MUST be ignored.

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

```
<xsd:complexType name="CT_Error">
  <xsd:sequence>
    <xsd:element name="p" type="xsd:string" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>

  <xsd:attribute name="id" type="unsigned int" use="required"/>
</xsd:complexType>
```

2.4   Simple Types

2.4.1   ST_Alignment

Target namespace: http://schemas.microsoft.com/server/powerpoint/2009/mobile

Referenced by: CT_Paragraph

This simple type specifies the horizontal alignment of text.

Value	Meaning
l	The text is left aligned.
c	The text is center aligned.
r	The text is right aligned.
j	The text is justified aligned.
d	The text is distributed aligned.

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

```
<xsd:simpleType name="ST_Alignment">
  <xsd:restriction base="xsd:token">
    <xsd:enumeration value="l"/>
    <xsd:enumeration value="c"/>
    <xsd:enumeration value="r"/>
    <xsd:enumeration value="j"/>
    <xsd:enumeration value="d"/>
  </xsd:restriction>
</xsd:simpleType>
```

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

2.4.2 ST_PlaceholderType

Target namespace: http://schemas.microsoft.com/server/powerpoint/2009/mobile

Referenced by: CT_Placeholder

Reserved. MUST be ignored.

Value	Meaning
t	Reserved. MUST be ignored.
b	Reserved. MUST be ignored.
o	Reserved. MUST be ignored

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

```
<xsd:simpleType name="ST_PlaceholderType">
  <xsd:restriction base="xsd:token">
    <xsd:enumeration value="t"/>
    <xsd:enumeration value="b"/>
    <xsd:enumeration value="o"/>
  </xsd:restriction>
</xsd:simpleType>
```

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

2.4.3 ST_ShapeType

Target namespace: http://schemas.microsoft.com/server/powerpoint/2009/mobile

Referenced by: CT_ShapeText

Reserved. MUST be ignored.

Value	Meaning
igx	Reserved. MUST be ignored.

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

```
<xsd:simpleType name="ST_ShapeType">
  <xsd:restriction base="xsd:token">
    <xsd:enumeration value="igx"/>
  </xsd:restriction>
</xsd:simpleType>
```

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

2.4.4 ST_SlideId

Target namespace: http://schemas.microsoft.com/server/powerpoint/2009/main

Referenced by: CT_SlideEntry, CT_CustomShow

Corresponds to a PowerPoint slide identifier.

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

```
<xsd:simpleType name="ST_SlideId">
  <xsd:restriction base="xsd:unsignedInt">
    <xsd:minInclusive value="256"/>
    <xsd:maxExclusive value="2147483648"/>
  </xsd:restriction>
</xsd:simpleType>
```

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

3   Structure Examples

The following sections provide structure examples of the different data types of the PowerPoint Web Viewer Rendered Static Content Structure. These examples are illustrative of the preceding specification and they do not cover all possible structure usage scenarios. They are not intended to replace the preceding specification but rather to clarify and enhance it.

3.1   Presentation

This sample CT_MobilePres specifies a presentation.

```
<?xml version="1.0" encoding="utf-8"?>
<p:mobilePres xmlns:p="http://schemas.microsoft.com/server/powerpoint/2009/mobile">
  <p:slideImage
url="./MobileSlideImage.ashx?presentationId=d%3DH%253Asptestamd%252F%252FDocuments%252FDemo%2
52Epptx%26z%3D79AF7428%2D11BC%2D4D49%2DA0D8%2D4AC7DBA09A951" image="imageId" width="width"
height="height" format="format" />
  <p:slideInfo
url="./MobileSlideInfo.ashx?presentationId=d%3DH%253Asptestamd%252F%252FDocuments%252FDemo%25
2Epptx%26z%3D79AF7428%2D11BC%2D4D49%2DA0D8%2D4AC7DBA09A951" info="infoId" />
  <p:pres xmlns:p="http://schemas.microsoft.com/server/powerpoint/2009/mobile" ver="0">
    <p:docPr w="640" h="480" />
    <p:sldLst>
      <p:sld title="Selling a Product or Service" id="264" sldImg="img264.png"
sldInfo="264.sldInfo.xml" />
      <p:sld title="Introduction" id="257" sldImg="img257.png" sldInfo="257.sldInfo.xml" />
      <p:sld title="Business opportunities" id="258" sldImg="img258.png"
sldInfo="258.sldInfo.xml" />
      <p:sld title="Products and services " id="259" sldImg="img259.png"
sldInfo="259.sldInfo.xml" />
      <p:sld title="Key Goals" id="262" sldImg="img262.png" sldInfo="262.sldInfo.xml" />
      <p:sld title="Cast comparison" id="260" sldImg="img260.png" sldInfo="260.sldInfo.xml"
/>
      <p:sld title="Next steps" id="263" sldImg="img263.png" sldInfo="263.sldInfo.xml" />
      <p:sld title="Conclusion" id="265" sldImg="img265.png" sldInfo="265.sldInfo.xml" />
    </p:sldLst>
    <p:showLst>
      <p:custShow name="Custom Show 1">
        <p:sld>264</p:sld>
        <p:sld>259</p:sld>
        <p:sld>263</p:sld>
      </p:custShow>
    </p:showLst>
    <p:showPr>
      <p:sldRg st="3" end="6" />
    </p:showPr>
  </p:pres>
</p:mobilePres>
```

The contained **slideImage** and **slideInfo** elements specify information how to retrieve the presentation slide images and the detailed information about a presentation slide respectively.

The **w** and **h** attributes specify the width and height of the presentation are 640 pixels and 480 pixels.

The contained **sldLst** element specifies a list of 8 CT_SlideEntry elements, each of which specifies an individual presentation slide.

The contained **custShow** element specifies a custom show "Custom Show 1" having 3 presentation slides.

3.2 Slide

This sample CT_Slide specifies a presentation slide.

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<p:sld xmlns:p="http://schemas.microsoft.com/server/powerpoint/2009/mobile" ver="0">
  <p:sldTxt>
    <p:ph type="t">
      <p:p>
        <p:t>Selling a Product or Service</p:t>
      </p:p>
    </p:ph>
  </p:sldTxt>
  <p:notes>
    <p:p buChar="•">
      <p:t>Total time: 30 minutes</p:t>
    </p:p>
    <p:p buChar="•">
      <p:t>Concentrate on Business opportunities</p:t>
    </p:p>
    <p:p level="2" buChar="•">
      <p:t>Spend 5 minutes on intro</p:t>
    </p:p>
    <p:p>
      <p:t/>
    </p:p>
    <p:p>
      <p:t/>
    </p:p>
    <p:p>
      <p:t>Text for test</p:t>
    </p:p>
    <p:p>
      <p:t/>
    </p:p>
    <p:p>
      <p:t/>
    </p:p>
  </p:notes>
</p:sld>
```

The contained **notes** element specifies the text content of the notes slide.

4   Security Considerations

None.

5   Appendix A: Full XSD Schema

5.1   http://schemas.microsoft.com/server/powerpoint/2009/main

```
<xsd:schema elementFormDefault="qualified"
targetNamespace="http://schemas.microsoft.com/server/powerpoint/2009/main"
xmlns="http://schemas.microsoft.com/server/powerpoint/2009/main"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <xsd:simpleType name="ST_SlideId">
    <xsd:restriction base="xsd:unsignedInt">
      <xsd:minInclusive value="256"/>
      <xsd:maxExclusive value="2147483648"/>
    </xsd:restriction>
  </xsd:simpleType>
</xsd:schema>
```

5.2   http://schemas.microsoft.com/server/powerpoint/2009/mobile

```
<xsd:schema elementFormDefault="qualified"
targetNamespace="http://schemas.microsoft.com/server/powerpoint/2009/mobile"
xmlns="http://schemas.microsoft.com/server/powerpoint/2009/mobile"
xmlns:psv="http://schemas.microsoft.com/server/powerpoint/2009/main"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <xsd:import namespace="http://schemas.microsoft.com/server/powerpoint/2009/main"
schemaLocation="pptservercommon.xsd"/>
  <xsd:simpleType name="ST_Alignment">
    <xsd:restriction base="xsd:token">
      <xsd:enumeration value="l"/>
      <xsd:enumeration value="c"/>
      <xsd:enumeration value="r"/>
      <xsd:enumeration value="j"/>
      <xsd:enumeration value="d"/>
    </xsd:restriction>
  </xsd:simpleType>
  <xsd:simpleType name="ST_PlaceholderType">
    <xsd:restriction base="xsd:token">
      <xsd:enumeration value="t"/>
      <xsd:enumeration value="b"/>
      <xsd:enumeration value="o"/>
    </xsd:restriction>
  </xsd:simpleType>
  <xsd:simpleType name="ST_ShapeType">
    <xsd:restriction base="xsd:token">
      <xsd:enumeration value="igx"/>
    </xsd:restriction>
  </xsd:simpleType>
  <xsd:complexType name="CT_SlideEntry">
    <xsd:attribute name="title" type="xsd:string" use="optional" default=""/>
    <xsd:attribute name="id" type="psv:ST_SlideId" use="required"/>
    <xsd:attribute name="sldImg" type="xsd:string" use="required"/>
    <xsd:attribute name="sldInfo" type="xsd:string" use="required"/>
  </xsd:complexType>
  <xsd:complexType name="CT_SlideEntryList">
    <xsd:sequence>
      <xsd:element name="sld" type="CT_SlideEntry" minOccurs="0" maxOccurs="unbounded"/>
    </xsd:sequence>
  </xsd:complexType>
```

```xsd
<xsd:complexType name="CT_CustomShow">
  <xsd:sequence>
    <xsd:element name="sld" type="psv:ST_SlideId" minOccurs="1" maxOccurs="unbounded"/>
  </xsd:sequence>
  <xsd:attribute name="name" type="xsd:string" use="required"/>
</xsd:complexType>
<xsd:complexType name="CT_CustomShowList">
  <xsd:sequence>
    <xsd:element name="custShow" type="CT_CustomShow" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="CT_EmptyType"/>
<xsd:complexType name="CT_IndexRange">
  <xsd:attribute name="st" type="xsd:unsignedInt" use="required"/>
  <xsd:attribute name="end" type="xsd:unsignedInt" use="required"/>
</xsd:complexType>
<xsd:complexType name="CT_DocumentProperties">
  <xsd:attribute name="w" type="xsd:unsignedInt" use="required"/>
  <xsd:attribute name="h" type="xsd:unsignedInt" use="required"/>
  <xsd:attribute name="authr" type="xsd:string" use="optional" default=""/>
  <xsd:attribute name="modBy" type="xsd:string" use="optional" default=""/>
  <xsd:attribute name="modTm" type="xsd:string" use="optional" default=""/>
</xsd:complexType>
<xsd:complexType name="CT_ShowProperties">
  <xsd:choice minOccurs="1" maxOccurs="1">
    <xsd:element name="sldAll" type="CT_EmptyType"/>
    <xsd:element name="sldRg" type="CT_IndexRange"/>
    <xsd:element name="custShow" type="xsd:string"/>
  </xsd:choice>
</xsd:complexType>
<xsd:complexType name="CT_Presentation">
  <xsd:sequence>
    <xsd:element name="docPr" type="CT_DocumentProperties" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="sldLst" type="CT_SlideEntryList" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="showLst" type="CT_CustomShowList" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="showPr" type="CT_ShowProperties" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="ver" type="xsd:unsignedInt" use="required"/>
</xsd:complexType>
<xsd:complexType name="CT_SlideImage">
  <xsd:attribute name="url" type="xsd:string" use="required"/>
  <xsd:attribute name="image" type="xsd:string" use="required"/>
  <xsd:attribute name="width" type="xsd:string" use="required"/>
  <xsd:attribute name="height" type="xsd:string" use="required"/>
  <xsd:attribute name="format" type="xsd:string" use="required"/>
</xsd:complexType>
<xsd:complexType name="CT_SlideInfo">
  <xsd:attribute name="url" type="xsd:string" use="required"/>
  <xsd:attribute name="info" type="xsd:string" use="required"/>
</xsd:complexType>
<xsd:complexType name="CT_MobilePres">
  <xsd:sequence>
    <xsd:element name="slideImage" type="CT_SlideImage" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="slideInfo" type="CT_SlideInfo" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="pres" type="CT_Presentation" minOccurs="1" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="S3StateServiceUrl" type="xsd:string" use="optional"/>
</xsd:complexType>
<xsd:complexType name="CT_Paragraph">
```

```xsd
      <xsd:sequence>
        <xsd:element name="t" type="xsd:string" minOccurs="1" maxOccurs="1"/>
      </xsd:sequence>
      <xsd:attribute name="level" type="xsd:unsignedByte" use="optional" default="1"/>
      <xsd:attribute name="buChar" type="xsd:string" use="optional" default=""/>
      <xsd:attribute name="align" type="ST_Alignment" use="optional" default="l"/>
      <xsd:attribute name="rtl" type="xsd:boolean" use="optional" default="false"/>
    </xsd:complexType>
    <xsd:complexType name="CT_Placeholder">
      <xsd:sequence>
        <xsd:element name="p" type="CT_Paragraph" minOccurs="0" maxOccurs="unbounded"/>
      </xsd:sequence>
      <xsd:attribute name="type" type="ST_PlaceholderType" use="required"/>
    </xsd:complexType>
    <xsd:complexType name="CT_ShapeText">
      <xsd:sequence>
        <xsd:element name="p" type="CT_Paragraph" minOccurs="0" maxOccurs="unbounded"/>
      </xsd:sequence>
      <xsd:attribute name="type" type="ST_ShapeType" use="required"/>
    </xsd:complexType>
    <xsd:complexType name="CT_SlideText">
      <xsd:sequence>
        <xsd:element name="ph" type="CT_Placeholder" minOccurs="0" maxOccurs="unbounded"/>
        <xsd:element name="sp" type="CT_ShapeText" minOccurs="0" maxOccurs="unbounded"/>
      </xsd:sequence>
    </xsd:complexType>
    <xsd:complexType name="CT_Notes">
      <xsd:sequence>
        <xsd:element name="p" type="CT_Paragraph" minOccurs="0" maxOccurs="unbounded"/>
      </xsd:sequence>
    </xsd:complexType>
    <xsd:complexType name="CT_Slide">
      <xsd:sequence>
        <xsd:element name="sldTxt" type="CT_SlideText" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="notes" type="CT_Notes" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="errLst" type="psv:CT_ErrorList" minOccurs="0" maxOccurs="1"/>
      </xsd:sequence>
      <xsd:attribute name="ver" type="xsd:unsignedInt" use="required"/>
      <xsd:attribute name="hidden" type="xsd:boolean" use="optional" default="false"/>
    </xsd:complexType>
    <xsd:element name="mobilePres" type="CT_MobilePres"/>
    <xsd:element name="pres" type="CT_Presentation"/>
    <xsd:element name="sld" type="CT_Slide"/>
  </xsd:schema>
```

6   Appendix B: Product Behavior

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

- Microsoft® FAST™ Search Server 2010

- Microsoft® PowerPoint® Mobile 2010

- Microsoft® PowerPoint® Web App

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.

7 Change Tracking

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

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

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

- A document revision that incorporates changes to interoperability requirements or functionality.

- An extensive rewrite, addition, or deletion of major portions of content.

- The removal of a document from the documentation set.

- Changes made for template compliance.

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

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

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

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

- New content added.

- Content updated.

- Content removed.

- New product behavior note added.

- Product behavior note updated.

- Product behavior note removed.

- New protocol syntax added.

- Protocol syntax updated.

- Protocol syntax removed.

- New content added due to protocol revision.

- Content updated due to protocol revision.

- Content removed due to protocol revision.

- New protocol syntax added due to protocol revision.

- Protocol syntax updated due to protocol revision.

- Protocol syntax removed due to protocol revision.

- New content added for template compliance.

- Content updated for template compliance.

- Content removed for template compliance.

- Obsolete document removed.

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

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

- **Protocol syntax** refers to data elements (such as packets, structures, enumerations, and methods) as well as interfaces.

- **Protocol revision** refers to changes made to a protocol that affect the bits that are sent over the wire.

The changes made to this document are listed in the following table. For more information, please contact protocol@microsoft.com.

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
2.4.2 ST_PlaceholderType	Updated value table with meanings.	N	Content updated.
2.4.3 ST_ShapeType	Updated value table with meanings.	N	Content updated.
4 Security Considerations	Renamed section and removed unneeded subsections.	N	Content updated for template compliance.
6 Appendix B: Product Behavior	Updated the list of applicable products.	N	Content updated.

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8 Index

Release: July 16, 2012