[MS-PWVPDP]:
PowerPoint Web Viewer Presentation Data Protocol

Intellectual Property Rights Notice for Open Specifications Documentation

- **Technical Documentation.** Microsoft publishes Open Specifications documentation for protocols, file formats, languages, standards as well as overviews of the interaction among each of these technologies.

- **Copyrights.** This documentation is covered by Microsoft copyrights. Regardless of any other terms that are contained in the terms of use for the Microsoft website that hosts this documentation, you may make copies of it in order to develop implementations of the technologies described in the Open Specifications and may distribute portions of it in your implementations using these technologies or your documentation as necessary to properly document the implementation. You may also distribute in your implementation, with or without modification, any schema, IDL's, or code samples that are included in the documentation. This permission also applies to any documents that are referenced in the Open Specifications.

- **No Trade Secrets.** Microsoft does not claim any trade secret rights in this documentation.

- **Patents.** Microsoft has patents that may cover your implementations of the technologies described in the Open Specifications. Neither this notice nor Microsoft's delivery of the documentation grants any licenses under those or any other Microsoft patents. However, a given Open Specification may be covered by Microsoft Open Specification Promise or the Community Promise. If you would prefer a written license, or if the technologies described in the Open Specifications are not covered by the Open Specifications Promise or Community Promise, as applicable, patent licenses are available by contacting iplg@microsoft.com.

- **Trademarks.** The names of companies and products contained in this documentation may be covered by trademarks or similar intellectual property rights. This notice does not grant any licenses under those rights. For a list of Microsoft trademarks, visit www.microsoft.com/trademarks.

- **Fictitious Names.** The example companies, organizations, products, domain names, e-mail addresses, logos, people, places, and events depicted in this documentation are fictitious. No association with any real company, organization, product, domain name, email address, logo, person, place, or event is intended or should be inferred.

Reservation of Rights. All other rights are reserved, and this notice does not grant any rights other than specifically described above, whether by implication, estoppel, or otherwise.

Tools. The Open Specifications do not require the use of Microsoft programming tools or programming environments in order for you to develop an implementation. If you have access to Microsoft programming tools and environments you are free to take advantage of them. Certain Open Specifications are intended for use in conjunction with publicly available standard specifications and network programming art, and assumes that the reader either is familiar with the aforementioned material or has immediate access to it.

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	Minor	Clarified the meaning of the technical content.
07/23/2010	1.04	No change	No changes to the meaning, language, or formatting of the technical content.
09/27/2010	1.04	No change	No changes to the meaning, language, or formatting of the technical content.
11/15/2010	1.05	Major	Significantly changed 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	3.0	Major	Significantly changed the technical content.
04/11/2012	3.0	No change	No changes to the meaning, language, or formatting of the technical content.
07/16/2012	4.0	Major	Significantly changed the technical content.
10/08/2012	4.0	No change	No changes to the meaning, language, or formatting of the technical content.
02/11/2013	4.0	No change	No changes to the meaning, language, or formatting of the technical content.
07/30/2013	5.0	Major	Significantly changed the technical content.
11/18/2013	5.0	No change	No changes to the meaning, language, or formatting of the technical content.

Table of Contents

1 Introduction

The PowerPoint Web Viewer Presentation Data Protocol enables a protocol client to obtain information about presentation content on a protocol server.

Sections 1.8, 2, and 3 of this specification are normative and can contain the terms MAY, SHOULD, MUST, MUST NOT, and SHOULD NOT as defined in RFC 2119. Sections 1.5 and 1.9 are also normative but cannot contain those terms. All other sections and examples in this specification are informative.

1.1 Glossary

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

broadcast
Coordinated Universal Time (UTC)
Hypertext Transfer Protocol (HTTP)
Hypertext Transfer Protocol over Secure Sockets Layer (HTTPS)
SOAP
SOAP action
SOAP body
SOAP fault
SOAP message
XML namespace

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

comment
cross-site scripting
hyperlink
main master slide
motion path
presentation
presentation broadcast
presentation slide
shape
slide layout
slide show
slide show broadcast
ToolTip
Uniform Resource Locator (URL)
view
Web Services Description Language (WSDL)
website
WSDL message
WSDL operation
XML namespace prefix
XML schema

The following terms are specific to this document:

hit test region: An area that is configured to execute an action, such as opening the destination of a hyperlink, in response to user input, such as a mouse click or key press.

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 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/

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

[MS-PWBHPS] Microsoft Corporation, "PowerPoint Web Broadcast Host Protocol".

[MS-PWEDPS] Microsoft Corporation, "PowerPoint Web Editor Data Protocol".

[MS-PWVRSC] Microsoft Corporation, "PowerPoint Web Viewer Rendered Static Content Structure Specification".

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

[RFC2616] Fielding, R., Gettys, J., Mogul, J., et al., "Hypertext Transfer Protocol -- HTTP/1.1", RFC 2616, June 1999, http://www.ietf.org/rfc/rfc2616.txt

[RFC4627] Crockford, D., "The application/json Media Type for Javascript Object Notation (JSON)", RFC 4627, July 2006, http://www.ietf.org/rfc/rfc4627.txt

[SOAP1.1] Box, D., Ehnebuske, D., Kakivaya, G., et al., "Simple Object Access Protocol (SOAP) 1.1", May 2000, http://www.w3.org/TR/2000/NOTE-SOAP-20000508/

[SOAP1.2/1] Gudgin, M., Hadley, M., Mendelsohn, N., Moreau, J., and Nielsen, H.F., "SOAP Version 1.2 Part 1: Messaging Framework", W3C Recommendation, June 2003, http://www.w3.org/TR/2003/REC-soap12-part1-20030624

[WSA1.0] World Wide Web Consortium, "Web Services Addressing 1.0 - WSDL Binding", W3C Candidate Recommendation, May 2006, http://www.w3.org/TR/2006/CR-ws-addr-wsdl-20060529/

[WSDL] Christensen, E., Curbera, F., Meredith, G., and Weerawarana, S., "Web Services Description Language (WSDL) 1.1", W3C Note, March 2001, http://www.w3.org/TR/2001/NOTE-wsdl-20010315

[XMLNS] Bray, T., Hollander, D., Layman, A., et al., Eds., "Namespaces in XML 1.0 (Third Edition)", W3C Recommendation, December 2009, http://www.w3.org/TR/2009/REC-xml-names-20091208/

[XMLSCHEMA1] Thompson, H.S., Beech, D., Maloney, M., Eds., 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., and Malhotra, A., Eds., "XML Schema Part 2: Datatypes", W3C Recommendation, May 2001, http://www.w3.org/TR/2001/REC-xmlschema-2-20010502/

1.2.2   Informative References

[ISO/IEC29500:2011] ISO/IEC, "Information technology -- Document description and processing languages -- Office Open XML File Formats -- Parts 1-4", ISO/IEC 29500-1:2011, 2011, http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=59575

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

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

[MS-PPT] Microsoft Corporation, "PowerPoint Binary File Format (.ppt) Structure Specification".

[RFC2818] Rescorla, E., "HTTP Over TLS", RFC 2818, May 2000, http://www.ietf.org/rfc/rfc2818.txt

[RFC2822] Resnick, P., Ed., "Internet Message Format", STD 11, RFC 2822, April 2001, http://www.ietf.org/rfc/rfc2822.txt

[SOAP1.2/2] Gudgin, M., Hadley, M., Mendelsohn, N., Moreau, J., and Nielsen, H.F., "SOAP Version 1.2 Part 2: Adjuncts", W3C Recommendation, June 2003, http://www.w3.org/TR/2003/REC-soap12-part2-20030624

1.3   Protocol Overview (Synopsis)

This protocol enables a protocol client to send a request to retrieve information about **presentation** content from the protocol server. To facilitate this, the protocol allows the protocol client to request specific pieces of content from a presentation stored on the protocol server. In a **presentation slide** contained within a presentation, a protocol client can retrieve information describing the presentation slide contents as well as images of the presentation slide contents.

The protocol also enables an attendee client to send requests to a protocol server allowing the client to join a **broadcast** session, and to retrieve data about the state of a broadcast on the protocol server.

1.4   Relationship to Other Protocols

This protocol uses the **SOAP** message protocol for formatting request and response messages, as described in [SOAP1.1], [SOAP1.2/1] and [SOAP1.2/2]. It transmits those messages by using **HTTP**, as described in [RFC2616], or **Hypertext Transfer Protocol over Secure Sockets Layer (HTTPS)**, as described in [RFC2818].

The following diagram shows the underlying messaging and transport stack used by the protocol:
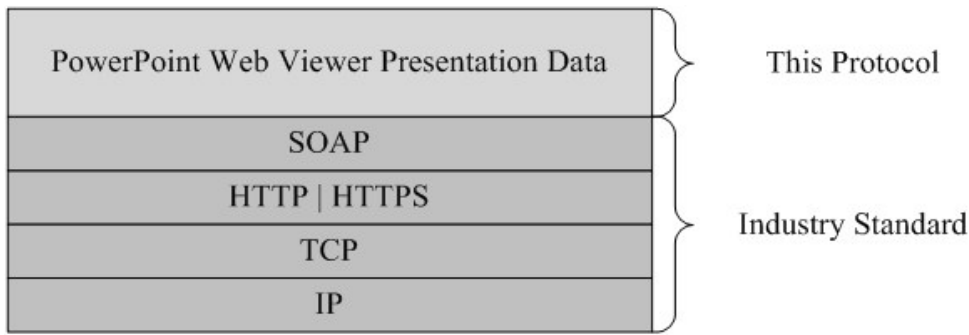
Figure 1: This protocol in relation to other protocols

1.5 Prerequisites/Preconditions

This protocol operates against a **website (1)** that is identified by a **URL** that is known by protocol clients. The protocol server endpoint is formed by appending "/p/ppt/view.svc" or "/_vti_bin/ppt/view.svc" to the URL of the website (1), for example http://www.contoso.com/p/ppt/view.svc.

This protocol assumes that authentication has been performed by the underlying protocols.

1.6 Applicability Statement

This protocol is designed to retrieve information about presentations that are stored on the protocol server.

1.7 Versioning and Capability Negotiation

This document covers versioning issues in the following area:**Supported Transports:** This protocol uses multiple transports with SOAP as specified in section 2.1.

1.8 Vendor-Extensible Fields

None.

1.9 Standards Assignments

None.

2 Messages

In the following sections, the schema definition might be less restrictive than the processing rules imposed by the protocol. The **WSDL** in this specification matches the WSDL that shipped with the product and provides a base description of the schema. The text that introduces the WSDL specifies additional restrictions that reflect actual Microsoft product behavior. For example, the schema definition might allow for an element to be empty, null, or not present but the behavior of the protocol as specified restricts the same elements to being non-empty, not null, and present.

2.1 Transport

Protocol servers MUST support SOAP over HTTP. Protocol servers SHOULD additionally support SOAP over HTTPS for securing communication with clients. Protocol servers SHOULD support JSON [RFC4627] over HTTP and HTTPS.

Protocol messages MUST be formatted as specified either in [SOAP1.1] section 4 or in [SOAP1.2/1] section 5. Protocol server faults MUST be returned either using HTTP Status Codes, as specified in [RFC2616] section 10 or using **SOAP faults**, as specified in either [SOAP1.1] section 4.4 or in [SOAP1.2/1] section 5.4.

2.2 Common Message Syntax

This section contains common definitions used by this protocol. The syntax of the definitions uses XML Schema as defined in [XMLSCHEMA1] and [XMLSCHEMA2], and WSDL as defined in [WSDL].

2.2.1 Namespaces

This specification defines and references various **XML namespaces** using the mechanisms specified in [XMLNS]. Although this specification associates a specific **XML namespace prefix** for each XML namespace that is used, the choice of any particular XML namespace prefix is implementation-specific and not significant for interoperability.

Prefix	Namespace URI	Reference
q1	http://schemas.microsoft.com/2003/10/Serialization/Arrays	
q12	http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interface.Data	
soap	http://schemas.xmlsoap.org/wsdl/soap/	[SOAP1.1]
tns	http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interface.Shared	
tns1	http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Pipe.Interface	
tns2	http://schemas.datacontract.org/2004/07/p	
tns3	http://schemas.microsoft.com/2003/10/Serialization/	
tns4	http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewingService/	
tns5	http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewingService/Imports	

Prefix	Namespace URI	Reference
wsaw	http://www.w3.org/2006/05/addressing/wsdl	[WSA1.0]
wsdl	http://schemas.xmlsoap.org/wsdl/	[WSDL]
xs	http://www.w3.org/2001/XMLSchema	[XMLSCHEMA1] [XMLSCHEMA2]

2.2.2 Messages

This specification does not define any common **WSDL message** definitions.

2.2.3 Elements

This specification does not define any common **XML schema** element definitions.

2.2.4 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
ArrayOfanyType	A complex type that specifies a list of **xs:anyType** [XMLSCHEMA1] (section 3.4.7) elements.
ArrayOfBroadcastAnimationStepData	A complex type that SHOULD<1> specify a list of **BroadcastAnimationStepData** (section 2.2.4.14) elements.
ArrayOfCapabilityData	Reserved. MUST be ignored.
ArrayOfCT_Anim	A complex type that specifies a list of **CT_Anim** (section 2.2.4.22) elements.
ArrayOfCT_AnimList	A complex type that specifies a list of **CT_AnimList** (section 2.2.4.24) elements.
ArrayOfCT_Comment	A complex type that SHOULD<2> specify a list of **CT_Comment** (section 2.2.4.71) elements.
ArrayOfCT_CommentThread	A complex type that SHOULD<3> specify a list of **CT_CommentThread** (section 2.2.4.72) elements.
ArrayOfCT_Error	A complex type that specifies a list of **CT_Error** (section 2.2.4.30) elements.
ArrayOfCT_ImageRegionUse	A complex type that specifies a list of **CT_ImageRegionUse** (section 2.2.4.36) elements.
ArrayOfCT_ResourceEntry	A complex type that specifies a list of **CT_ResourceEntry** (section 2.2.4.46) elements.

Complex type	Description
ArrayOfCT_Shape	A complex type that specifies a list of **CT_Shape** (section 2.2.4.48) elements.
ArrayOfCT_Slide	A complex type that SHOULD<4> specify a list of **CT_Slide** (section 2.2.4.50) elements.
ArrayOfCT_SlideEntry	A complex type that specifies a list of **CT_SlideEntry** (section 2.2.4.51) elements.
ArrayOfstring	A complex type that specifies a list of **xs:string** ([XMLSCHEMA2] section 3.2.1) elements.
ArrayOfunsignedInt	A complex type that specifies a list of **xs:unsignedInt** ([XMLSCHEMA2] section 3.3.22) elements.
ArrayOfVersion	Reserved. MUST be ignored.
BroadcastAnimationStepData	A complex type that SHOULD<5> specify a step in an animation timeline.
BroadcastData	A complex type that SHOULD<6> specify the **slide show broadcast** state data.
BroadcastFile	Reserved. MUST be ignored.
BroadcastHostInfo	Reserved. MUST be ignored.
BroadcastProtocolInfo	Reserved. MUST be ignored.
CapabilityData	Reserved. MUST be ignored.
ClientInfo	Reserved. MUST be ignored.
CT_Action	A complex type that specifies information about a slide navigation action.
CT_Anim	A complex type that specifies a shape animation.
CT_AnimIteration	A complex type that specifies timing information for the individual regions of an animation.
CT_AnimList	A complex type that specifies a list of animations.
CT_AnimRepeatOption	A complex type that specifies the animation repeat settings for an animation.
CT_AnimTiming	A complex type that specifies timing information for an animation.
CT_BackgroundDesc	A complex type that specifies the background appearance of a presentation slide.
CT_Comment	A complex type that SHOULD<7> specify a single **comment**.
CT_CommentThread	A complex type that SHOULD<8> specify a comment thread.

Complex type	Description
CT_CustomShow	A complex type that specifies a custom slide show in the form of a sequence of slide identifiers.
CT_EmptyType	A complex type that represents an empty type. Can be used where no specific element needs to be present.
CT_Error	Reserved. MUST be ignored.
CT_ErrorInfo	Reserved. MUST be ignored.
CT_GenericImageRegion	A complex type that specifies the image region for a single image relative to a larger image cluster.
CT_Hyperlink	A complex type that specifies a **hyperlink**.
CT_ImageBackground	A complex type that specifies the image region for a background image relative to a larger image cluster.
CT_ImageGraph	A complex type that specifies information about images that are required to display an animation, consisting of the primary image and an optional list of image variations.
CT_ImageRegionUse	A complex type that specifies an image region along with its layout position.
CT_IndexRange	A complex type that specifies a zero-based index range of a list.
CT_InteractiveAnimUse	A complex type that specifies information about an animation trigger.
CT_LayoutPosition	A complex type that specifies a two dimensional position.
CT_Media	A complex type that SHOULD<9> specify information about a media object.
CT_MediaCtrl	A complex type that SHOULD<10> specify a user interface region for a media element on a presentation slide.
CT_MediaLink	A complex type that SHOULD<11> specify a media object that is stored externally to the presentation.
CT_MediaLocal	A complex type that SHOULD<12> specify a media object that is stored within the presentation.
CT_MotionPath	A complex type that specifies a **motion path**.
CT_MotionPathCurveCmd	A complex type that specifies a curved segment of a motion path. The curve is described as a Bezier curve with three control points.
CT_MotionPathLineCmd	A complex type that specifies a linear segment of a motion path.
CT_MotionPathMoveCmd	A complex type that specifies the next point of a

Complex type	Description
	motion path.
CT_Point2D	A complex type that SHOULD<13> specify a two dimensional point.
CT_PresentationShowInfo	A complex type that specifies the detailed information for showing a presentation.
CT_Rectangle	A complex type that specifies a rectangle.
CT_ResourceEntry	A complex type that specifies a resource description.
CT_ScaleBy	A complex type that specifies the scale factors for animations that use scale effects.
CT_Shape	A complex type that specifies a shape object.
CT_ShowProperties	A complex type that specifies the slides that will be shown in a **slide show**.
CT_Slide	A complex type that specifies a presentation slide.
CT_SlideEntry	A complex type that specifies the basic information of a presentation slide.
CT_SlideLayoutInfo	A complex type that specifies layout information for a presentation slide.
CT_SlideShowInfo	A complex type that specifies detailed information for showing a presentation slide.
CT_SlideShowTimings	A complex type that specifies timing information for a slide show.
CT_SolidFill	A complex type that specifies the information for a solid fill.
CT_Transition	A complex type that specifies a slide transition.
CT_ViewingBackEndPerformanceMetrics	Reserved. MUST be ignored.
CT_ViewingFrontEndPerformanceMetrics	Reserved. MUST be ignored.
CT_ViewingPresentationPerformanceMetrics	Reserved. MUST be ignored.
CT_ViewingSlidePerformanceMetrics	Reserved. MUST be ignored.
PptViewingService.BinaryConversionResult	A complex type that specifies the result of a binary conversion.
PptViewingService.PrintResult	A complex type that SHOULD<14> specify the result of a print operation.
ServerInfo	Reserved. MUST be ignored.
ServiceError	A complex type that specifies error information returned by the protocol server to a protocol client.
ServiceResult	A complex type that specifies the result of a protocol method. The protocol server returns this type to the

Complex type	Description
	protocol client containing either a successful **Result** element or an **Error** element.
SlideInfoResult	Reserved. MUST be ignored.
Version	Reserved. MUST be ignored.

2.2.4.1   ArrayOfanyType

Namespace: http://schemas.microsoft.com/2003/10/Serialization/Arrays

A complex type that specifies a list of **xs:anyType** [XMLSCHEMA1] (section 3.4.7) elements.

```
<xs:complexType name="ArrayOfanyType" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="anyType" nillable="true"
type="xs:anyType"/>
  </xs:sequence>
</xs:complexType>
```

anyType: Each element MUST specify an **xs:anyType**.

2.2.4.2   ArrayOfBroadcastAnimationStepData

Namespace:
http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interface.Data

A complex type that SHOULD<15> specify a list of **BroadcastAnimationStepData** (section 2.2.4.14) elements.

```
<xs:complexType name="ArrayOfBroadcastAnimationStepData"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="BroadcastAnimationStepData"
nillable="true" type="q12:BroadcastAnimationStepData"/>
  </xs:sequence>
</xs:complexType>
```

BroadcastAnimationStepData: A complex type that specifies a step in an animation timeline.

2.2.4.3   ArrayOfCapabilityData

Namespace:
http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interface.Data

Reserved. MUST be ignored.

```
<xs:complexType name="ArrayOfCapabilityData" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="CapabilityData" nillable="true"
type="q12:CapabilityData"/>
  </xs:sequence>
```

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

CapabilityData: Reserved. MUST be ignored.

2.2.4.4 ArrayOfCT_Anim

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

A complex type that specifies a list of **CT_Anim** (section 2.2.4.22) elements.

```
<xs:complexType name="ArrayOfCT_Anim" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="CT_Anim" nillable="true"
type="tns:CT_Anim"/>
  </xs:sequence>
</xs:complexType>
```

CT_Anim: Each element MUST specify a **CT_Anim**.

2.2.4.5 ArrayOfCT_AnimList

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

A complex type that specifies a list of **CT_AnimList** (section 2.2.4.24) elements.

```
<xs:complexType name="ArrayOfCT_AnimList" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="CT_AnimList" nillable="true"
type="tns:CT_AnimList"/>
  </xs:sequence>
</xs:complexType>
```

CT_AnimList: Each element MUST specify a **CT_AnimList**.

2.2.4.6 ArrayOfCT_Error

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

A complex type that specifies a list of **CT_Error** (section 2.2.4.30) elements.

```
<xs:complexType name="ArrayOfCT_Error" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="CT_Error" nillable="true"
type="tns:CT_Error"/>
  </xs:sequence>
</xs:complexType>
```

CT_Error: Each element MUST specify a **CT_Error**.

2.2.4.7 ArrayOfCT_ImageRegionUse

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

A complex type that specifies a list of **CT_ImageRegionUse** (section 2.2.4.36) elements.

```
<xs:complexType name="ArrayOfCT_ImageRegionUse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="CT_ImageRegionUse" nillable="true"
type="tns:CT_ImageRegionUse"/>
  </xs:sequence>
</xs:complexType>
```

CT_ImageRegionUse: Each element MUST specify a **CT_ImageRegionUse**.

2.2.4.8 ArrayOfCT_ResourceEntry

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

A complex type that specifies a list of **CT_ResourceEntry** (section 2.2.4.46) elements.

```
<xs:complexType name="ArrayOfCT_ResourceEntry" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="CT_ResourceEntry" nillable="true"
type="tns:CT_ResourceEntry"/>
  </xs:sequence>
</xs:complexType>
```

CT_ResourceEntry: Each element MUST specify a **CT_ResourceEntry**.

2.2.4.9 ArrayOfCT_Shape

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

A complex type that specifies a list of **CT_Shape** (section 2.2.4.48) elements.

```
<xs:complexType name="ArrayOfCT_Shape" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="CT_Shape" nillable="true"
type="tns:CT_Shape"/>
  </xs:sequence>
</xs:complexType>
```

CT_Shape: Each element MUST specify a **CT_Shape**.

2.2.4.10 ArrayOfCT_SlideEntry

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

A complex type that specifies a list of **CT_SlideEntry** (section 2.2.4.51) elements.

```
<xs:complexType name="ArrayOfCT_SlideEntry" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="CT_SlideEntry" nillable="true"
type="tns:CT_SlideEntry"/>
  </xs:sequence>
</xs:complexType>
```

CT_SlideEntry: Each element MUST specify a **CT_SlideEntry**.

2.2.4.11 ArrayOfstring

Namespace: http://schemas.microsoft.com/2003/10/Serialization/Arrays

A complex type that specifies a list of **xs:string** ([XMLSCHEMA2] section 3.2.1) elements.

```
<xs:complexType name="ArrayOfstring" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="string" nillable="true"
type="xs:string"/>
  </xs:sequence>
</xs:complexType>
```

string: Each element MUST specify an **xs:string**.

2.2.4.12 ArrayOfunsignedInt

Namespace: http://schemas.microsoft.com/2003/10/Serialization/Arrays

A complex type that specifies a list of **xs:unsignedInt** ([XMLSCHEMA2] section 3.3.22) elements.

```
<xs:complexType name="ArrayOfunsignedInt" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="unsignedInt"
type="xs:unsignedInt"/>
  </xs:sequence>
</xs:complexType>
```

unsignedInt: Each element MUST specify an **xs:unsignedInt**.

2.2.4.13 ArrayOfVersion

Namespace:
http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interface.Data

Reserved. MUST be ignored.

```
<xs:complexType name="ArrayOfVersion" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="Version" nillable="true"
type="q12:Version"/>
  </xs:sequence>
</xs:complexType>
```

Version: Reserved. MUST be ignored.

2.2.4.14 BroadcastAnimationStepData

Namespace:
http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interface.Data

A complex type that SHOULD<16> specify a step in an animation timeline.

```
<xs:complexType name="BroadcastAnimationStepData"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" name="Step" type="xs:int"/>
    <xs:element minOccurs="0" name="TimelineId" nillable="true" type="xs:string"/>
  </xs:sequence>
</xs:complexType>
```

Step: An **xs:int** ([XMLSCHEMA2] section 3.3.17) element that specifies the step number in the given animation timeline. MUST be present.

TimelineId: An **xs:string** ([XMLSCHEMA2] section 3.2.1) element that specifies an identifier of the animation timeline. MUST be present.

2.2.4.15 BroadcastData

Namespace:
http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interface.Data

A complex type that SHOULD<17> specify the slide show broadcast state data.

```
<xs:complexType name="BroadcastData" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" name="AnimationStepDataList" nillable="true"
type="q12:ArrayOfBroadcastAnimationStepData"/>
    <xs:element minOccurs="0" name="HostToken" nillable="true" type="xs:string"/>
    <xs:element minOccurs="0" name="SequenceNumber" type="xs:int"/>
    <xs:element minOccurs="0" name="SlideId" type="xs:unsignedInt"/>
    <xs:element minOccurs="0" name="SlideShowState" type="q12:SlideShowState"/>
  </xs:sequence>
</xs:complexType>
```

AnimationStepDataList: An **ArrayOfBroadcastAnimationStepData** (section 2.2.4.2) element that specifies the current step in each of the animation timelines.

HostToken: An **xs:string** ([XMLSCHEMA2] section 3.2.1) element that specifies the token returned by PowerPoint Web Broadcast Host protocol [MS-PWBHPS] server corresponding to the presentation that is uploaded by the protocol client. This element MUST be present.

SequenceNumber: An **xs:int** ([XMLSCHEMA2] section 3.3.17) element that specifies a monotonically increasing sequence number. This element MUST be present.

SlideId: An **xs:unsignedInt** ([XMLSCHEMA2] section 3.3.22) element that specifies the identifier of the presentation slide. This element MUST be present.

SlideShowState: A **SlideShowState** (section 2.2.5.8) element that specifies the current state of the slide show. This element MUST be present.

2.2.4.16 BroadcastFile

Namespace:
http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interface.Data

Reserved. MUST be ignored.

```
<xs:complexType name="BroadcastFile" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" name="FilePath" nillable="true" type="xs:string"/>
    <xs:element minOccurs="0" name="PresentationId" nillable="true" type="xs:string"/>
  </xs:sequence>
</xs:complexType>
```

FilePath: Reserved. MUST be ignored.

PresentationId: Reserved. MUST be ignored.

2.2.4.17 BroadcastHostInfo

Namespace:
http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interface.Data

Reserved. MUST be ignored.

```
<xs:complexType name="BroadcastHostInfo" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" name="HostUrl" nillable="true" type="xs:string"/>
    <xs:element minOccurs="0" name="ProtocolVersion" nillable="true" type="q12:Version"/>
  </xs:sequence>
</xs:complexType>
```

HostUrl: Reserved. MUST be ignored.

ProtocolVersion: Reserved. MUST be ignored.

2.2.4.18 BroadcastProtocolInfo

Namespace:
http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interface.Data

Reserved. MUST be ignored.

```
<xs:complexType name="BroadcastProtocolInfo" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" name="ClientInfo" nillable="true" type="q12:ClientInfo"/>
    <xs:element minOccurs="0" name="VersionList" nillable="true" type="q12:ArrayOfVersion"/>
  </xs:sequence>
</xs:complexType>
```

ClientInfo: Reserved. MUST be ignored.

VersionList: Reserved. MUST be ignored.

2.2.4.19 CapabilityData

Namespace:
http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interface.Data

Reserved. MUST be ignored.

```
<xs:complexType name="CapabilityData" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" name="Capability" type="q12:ServerCapability"/>
    <xs:element minOccurs="0" name="Value" nillable="true" type="xs:string"/>
  </xs:sequence>
</xs:complexType>
```

Capability: Reserved. MUST be ignored.

Value: Reserved. MUST be ignored.

2.2.4.20 ClientInfo

Namespace:
http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interface.Data

Reserved. MUST be ignored.

```
<xs:complexType name="ClientInfo" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" name="Name" nillable="true" type="xs:string"/>
    <xs:element minOccurs="0" name="Version" nillable="true" type="q12:Version"/>
  </xs:sequence>
</xs:complexType>
```

Name: Reserved. MUST be ignored.

Version: Reserved. MUST be ignored.

2.2.4.21 CT_Action

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

A complex type that specifies information about a slide navigation action.

```
<xs:complexType name="CT_Action" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="rct" nillable="true" type="tns:CT_Rectangle"/>
    <xs:element name="sldId" type="xs:unsignedInt"/>
  </xs:sequence>
</xs:complexType>
```

rct: A **CT_Rectangle** (section 2.2.4.45) element that specifies the **hit test region** that triggers this action.

sldId: An **xs:unsignedInt** ([XMLSCHEMA2] section 3.3.22) element that specifies the identifier of the target presentation slide that is associated with this action. MUST have a maximum value of less than 2147483648 and it MUST have a minimum value of greater than or equal to 256.

2.2.4.22   CT_Anim

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

A complex type that specifies a shape animation.

```
<xs:complexType name="CT_Anim" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="autoRev" type="xs:boolean"/>
    <xs:element name="dir" type="xs:int"/>
    <xs:element name="effectId" type="xs:unsignedInt"/>
    <xs:element name="effectType" type="tns:ST_EffectType"/>
    <xs:element name="empImgs" nillable="true" type="tns:CT_ImageGraph"/>
    <xs:element name="hideAfter" type="tns:ST_HideAfterAnimType"/>
    <xs:element name="iter" nillable="true" type="tns:CT_AnimIteration"/>
    <xs:element name="mp" nillable="true" type="tns:CT_MotionPath"/>
    <xs:element name="repeat" nillable="true" type="tns:CT_AnimRepeatOption"/>
    <xs:element name="rewind" type="xs:boolean"/>
    <xs:element name="rotAng" type="xs:int"/>
    <xs:element name="scaleBy" nillable="true" type="tns:CT_ScaleBy"/>
    <xs:element name="smEnd" type="xs:unsignedByte"/>
    <xs:element name="smSt" type="xs:unsignedByte"/>
    <xs:element name="sp" type="xs:unsignedInt"/>
    <xs:element name="timing" nillable="true" type="tns:CT_AnimTiming"/>
    <xs:element name="transp" type="xs:unsignedByte"/>
  </xs:sequence>
</xs:complexType>
```

autoRev: An **xs:boolean** ([XMLSCHEMA2] section 3.2.2) element that specifies whether this animation automatically plays in reverse after the initial animation.

dir: An **xs:int** ([XMLSCHEMA2] section 3.3.17) element that specifies the variant of an animation effect for this animation.

effectId: An **xs:unsignedInt** ([XMLSCHEMA2] section 3.3.22) element that specifies the identifier of an animation effect for this animation.

effectType: A **ST_EffectType** (section 2.2.5.11) element that specifies the type of animation effect for this animation.

empImgs: A **CT_ImageGraph** (section 2.2.4.35) element that specifies image information to be used by this animation.

hideAfter: A **ST_HideAfterAnimType** (section 2.2.5.12) element that specifies the behavior to apply to the **shape** once the animation ends.

iter: A **CT_AnimIteration** (section 2.2.4.23) element that specifies child element timing information to be used by this animation.

mp: A **CT_MotionPath** (section 2.2.4.40) element that specifies the motion path to be used for this animation.

repeat: A **CT_AnimRepeatOption** (section 2.2.4.25) element that specifies repeat information to be used by this animation.

rewind: An **xs:boolean** element that specifies whether the shape returns to its original position when the animation has finished.

rotAng: An **xs:int** element that specifies the rotation amount, in degrees, by which the shape rotates, for animations that use a rotate component.

scaleBy: A **CT_ScaleBy** (section 2.2.4.47) element that specifies scale information to be used by this animation.

smEnd: An **xs:unsignedByte** ([XMLSCHEMA2] section 3.3.24) element that specifies the fraction of the overall animation duration over which animation smoothing will be applied at the end of the animation, specified as a percentage. MUST be greater than or equal to 0 and less than or equal to 100.

smSt: An **xs:unsignedByte** element that specifies the fraction of the overall animation duration over which animation smoothing will be applied at the start of the animation, specified as a percentage. MUST be greater than or equal to 0 and less than or equal to 100.

sp: An **xs:unsignedInt** element that specifies the identifier of the shape to which this animation applies.

timing: A **CT_AnimTiming** (section 2.2.4.26) element that specifies the timing information for this animation.

transp: An **xs:unsignedByte** element that specifies the amount of transparency, in percent, to apply to the shape for animations that use a transparency component. MUST be less than or equal to 100.

2.2.4.23   CT_AnimIteration

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

A complex type that specifies timing information for the individual regions of an animation.

```
<xs:complexType name="CT_AnimIteration" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="interval" type="xs:int"/>
    <xs:element name="reversed" type="xs:boolean"/>
  </xs:sequence>
</xs:complexType>
```

interval: An **xs:int** ([XMLSCHEMA2] section 3.3.17) element that specifies the time, in milliseconds, between each animation region's start time. MUST be greater than or equal to 0.

reversed: An **xs:boolean** ([XMLSCHEMA2] section 3.2.2) element that specifies whether the animation regions play back in reverse order.

2.2.4.24   CT_AnimList

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

A complex type that specifies a list of animations.

```
<xs:complexType name="CT_AnimList" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="anim" nillable="true" type="tns:ArrayOfCT_Anim"/>
    <xs:element name="id" type="xs:unsignedInt"/>
  </xs:sequence>
</xs:complexType>
```

anim: An **ArrayOfCT_Anim** (section 2.2.4.4) element that specifies a list of animations.

id: An **xs:unsignedInt** ([XMLSCHEMA2] section 3.3.22) element that specifies the unique identifier of the list.

2.2.4.25   CT_AnimRepeatOption

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

A complex type that specifies the animation repeat settings for an animation.

```
<xs:complexType name="CT_AnimRepeatOption" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="count" type="xs:int"/>
    <xs:element name="type" type="tns:ST_AnimRepeatType"/>
  </xs:sequence>
</xs:complexType>
```

count: An **xs:int** ([XMLSCHEMA2] section 3.3.17) element that specifies the number of repeats for this animation. MUST be greater than or equal to 0. MUST be ignored if the value of the **type** element is **clk** or **sld.**

type: A **ST_AnimRepeatType** (section 2.2.5.9) element that specifies how this animation repeats.

2.2.4.26   CT_AnimTiming

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

A complex type that specifies timing information for an animation.

```
<xs:complexType name="CT_AnimTiming" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="off" type="xs:unsignedInt"/>
    <xs:element name="spd" nillable="true" type="xs:string"/>
    <xs:element name="st" type="tns:ST_AnimStart"/>
  </xs:sequence>
</xs:complexType>
```

off: An **xs:unsignedInt** ([XMLSCHEMA2] section 3.3.22) element that specifies the time offset, in milliseconds, of the start of the animation. MUST be greater than or equal to zero.

spd: An **xs:string** ([XMLSCHEMA2] section 3.2.1) element that specifies the duration of an animation effect. It MUST be a value from the following table:

Value	Meaning
def	The animation effect uses the default duration for its type.
clk	The animation effect lasts until the next click.
sld	The animation effect lasts until the end of the presentation slide.
A string of digits that matches the regular expression pattern: [0-9]+	The animation effect duration is the integer value, in milliseconds, represented by the string in base-10 form.

st: A **ST_AnimStart** (section 2.2.5.10) element that specifies how the animation start time is determined.

2.2.4.27   CT_BackgroundDesc

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

A complex type that specifies the background appearance of a presentation slide.

```
<xs:complexType name="CT_BackgroundDesc" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="Item" nillable="true" type="xs:anyType"/>
  </xs:sequence>
</xs:complexType>
```

Item: An **xs:anyType** [XMLSCHEMA1] (section 3.4.7) element that specifies the background appearance of a presentation slide. The child element MUST be **CT_ImageBackground** (section 2.2.4.34) or **CT_SolidFill** (section 2.2.4.55)**.** A **CT_ImageBackground** child element specifies the image to use for the background. A **CT_SolidFill** child element specifies the color fill to use for the background.

2.2.4.28   CT_CustomShow

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

A complex type that specifies a custom slide show in the form of a sequence of slide identifiers.

```
<xs:complexType name="CT_CustomShow" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element xmlns:q1="http://schemas.microsoft.com/2003/10/Serialization/Arrays" name="s"
nillable="true" type="q1:ArrayOfunsignedInt"/>
  </xs:sequence>
</xs:complexType>
```

s: An **ArrayOfunsignedInt** (section 2.2.4.12) element that specifies a list of slide identifiers. Each identifier in the list MUST have a maximum value of less than 2147483648 and MUST have a minimum value of greater than or equal to 256.

2.2.4.29 CT_EmptyType

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

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

```
<xs:complexType name="CT_EmptyType" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence/>
</xs:complexType>
```

2.2.4.30 CT_Error

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

Reserved. MUST be ignored.

```
<xs:complexType name="CT_Error" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="id" type="xs:unsignedInt"/>
    <xs:element xmlns:q1="http://schemas.microsoft.com/2003/10/Serialization/Arrays" name="p"
nillable="true" type="q1:ArrayOfstring"/>
  </xs:sequence>
</xs:complexType>
```

id: MUST be ignored.

p: MUST be ignored.

2.2.4.31 CT_ErrorInfo

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

Reserved. MUST be ignored.

```
<xs:complexType name="CT_ErrorInfo" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="err" nillable="true" type="tns:CT_Error"/>
    <xs:element name="schmVer" type="xs:unsignedInt"/>
  </xs:sequence>
</xs:complexType>
```

err: MUST be ignored.

schmVer: MUST be ignored.

2.2.4.32 CT_GenericImageRegion

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

A complex type that specifies the image region for a single image relative to a larger image cluster.

```
<xs:complexType name="CT_GenericImageRegion" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="h" type="xs:int"/>
    <xs:element name="imgID" nillable="true" type="xs:string"/>
    <xs:element name="w" type="xs:int"/>
    <xs:element name="x" type="xs:int"/>
    <xs:element name="y" type="xs:int"/>
  </xs:sequence>
</xs:complexType>
```

h: An **xs:int** ([XMLSCHEMA2] section 3.3.17) element that specifies the height, in pixels, of the image region. MUST be greater than or equal to 1.

imgID: An **xs:string** ([XMLSCHEMA2] section 3.2.1) element that specifies the identifier for this image region.

w: An **xs:int** element that specifies the width, in pixels, of the image region. MUST be greater than or equal to 1.

x: An **xs:int** element that specifies the specifies the x coordinate, in pixels, of the upper-left corner of the image region. MUST be greater than or equal to 0.

y: An **xs:int** element that specifies the y coordinate, in pixels, of the upper-left corner of the image region. MUST be greater than or equal to 0.

2.2.4.33   CT_Hyperlink

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

A complex type that specifies a hyperlink.

```
<xs:complexType name="CT_Hyperlink" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="rct" nillable="true" type="tns:CT_Rectangle"/>
    <xs:element name="tip" nillable="true" type="xs:string"/>
    <xs:element name="url" nillable="true" type="xs:string"/>
  </xs:sequence>
</xs:complexType>
```

rct: A **CT_Rectangle** (section 2.2.4.45) element that specifies the hit test region for this hyperlink. MUST be present.

tip: An **xs:string** ([XMLSCHEMA2] section 3.2.1) element that specifies the text content for the hyperlink's **ToolTip**.

url: An **xs:string** element that specifies the target URL for the hyperlink.

2.2.4.34   CT_ImageBackground

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

A complex type that specifies the image region for a background image relative to a larger image cluster.

```
<xs:complexType name="CT_ImageBackground" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="h" type="xs:int"/>
    <xs:element name="imgID" nillable="true" type="xs:string"/>
    <xs:element name="w" type="xs:int"/>
    <xs:element name="x" type="xs:int"/>
    <xs:element name="y" type="xs:int"/>
  </xs:sequence>
</xs:complexType>
```

h: An **xs:int** ([XMLSCHEMA2] section 3.3.17) element that specifies the height, in pixels, of the image region. MUST be greater than or equal to 1.

imgID: An **xs:string** ([XMLSCHEMA2] section 3.2.1) element that specifies the identifier for this image region.

w: An **xs:int** element that specifies the width, in pixels, of the image region. MUST be greater than or equal to 1.

x: An **xs:int** element that specifies the x coordinate, in pixels, of the upper-left corner of the image region. MUST be greater than or equal to 0.

y: An **xs:int** element that specifies the y coordinate, in pixels, of the upper-left corner of the image region. MUST be greater than or equal to 0.

2.2.4.35 CT_ImageGraph

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

A complex type that specifies information about images that are required to display an animation, consisting of the primary image and an optional list of image variations.

```
<xs:complexType name="CT_ImageGraph" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="base" nillable="true" type="tns:CT_ImageRegionUse"/>
    <xs:element name="children" nillable="true" type="tns:ArrayOfCT_ImageRegionUse"/>
  </xs:sequence>
</xs:complexType>
```

base: A **CT_ImageRegionUse** (section 2.2.4.36) element that specifies the image region and position for the primary image in the image graph.

children: An **ArrayOfCT_ImageRegionUse** (section 2.2.4.7) element that specifies a list of images and regions for the individual image variations in the image graph.

2.2.4.36 CT_ImageRegionUse

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

A complex type that specifies an image region along with its layout position.

```
<xs:complexType name="CT_ImageRegionUse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="pos" nillable="true" type="tns:CT_LayoutPosition"/>
    <xs:element name="reg" nillable="true" type="tns:CT_GenericImageRegion"/>
  </xs:sequence>
</xs:complexType>
```

pos: A **CT_LayoutPosition** (section 2.2.4.39) element that specifies the location for the image.

reg: A **CT_GenericImageRegion** (section 2.2.4.32) element that specifies source information about the individual image relative to a larger image cluster.

2.2.4.37   CT_IndexRange

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

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

```
<xs:complexType name="CT_IndexRange" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="end" type="xs:unsignedInt"/>
    <xs:element name="st" type="xs:unsignedInt"/>
  </xs:sequence>
</xs:complexType>
```

end: An **xs:unsignedInt** ([XMLSCHEMA2] section 3.3.22) element that specifies the non-inclusive end index of the range.

st: An **xs:unsignedInt** element that specifies the inclusive start index of the range.

2.2.4.38   CT_InteractiveAnimUse

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

A complex type that specifies information about an animation trigger.

```
<xs:complexType name="CT_InteractiveAnimUse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="rct" nillable="true" type="tns:CT_Rectangle"/>
    <xs:element name="seqId" type="xs:unsignedInt"/>
  </xs:sequence>
</xs:complexType>
```

rct: A **CT_Rectangle** (section 2.2.4.45) element that specifies the hit test region that triggers the animation.

seqId: An **xs:unsignedInt** ([XMLSCHEMA2] section 3.3.22) element that specifies the identifier of the animation timeline that is triggered when the hit test region is clicked.

2.2.4.39 CT_LayoutPosition

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

A complex type that specifies a two dimensional position.

```
<xs:complexType name="CT_LayoutPosition" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="x" type="xs:int"/>
    <xs:element name="y" type="xs:int"/>
  </xs:sequence>
</xs:complexType>
```

x: An **xs:int** ([XMLSCHEMA2] section 3.3.17) element that specifies the x coordinate, in pixels, of the position.

y: An **xs:int** element that specifies the y coordinate, in pixels, of the position.

2.2.4.40 CT_MotionPath

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

A complex type that specifies a motion path.

```
<xs:complexType name="CT_MotionPath" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element xmlns:q1="http://schemas.microsoft.com/2003/10/Serialization/Arrays"
name="Items" nillable="true" type="q1:ArrayOfanyType"/>
    <xs:element name="rev" type="xs:boolean"/>
  </xs:sequence>
</xs:complexType>
```

Items: An **ArrayOfanyType** (section 2.2.4.1) element that specifies a motion path. The child elements MUST be **CT_MotionPathMoveCmd** (section 2.2.4.43), **CT_MotionPathLineCmd** (section 2.2.4.42), or **CT_MotionPathCurveCmd** (section 2.2.4.41). A **CT_MotionPathMoveCmd** child element specifies the next point of the motion path. A **CT_MotionPathLineCmd** child element specifies a linear segment of the motion path. A **CT_MotionPathCurveCmd** child element specifies a curve segment of the motion path.

rev: An **xs:boolean** ([XMLSCHEMA2] section 3.2.2) attribute that specifies whether the motion path is reversed.

2.2.4.41 CT_MotionPathCurveCmd

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

A complex type that specifies a curved segment of a motion path. The curve is described as a Bezier curve with three control points.

```
<xs:complexType name="CT_MotionPathCurveCmd" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="x1" type="xs:int"/>
```

```
      <xs:element name="x2" type="xs:int"/>
      <xs:element name="x3" type="xs:int"/>
      <xs:element name="y1" type="xs:int"/>
      <xs:element name="y2" type="xs:int"/>
      <xs:element name="y3" type="xs:int"/>
    </xs:sequence>
  </xs:complexType>
```

x1: An **xs:int** ([XMLSCHEMA2] section 3.3.17) element that specifies the x coordinate, in pixels, of the first control point for the segment.

x2: An **xs:int** element that specifies the x coordinate, in pixels, of the second control point for the segment.

x3: An **xs:int** element that specifies the x coordinate, in pixels, of the third control point for the segment.

y1: An **xs:int** element that specifies the y coordinate, in pixels, of the first control point for the segment.

y2: An **xs:int** element that specifies the y coordinate, in pixels, of the second control point for the segment.

y3: An **xs:int** element that specifies the y coordinate, in pixels, of the third control point for the segment.

2.2.4.42   CT_MotionPathLineCmd

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

A complex type that specifies a linear segment of a motion path.

```
  <xs:complexType name="CT_MotionPathLineCmd" xmlns:xs="http://www.w3.org/2001/XMLSchema">
    <xs:sequence>
      <xs:element name="x" type="xs:int"/>
      <xs:element name="y" type="xs:int"/>
    </xs:sequence>
  </xs:complexType>
```

x: An **xs:int** ([XMLSCHEMA2] section 3.3.17) element that specifies the x coordinate, in pixels, of the segment's endpoint.

y: An **xs:int** element that specifies the y coordinate, in pixels, of the segment's endpoint.

2.2.4.43   CT_MotionPathMoveCmd

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

A complex type that specifies the next point of a motion path.

```
  <xs:complexType name="CT_MotionPathMoveCmd" xmlns:xs="http://www.w3.org/2001/XMLSchema">
    <xs:sequence>
      <xs:element name="x" type="xs:int"/>
```

```
      <xs:element name="y" type="xs:int"/>
    </xs:sequence>
  </xs:complexType>
```

x: An **xs:int** ([XMLSCHEMA2] section 3.3.17) element that specifies the x coordinate, in pixels, of the point.

y: An **xs:int** element that specifies the y coordinate, in pixels, of the point.

2.2.4.44   CT_PresentationShowInfo

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

A complex type that specifies the detailed information for showing a presentation.

```
<xs:complexType name="CT_PresentationShowInfo" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="h" type="xs:int"/>
    <xs:element name="perf" nillable="true"
type="tns:CT_ViewingPresentationPerformanceMetrics"/>
    <xs:element name="rtl" type="xs:boolean"/>
    <xs:element name="schmVer" type="xs:unsignedInt"/>
    <xs:element name="showPr" nillable="true" type="tns:CT_ShowProperties"/>
    <xs:element name="sldLst" nillable="true" type="tns:ArrayOfCT_SlideEntry"/>
    <xs:element name="w" type="xs:int"/>
  </xs:sequence>
</xs:complexType>
```

h: An **xs:int** ([XMLSCHEMA2] section 3.3.17) element that specifies the height of a presentation in pixels. MUST be greater than or equal to 1.

perf: Reserved. MUST be ignored.<18>

rtl: Reserved. MUST be ignored.

schmVer: An **xs:unsignedInt** ([XMLSCHEMA2] section 3.3.22) element that specifies the schema version of the presentation.

showPr: A **CT_ShowProperties** (section 2.2.4.49) element that specifies the presentation slides that will be shown.

sldLst: An **ArrayOfCT_SlideEntry** (section 2.2.4.10) element that specifies a list of slide entries.

w: An **xs:int** element that specifies the width of a presentation in pixels. MUST be greater than or equal to 1.

2.2.4.45   CT_Rectangle

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

A complex type that specifies a rectangle.

```
<xs:complexType name="CT_Rectangle" xmlns:xs="http://www.w3.org/2001/XMLSchema">
```

```
    <xs:sequence>
      <xs:element name="h" type="xs:int"/>
      <xs:element name="l" type="xs:int"/>
      <xs:element name="t" type="xs:int"/>
      <xs:element name="w" type="xs:int"/>
    </xs:sequence>
  </xs:complexType>
```

h: An **xs:int** ([XMLSCHEMA2] section 3.3.17) element that specifies height of the rectangle, in pixels. MUST be greater than or equal to 1.

l: An **xs:int** element that specifies the x coordinate of the upper-left corner of the rectangle, in pixels.

t: An **xs:int** element that specifies the y coordinate of the upper-left corner of the rectangle, in pixels.

w: An **xs:int** element that specifies the width of the rectangle, in pixels. MUST be greater than or equal to 1.

2.2.4.46   CT_ResourceEntry

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

A complex type that specifies a resource description.

```
<xs:complexType name="CT_ResourceEntry" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="id" nillable="true" type="xs:string"/>
    <xs:element name="name" nillable="true" type="xs:string"/>
  </xs:sequence>
</xs:complexType>
```

id: An **xs:string** ([XMLSCHEMA2] section 3.2.1) element that specifies the unique identifier of the resource description.

name: An **xs:string** element that specifies the name of the resource description. The name MUST have a file name extension and the file name extension SHOULD be an image format such as ".png" and ".jpg".

2.2.4.47   CT_ScaleBy

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

A complex type that specifies the scale factors for animations that use scale effects.

```
<xs:complexType name="CT_ScaleBy" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="x" type="xs:int"/>
    <xs:element name="y" type="xs:int"/>
  </xs:sequence>
</xs:complexType>
```

x: An **xs:int** ([XMLSCHEMA2] section 3.3.17) element that specifies the x scale factor, in percentage of original size, for the animation. MUST be greater than or equal to 0.

y: An element that specifies the y scale factor, in percentage of original size, for the animation. MUST be greater than or equal to 0.

2.2.4.48   CT_Shape

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

A complex type that specifies a shape object.

```
<xs:complexType name="CT_Shape" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="bgSp" type="xs:boolean"/>
    <xs:element name="children" nillable="true" type="tns:ArrayOfCT_ImageRegionUse"/>
    <xs:element xmlns:q1="http://schemas.microsoft.com/2003/10/Serialization/Arrays"
name="clckTgts" nillable="true" type="q1:ArrayOfanyType"/>
    <xs:element name="id" type="xs:unsignedInt"/>
    <xs:element name="media" nillable="true" type="tns:CT_Media"/>
    <xs:element name="pos" nillable="true" type="tns:CT_LayoutPosition"/>
    <xs:element name="reg" nillable="true" type="tns:CT_GenericImageRegion"/>
  </xs:sequence>
</xs:complexType>
```

bgSp: Reserved. MUST be ignored.

children: An **ArrayOfCT_ImageRegionUse** (section 2.2.4.7) element that specifies the child objects of the shape.

clckTgts: An **ArrayOfanyType** (section 2.2.4.1) element that specifies click behaviors for a shape. The child elements MUST be **CT_Hyperlink** (section 2.2.4.33), **CT_Action** (section 2.2.4.21), **CT_InteractiveAnimUse** (section 2.2.4.38), or **CT_MediaCtrl** (section 2.2.4.66). A **CT_Hyperlink** child element specifies an external hyperlink click target. A **CT_Action** child element specifies a click target that navigates to another presentation slide in the presentation. A **CT_InteractiveAnimUse** child element specifies an animation timeline trigger.

id: An **xs:unsignedInt** ([XMLSCHEMA2] section 3.3.22) element that specifies the unique identifier of the shape.

media: A **CT_Media** (section 2.2.4.65) that specifies the media for the shape.<19>

pos: A **CT_LayoutPosition** (section 2.2.4.39) element that specifies the position of the shape.

reg: A **CT_GenericImageRegion** (section 2.2.4.32) element that specifies the region of the shape.

2.2.4.49   CT_ShowProperties

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

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

```
<xs:complexType name="CT_ShowProperties" xmlns:xs="http://www.w3.org/2001/XMLSchema">
```

```
    <xs:sequence>
      <xs:element name="Item" nillable="true" type="xs:anyType"/>
    </xs:sequence>
  </xs:complexType>
```

Item: An **xs:anyType** [XMLSCHEMA1] (section 3.4.7) element that specifies the slides that will be shown in a slide show. This element MUST be **CT_EmptyType** (section 2.2.4.29), **CT_IndexRange** (section 2.2.4.37), or **CT_CustomShow** (section 2.2.4.28). A **CT_EmptyType** element specifies that all slides will be shown. A **CT_IndexRange** specifies the range of the slides that will be shown. The range MUST be contained within the presentation's range. A **CT_CustomShow** element specifies a custom slide show in the form of a sequence of slides. Only slides in the corresponding custom slide show will be shown in sequence. All slides within the custom slide show MUST be within the presentation.

2.2.4.50   CT_Slide

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

A complex type that specifies a presentation slide.

```
  <xs:complexType name="CT_Slide" xmlns:xs="http://www.w3.org/2001/XMLSchema">
    <xs:sequence>
      <xs:element name="animLst" nillable="true" type="tns:CT_AnimList"/>
      <xs:element name="animSeqs" nillable="true" type="tns:ArrayOfCT_AnimList"/>
      <xs:element name="bg" nillable="true" type="tns:CT_BackgroundDesc"/>
      <xs:element name="bgReg" nillable="true" type="tns:CT_GenericImageRegion"/>
      <xs:element name="cmLst" nillable="true" type="tns:ArrayOfCT_CommentThread"/>
      <xs:element name="hidden" type="xs:boolean"/>
      <xs:element name="id" type="xs:unsignedInt"/>
      <xs:element name="layoutInfo" nillable="true" type="tns:CT_SlideLayoutInfo"/>
      <xs:element name="notesId" nillable="true" type="xs:string"/>
      <xs:element name="perf" nillable="true" type="tns:CT_ViewingSlidePerformanceMetrics"/>
      <xs:element name="resCat" nillable="true" type="tns:ArrayOfCT_ResourceEntry"/>
      <xs:element name="spLst" nillable="true" type="tns:ArrayOfCT_Shape"/>
      <xs:element name="ssTimes" nillable="true" type="tns:CT_SlideShowTimings"/>
      <xs:element name="title" nillable="true" type="xs:string"/>
      <xs:element name="trans" nillable="true" type="tns:CT_Transition"/>
    </xs:sequence>
  </xs:complexType>
```

animLst: A **CT_AnimList** (section 2.2.4.24) element that specifies the list of animations of the presentation slide.

animSeqs: An **ArrayOfCT_AnimList** (section 2.2.4.5) element that specifies a series of animation sequences.

bg: A **CT_BackgroundDesc** (section 2.2.4.27) element that specifies the background appearance of the presentation slide.

bgReg: A **CT_GenericImageRegion** (section 2.2.4.32) element that specifies the background region of the presentation slide.

cmLst: An **ArrayOfCT_CommentThread** (section 2.2.4.70) element that specifies a series of comment threads.<20>

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

id: An **xs:unsignedInt** ([XMLSCHEMA2] section 3.3.22) element that specifies a unique identifier for the presentation slide. MUST have a maximum value of less than 2147483648 and MUST have a minimum value of greater than or equal to 256.

layoutInfo: A **CT_SlideLayoutInfo** (section 2.2.4.52) element that specifies the layout information for the presentation slide.

notesId: An **xs:string** ([XMLSCHEMA2] section 3.2.1) element that specifies a unique identifier for the notes contents of the presentation slide.

perf: Reserved. MUST be ignored.<21>

resCat: An **ArrayOfCT_ResourceEntry** (section 2.2.4.8) element that specifies a set of resources that are in the presentation slide.

spLst: An **ArrayOfCT_Shape** (section 2.2.4.9) element that specifies the shapes that are included in the presentation slide.

ssTimes: A **CT_SlideShowTimings** (section 2.2.4.54) element that specifies timing information for a slide show.

title: An **xs:string** element that specifies the title of the presentation slide.

trans: A CT_Transition (section 2.2.4.56) element that specifies the slide transition.

2.2.4.51   CT_SlideEntry

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

A complex type that specifies the basic information of a presentation slide.

```
<xs:complexType name="CT_SlideEntry" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="id" type="xs:unsignedInt"/>
    <xs:element name="sldInfo" nillable="true" type="xs:string"/>
    <xs:element name="title" nillable="true" type="xs:string"/>
  </xs:sequence>
</xs:complexType>
```

id: An **xs:unsignedInt** ([XMLSCHEMA2] section 3.3.22) element that specifies the unique identifier of the presentation slide. MUST have a maximum value of less than 2147483648 and MUST have a minimum value of greater than or equal to 256.

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

title: An **xs:string** element that specifies the title of the presentation slide.

2.2.4.52   CT_SlideLayoutInfo

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

A complex type that specifies layout information for a presentation slide.

```
<xs:complexType name="CT_SlideLayoutInfo" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="fTitleLayout" type="xs:boolean"/>
    <xs:element name="layoutId" type="xs:unsignedInt"/>
    <xs:element name="masterId" type="xs:unsignedInt"/>
  </xs:sequence>
</xs:complexType>
```

fTitleLayout: An **xs:boolean** ([XMLSCHEMA2] section 3.2.2) element that specifies whether this slide uses a layout with one title and one subtitle placeholder.

layoutId: An **xs:unsignedInt** ([XMLSCHEMA2] section 3.3.22) element that specifies the identifier for the **slide layout**.

masterId: An **xs:unsignedInt** element that specifies the identifier for the **main master slide**.

2.2.4.53 CT_SlideShowInfo

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

A complex type that specifies detailed information for showing a presentation slide.

```
<xs:complexType name="CT_SlideShowInfo" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="errLst" nillable="true" type="tns:ArrayOfCT_Error"/>
    <xs:element xmlns:q1="http://schemas.microsoft.com/2003/10/Serialization/Arrays"
name="errMsgLst" nillable="true" type="q1:ArrayOfstring"/>
    <xs:element name="schmVer" type="xs:unsignedInt"/>
    <xs:element name="sld" nillable="true" type="tns:ArrayOfCT_Slide"/>
  </xs:sequence>
</xs:complexType>
```

errLst: Reserved. MUST be ignored.

errMsgLst: Reserved. MUST be ignored.

schmVer: An **xs:unsignedInt** ([XMLSCHEMA2] section 3.3.22) element that specifies the schema version.

sld: An **ArrayOfCT_Slide** (section 2.2.4.64) element that specifies a set of presentation slides.

2.2.4.54 CT_SlideShowTimings

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

A complex type that specifies timing information for a slide show.

```
<xs:complexType name="CT_SlideShowTimings" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="autoAdv" type="xs:boolean"/>
    <xs:element name="autoAdvTime" type="xs:int"/>
```

```
      <xs:element name="clickTimes" nillable="true" type="xs:string"/>
      <xs:element name="manualAdv" type="xs:boolean"/>
    </xs:sequence>
  </xs:complexType>
```

autoAdv: An **xs:boolean** ([XMLSCHEMA2] section 3.2.2) element that specifies whether a presentation slide will automatically advance when viewed in a slide show.

autoAdvTime: An **xs:int** ([XMLSCHEMA2] section 3.3.17) element that specifies the timing, in milliseconds, at which the slide show automatically advances. MUST be greater than or equal to 0.

clickTimes: Reserved. MUST be ignored.

manualAdv: An **xs:boolean** element that specifies whether the user can manually advance.

2.2.4.55   CT_SolidFill

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

A complex type that specifies the information for a solid fill.

```
  <xs:complexType name="CT_SolidFill" xmlns:xs="http://www.w3.org/2001/XMLSchema">
    <xs:sequence>
      <xs:element name="clr" nillable="true" type="xs:base64Binary"/>
      <xs:element name="transp" type="xs:unsignedByte"/>
    </xs:sequence>
  </xs:complexType>
```

clr: An **xs:base64Binary** ([XMLSCHEMA2] section 3.2.16) element that specifies the fill color.

transp: An **xs:unsignedByte** ([XMLSCHEMA2] section 3.3.24) element that specifies the amount of transparency, in percent, of the fill color.

2.2.4.56   CT_Transition

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

A complex type that specifies a slide transition.

```
  <xs:complexType name="CT_Transition" xmlns:xs="http://www.w3.org/2001/XMLSchema">
    <xs:sequence>
      <xs:element name="dir" type="xs:unsignedByte"/>
      <xs:element name="dur" type="xs:int"/>
      <xs:element name="media" nillable="true" type="tns:CT_Media"/>
      <xs:element name="stopSound" type="xs:boolean"/>
      <xs:element name="type" type="xs:unsignedByte"/>
    </xs:sequence>
  </xs:complexType>
```

dir: An **xs:unsignedByte** ([XMLSCHEMA2] section 3.3.24) element that specifies whether a cut transition is used if the value of the **type** element is 0x00, or the direction of the transition if the

value of the **type** element is 0x14. If the value of the **type** element is not 0x00 or 0x14, this element MUST be ignored.

dur: An **xs:int** ([XMLSCHEMA2] section 3.3.17) element that specifies the duration of the transition in milliseconds.

media: A **CT_Media** (section 2.2.4.65) that specifies the media for the transition.<22>

stopSound: An **xs:boolean** ([XMLSCHEMA2] section 3.2.2) element that specifies whether the transition stops the currently playing media.<23>

type: An **xs:unsignedByte** element that specifies the type of the transition.

Value	Meaning
0x00	The transition is a cut transition. A cut transition immediately changes to the next slide with no visual effect between slides. If the **dir** element equals the value 0x01, the cut transition first transitions to a black slide before transitioning to the next presentation slide. If the **dir** element does not equal the value 0x01, the cut transition transitions directly to the next presentation slide.
0x06	The transition is a fade-through-black transition which fades to a black slide before fading to the next presentation slide.
0x14	The transition is a push transition. If the **dir** element equals 0x0, the transition pushes from the right edge of the slide. If the **dir** element equals 0x01, the transition pushes from the bottom edge of the slide. If the **dir** element equals 0x2, the transition pushes from the left edge of the slide. If the **dir** element equals 0x3, the transition pushes from the top edge of the slide.
All Other Values	The transition is a fade to the next presentation slide.

2.2.4.57   PptViewingService.BinaryConversionResult

Namespace: http://schemas.datacontract.org/2004/07/p

A complex type that specifies the result of a binary conversion.

```
<xs:complexType name="PptViewingService.BinaryConversionResult"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" name="EditUrl" nillable="true" type="xs:string"/>
    <xs:element minOccurs="0" name="FExists" type="xs:boolean"/>
    <xs:element minOccurs="0" name="ViewUrl" nillable="true" type="xs:string"/>
  </xs:sequence>
</xs:complexType>
```

EditUrl: An optional **xs:string** ([XMLSCHEMA2] section 3.2.1) element that specifies the URL for editing the output presentation.

FExists: An **xs:boolean** ([XMLSCHEMA2] section 3.2.2) element that specifies whether the output presentation already exists.

ViewUrl: An optional **xs:string** element that specifies the URL for viewing the output presentation.

2.2.4.58 ServerInfo

Namespace:
http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interface.Data

Reserved. MUST be ignored.

```
<xs:complexType name="ServerInfo" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" name="CapabilitiesList" nillable="true"
type="q12:ArrayOfCapabilityData"/>
    <xs:element minOccurs="0" name="Name" nillable="true" type="xs:string"/>
    <xs:element minOccurs="0" name="PresenterServiceUrl" nillable="true" type="xs:string"/>
    <xs:element minOccurs="0" name="Version" nillable="true" type="q12:Version"/>
  </xs:sequence>
</xs:complexType>
```

CapabilitiesList: Reserved. MUST be ignored.

Name: Reserved. MUST be ignored.

PresenterServiceUrl: Reserved. MUST be ignored.

Version: Reserved. MUST be ignored.

2.2.4.59 ServiceError

Namespace: http://schemas.datacontract.org/2004/07/p

A complex type that specifies error information returned by the protocol server to a protocol client.

```
<xs:complexType name="ServiceError" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element
xmlns:tns="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interfa
ce.Shared" minOccurs="0" name="Code" type="tns:ErrorCode"/>
    <xs:element minOccurs="0" name="Message" nillable="true" type="xs:string"/>
    <xs:element
xmlns:tns1="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Pipe.I
nterface" minOccurs="0" name="RecommendedActions" type="tns1:ClientActions"/>
    <xs:element minOccurs="0" name="Title" nillable="true" type="xs:string"/>
    <xs:element minOccurs="0" name="Type" type="tns2:ServiceErrorType"/>
  </xs:sequence>
</xs:complexType>
```

Code: Reserved. MUST be ignored.

Message: An **xs:string** ([XMLSCHEMA2] section 3.2.1) element that specifies the error message description. MUST be present. The string length MUST be greater than zero if the **Type** element has a value of **ApplicationError**, as specified under ServiceErrorType, section 2.2.5.7.

RecommendedActions: Reserved. MUST be ignored.

Title: An **xs:string** element that specifies the error title. MUST be present. The string length MUST be greater than zero if the **Type** element has a value of **ApplicationError**.

Type: A ServiceErrorType element (section 2.2.5.7) that specifies the error type. MUST be present.

2.2.4.60 ServiceResult

Namespace: http://schemas.datacontract.org/2004/07/p

A complex type that specifies the result of a protocol method. The protocol server returns this type to the protocol client containing either a successful **Result** element or an **Error** element.

```
<xs:complexType name="ServiceResult" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" name="Error" nillable="true" type="tns2:ServiceError"/>
    <xs:element minOccurs="0" name="Result" nillable="true" type="xs:anyType"/>
  </xs:sequence>
</xs:complexType>
```

Error: An optional **ServiceError** (section 2.2.4.59) element that specifies an error result of a protocol message response. This element MUST be present if the **Result** element is not present. Otherwise, this element MUST NOT be present.

Result: An optional **xs:anyType** [XMLSCHEMA1] (section 3.4.7) element that specifies a successful result of a protocol message response. This element MUST be present if the **Error** element is not present. Otherwise, this element MUST NOT be present.

2.2.4.61 SlideInfoResult

Namespace: http://schemas.datacontract.org/2004/07/p

Reserved. MUST be ignored.

```
<xs:complexType name="SlideInfoResult" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" name="ResourceInfoList" nillable="true" type="xs:string"/>
    <xs:element minOccurs="0" name="Slide" nillable="true" type="xs:string"/>
  </xs:sequence>
</xs:complexType>
```

ResourceInfoList: Reserved. MUST be ignored.

Slide: Reserved. MUST be ignored.

2.2.4.62 Version

Namespace:
http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interface.Data

Reserved. MUST be ignored.

```
<xs:complexType name="Version" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" name="MajorNumber" type="xs:int"/>
    <xs:element minOccurs="0" name="MinorNumber" type="xs:int"/>
  </xs:sequence>
</xs:complexType>
```

MajorNumber: Reserved. MUST be ignored.

MinorNumber: Reserved. MUST be ignored.

2.2.4.63   PptViewingService.PrintResult

Namespace: http://schemas.datacontract.org/2004/07/p

A complex type that SHOULD<24> specify the result of a print operation.

```
<xs:complexType name="PptViewingService.PrintResult"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" name="PrintUrl" nillable="true" type="xs:string"/>
  </xs:sequence>
</xs:complexType>
```

PrintUrl: An **xs:string** ([XMLSCHEMA2] section 3.2.1) element that specifies the URL for getting a printable version of the presentation.

2.2.4.64   ArrayOfCT_Slide

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

A complex type that SHOULD<25> specify a list of **CT_Slide** (section 2.2.4.50) elements.

```
<xs:complexType name="ArrayOfCT_Slide" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="CT_Slide" nillable="true"
type="tns:CT_Slide"/>
  </xs:sequence>
</xs:complexType>
```

CT_Slide: Each element MUST specify a **CT_Slide**.

2.2.4.65   CT_Media

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

A complex type that SHOULD<26> specify information about a media object.

```
<xs:complexType name="CT_Media" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="Item" nillable="true" type="xs:anyType"/>
    <xs:element name="name" nillable="true" type="xs:string"/>
  </xs:sequence>
</xs:complexType>
```

Item: An **xs:anyType** ([XMLSCHEMA1] section 3.4.7) element that specifies a media object. The child element MUST be **CT_MediaLink** (section 2.2.4.67), **CT_MediaLocal** (section 2.2.4.68), or **CT_Error** (section 2.2.4.30). A **CT_MediaLink** child element specifies a media element that is stored externally. A **CT_MediaLocal** child element specifies a media element that is stored within the presentation. A **CT_Error** child element specifies information about an error that occurred related to this media element.

name: An **xs:string** ([XMLSCHEMA2] section 3.2.1) element that specifies the name of the media resource.

2.2.4.66   CT_MediaCtrl

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

A complex type that SHOULD<27> specify a user interface region for a media element on a presentation slide.

```
<xs:complexType name="CT_MediaCtrl" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="elemId" nillable="true" type="xs:string"/>
    <xs:element name="rct" nillable="true" type="tns:CT_Rectangle"/>
  </xs:sequence>
</xs:complexType>
```

elemId: An **xs:string** ([XMLSCHEMA2] section 3.2.1) element that specifies a name that uniquely identifies a media element on the presentation slide.

rct: A **CT_Rectangle** (section 2.2.4.45) element that specifies the user interface region for this element.

2.2.4.67   CT_MediaLink

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

A complex type that SHOULD<28> specify a media object that is stored externally to the presentation.

```
<xs:complexType name="CT_MediaLink" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="autoPlay" type="xs:boolean"/>
    <xs:element name="ct" nillable="true" type="xs:string"/>
    <xs:element name="dur" type="xs:unsignedInt"/>
    <xs:element name="fullscreen" type="xs:boolean"/>
    <xs:element name="hideWhenStopped" type="xs:boolean"/>
    <xs:element name="narration" type="xs:boolean"/>
    <xs:element name="playAcrossSlides" type="xs:unsignedInt"/>
    <xs:element name="repeat" type="xs:unsignedInt"/>
    <xs:element name="rewind" type="xs:boolean"/>
    <xs:element name="src" nillable="true" type="xs:string"/>
    <xs:element name="trimEnd" type="xs:unsignedInt"/>
    <xs:element name="trimStart" type="xs:unsignedInt"/>
    <xs:element name="volume" type="xs:double"/>
  </xs:sequence>
</xs:complexType>
```

autoPlay: An **xs:boolean** ([XMLSCHEMA2] section 3.2.2) element that specifies whether the media begins playing automatically.

ct: An **xs:string** ([XMLSCHEMA2] section 3.2.1) element that specifies the content type of the media.

dur: An **xs:unsignedInt** ([XMLSCHEMA2] section 3.3.22) element that specifies the duration of the media, in milliseconds.

fullscreen: An **xs:boolean** ([XMLSCHEMA2] section 3.2.2) element that specifies whether the media is expanded to fill the screen when playing.

hideWhenStopped: An **xs:boolean** ([XMLSCHEMA2] section 3.2.2) element that specifies whether the media is hidden when it is not playing.

narration: An **xs:boolean** ([XMLSCHEMA2] section 3.2.2) element that specifies whether the media is a narration sound.

playAcrossSlides: An **xs:unsignedInt** ([XMLSCHEMA2] section 3.3.22) element that specifies the number of slides across which the media is played. If the media does not play across slides, the value MUST be zero.

repeat: An **xs:unsignedInt** ([XMLSCHEMA2] section 3.3.22) element that specifies the number of times media playback is repeated. If media playback is not repeated, the value MUST be zero.

rewind: An **xs:boolean** ([XMLSCHEMA2] section 3.2.2) element that specifies whether the media returns to the starting position when playback is complete.

src: An **xs:string** ([XMLSCHEMA2] section 3.2.1) element that specifies the URL for the media resource.

trimEnd: An **xs:unsignedInt** ([XMLSCHEMA2] section 3.3.22) element that specifies the time offset before the end of the media timeline at which to stop playback of the media, specified in milliseconds.

trimStart: An **xs:unsignedInt** ([XMLSCHEMA2] section 3.3.22) element that specifies the time offset after zero at which to begin playback of the media, specified in milliseconds.

volume: An **xs:double** ([XMLSCHEMA2] section 3.2.5) element that specifies the playback volume for the media. The value MUST be greater than or equal to 0 and less than or equal to 1.

2.2.4.68   CT_MediaLocal

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

A complex type that SHOULD<29> specify a media object that is stored within the presentation.

```
<xs:complexType name="CT_MediaLocal" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="autoPlay" type="xs:boolean"/>
    <xs:element name="ct" nillable="true" type="xs:string"/>
    <xs:element name="dur" type="xs:unsignedInt"/>
    <xs:element name="fullscreen" type="xs:boolean"/>
    <xs:element name="hideWhenStopped" type="xs:boolean"/>
    <xs:element name="id" nillable="true" type="xs:string"/>
    <xs:element name="narration" type="xs:boolean"/>
    <xs:element name="playAcrossSlides" type="xs:unsignedInt"/>
    <xs:element name="repeat" type="xs:unsignedInt"/>
    <xs:element name="rewind" type="xs:boolean"/>
    <xs:element name="src" nillable="true" type="xs:string"/>
    <xs:element name="trimEnd" type="xs:unsignedInt"/>
    <xs:element name="trimStart" type="xs:unsignedInt"/>
```

Release: November 18, 2013

```
      <xs:element name="volume" type="xs:double"/>
    </xs:sequence>
  </xs:complexType>
```

autoPlay: An **xs:boolean** ([XMLSCHEMA2] section 3.2.2) element that specifies whether the media begins playing automatically.

ct: An **xs:string** ([XMLSCHEMA2] section 3.2.1) element that specifies the content type of the media.

dur: An **xs:unsignedInt** ([XMLSCHEMA2] section 3.3.22) element that specifies the duration of the media, in milliseconds.

fullscreen: An **xs:boolean** ([XMLSCHEMA2] section 3.2.2) element that specifies whether the media is expanded to fill the screen when playing.

hideWhenStopped: An **xs:boolean** ([XMLSCHEMA2] section 3.2.2) element that specifies whether the media is hidden when it is not playing.

id: Reserved. MUST be ignored.

narration: An **xs:boolean** ([XMLSCHEMA2] section 3.2.2)element that specifies whether the media is a narration sound.

playAcrossSlides: An **xs:unsignedInt** ([XMLSCHEMA2] section 3.3.22)element that specifies the number of slides across which the media is played. If the media does not play across slides, the value MUST be zero.

repeat: An **xs:unsignedInt** ([XMLSCHEMA2] section 3.3.22)element that specifies the number of times media playback is repeated. If media playback is not repeated, the value MUST be zero.

rewind: An **xs:boolean** ([XMLSCHEMA2] section 3.2.2)element that specifies whether the media returns to the starting position when playback is complete.

src: An **xs:string** ([XMLSCHEMA2] section 3.2.1) element that specifies the URL for the media resource.

trimEnd: An **xs:unsignedInt** ([XMLSCHEMA2] section 3.3.22) element that specifies the time offset before the end of the media timeline at which to stop playback of the media, specified in milliseconds.

trimStart: An **xs:unsignedInt** ([XMLSCHEMA2] section 3.3.22) element that specifies the time offset after zero at which to begin playback of the media, specified in milliseconds.

volume: An **xs:double** ([XMLSCHEMA2] section 3.2.5) element that specifies the playback volume for the media. The value MUST be greater than or equal to 0 and less than or equal to 1.

2.2.4.69   ArrayOfCT_Comment

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

A complex type that SHOULD<30> specify a list of **CT_Comment** (section 2.2.4.71) elements.

```
  <xs:complexType name="ArrayOfCT_Comment" xmlns:xs="http://www.w3.org/2001/XMLSchema">
    <xs:sequence>
```

```
    <xs:element minOccurs="0" maxOccurs="unbounded" name="CT_Comment" nillable="true"
type="tns:CT_Comment"/>
   </xs:sequence>
 </xs:complexType>
```

CT_Comment: Each element MUST specify a **CT_Comment** (section 2.2.4.71).

2.2.4.70   ArrayOfCT_CommentThread

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

A complex type that SHOULD<31> specify a list of **CT_CommentThread** (section 2.2.4.72)
elements.

```
 <xs:complexType name="ArrayOfCT_CommentThread" xmlns:xs="http://www.w3.org/2001/XMLSchema">
   <xs:sequence>
     <xs:element minOccurs="0" maxOccurs="unbounded" name="CT_CommentThread" nillable="true"
type="tns:CT_CommentThread"/>
   </xs:sequence>
 </xs:complexType>
```

CT_CommentThread: Each element MUST specify a **CT_CommentThread** (section 2.2.4.72).

2.2.4.71   CT_Comment

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

A complex type that SHOULD<32> specify a single comment.

```
 <xs:complexType name="CT_Comment" xmlns:xs="http://www.w3.org/2001/XMLSchema">
   <xs:sequence>
     <xs:element name="authorId" type="xs:unsignedInt"/>
     <xs:element name="authorName" nillable="true" type="xs:string"/>
     <xs:element name="dt" type="xs:dateTime"/>
     <xs:element name="idx" type="xs:unsignedInt"/>
     <xs:element name="pos" nillable="true" type="tns:CT_Point2D"/>
     <xs:element name="text" nillable="true" type="xs:string"/>
   </xs:sequence>
 </xs:complexType>
```

authorId: An **xs:unsignedInt** ([XMLSCHEMA2] section 3.3.22) that specifies the identifier of the
author of the comment. This element MUST be present.

authorName: An **xs:string** ([XMLSCHEMA2] section 3.2.1) that specifies the name of the author
of the comment.

dt: An **xs:dateTime** ([XMLSCHEMA2] section 3.2.7) that specifies the time in **UTC** at which the
comment was created.

idx: An **xs:unsignedInt** ([XMLSCHEMA2] section 3.3.22) that specifies the identifier of the
comment within its author's comments. This element MUST be present.

pos: A **CT_Point2D** (section 2.2.4.73) that specifies the position of the comment on the slide.

text: An **xs:string** ([XMLSCHEMA2] section 3.2.1) that specifies the contents of the comment.

2.2.4.72   CT_CommentThread

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

A complex type that SHOULD<33> specify a comment thread.

```
<xs:complexType name="CT_CommentThread" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="chld" nillable="true" type="tns:ArrayOfCT_Comment"/>
    <xs:element name="comment" nillable="true" type="tns:CT_Comment"/>
  </xs:sequence>
</xs:complexType>
```

chld: An **ArrayOfCT_Comment** (section 2.2.4.69) that specifies replies to **comment**.

comment: A **CT_Comment** (section 2.2.4.71) that specifies a comment.

2.2.4.73   CT_Point2D

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

A complex type that SHOULD<34> specify a two dimensional point.

```
<xs:complexType name="CT_Point2D" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="x" type="xs:int"/>
    <xs:element name="y" type="xs:int"/>
  </xs:sequence>
</xs:complexType>
```

x: An **xs:int** ([XMLSCHEMA2] section 3.3.17) that specifies the x coordinate in pixels. This element MUST be present.

y: An **xs:int** ([XMLSCHEMA2] section 3.3.17) that specifies the y coordinate in pixels. This element MUST be present.

2.2.4.74   CT_ViewingBackEndPerformanceMetrics

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

Reserved. MUST be ignored.

```
<xs:complexType name="CT_ViewingBackEndPerformanceMetrics"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="hostDlTime" type="xs:unsignedInt"/>
  </xs:sequence>
```

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

hostDlTime: Reserved. MUST be ignored.

2.2.4.75   CT_ViewingFrontEndPerformanceMetrics

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

Reserved. MUST be ignored.

```
<xs:complexType name="CT_ViewingFrontEndPerformanceMetrics"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="fetchLoc" type="tns:ST_FetchLocation"/>
    <xs:element name="rendered" type="xs:boolean"/>
  </xs:sequence>
</xs:complexType>
```

fetchLoc: Reserved. MUST be ignored.

rendered: Reserved. MUST be ignored.

2.2.4.76   CT_ViewingPresentationPerformanceMetrics

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

Reserved. MUST be ignored.

```
<xs:complexType name="CT_ViewingPresentationPerformanceMetrics"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element name="beMetrics" nillable="true"
type="tns:CT_ViewingBackEndPerformanceMetrics"/>
    <xs:element name="feMetrics" nillable="true"
type="tns:CT_ViewingFrontEndPerformanceMetrics"/>
  </xs:sequence>
</xs:complexType>
```

beMetrics: Reserved. MUST be ignored.

feMetrics: Reserved. MUST be ignored.

2.2.4.77   CT_ViewingSlidePerformanceMetrics

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

Reserved. MUST be ignored.

```
<xs:complexType name="CT_ViewingSlidePerformanceMetrics"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
```

```
    <xs:element name="beMetrics" nillable="true"
type="tns:CT_ViewingBackEndPerformanceMetrics"/>
    <xs:element name="feMetrics" nillable="true"
type="tns:CT_ViewingFrontEndPerformanceMetrics"/>
    <xs:element name="renderTime" type="xs:unsignedInt"/>
  </xs:sequence>
</xs:complexType>
```

beMetrics: Reserved. MUST be ignored.

feMetrics: Reserved. MUST be ignored.

renderTime: Reserved. MUST be ignored.

2.2.5   Simple Types

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

Simple type	Description
char	Reserved. The client and server MUST NOT use it as the type of any element. Client and server MUST ignore it if receiving an element of this type.
ClientActions	Reserved. MUST be ignored.
duration	Reserved. The client and server MUST NOT use it as the type of any element. Client and server MUST ignore it if receiving an element of this type.
ErrorCode	Reserved. MUST be ignored.
guid	Reserved. The client and server MUST NOT use it as the type of any element. Client and server MUST ignore it if receiving an element of this type.
PowerPointFormat	A simple type that SHOULD<35> specify an enumeration of formats for rendering presentation slides. The content of this simple type are a restriction of the **xs:string** ([XMLSCHEMA2] section 3.2.1) data type.
PowerpointView	A simple type that specifies an enumeration of all the **views** of a presentation. This simple type's contents are a restriction of the **xs:string** ([XMLSCHEMA2] section 3.2.1) data type.
ServerCapability	Reserved. MUST be ignored.
ServiceErrorType	A simple type that specifies an enumeration of a set of protocol errors returned by the protocol server to the protocol client.
SlideShowState	A simple type that SHOULD<36> specify an enumeration of all the possible slide show states. This simple type's contents are a restriction of the **xs:string** ([XMLSCHEMA2] section 3.2.1) data type.
ST_AnimRepeatType	A simple type that specifies how an animation effect is repeated for a shape. This simple type's contents are a restriction of the **xs:string** ([XMLSCHEMA2] section 3.2.1) data type.
ST_AnimStart	A simple type that specifies when an animation starts. This simple type's contents are a restriction of the **xs:string** ([XMLSCHEMA2] section 3.2.1)

Simple type	Description
	data type.
ST_EffectType	A simple type that specifies the type of animation effect for a shape. This simple type's contents are a restriction of the **xs:string** ([XMLSCHEMA2] section 3.2.1) data type.
ST_FetchLocation	Reserved. MUST be ignored.
ST_HideAfterAnimType	A simple type that specifies if and when an animated shape is hidden after the animation effect ends. This simple type's content are a restriction of the **xs:string** ([XMLSCHEMA2] section 3.2.1) data type.

2.2.5.1   char

Namespace: http://schemas.microsoft.com/2003/10/Serialization/

Reserved. The client and server MUST NOT use it as the type of any element. Client and server MUST ignore it if receiving an element of this type.

```
<xs:simpleType name="char" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:int"/>
</xs:simpleType>
```

2.2.5.2   ClientActions

Namespace:
http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Pipe.Interface

Reserved. MUST be ignored.

```
<xs:simpleType name="ClientActions" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:list>
    <xs:simpleType>
      <xs:restriction base="xs:string">
        <xs:enumeration value="None"/>
        <xs:enumeration value="Dismiss"/>
        <xs:enumeration value="Close"/>
        <xs:enumeration value="OpenInClient"/>
        <xs:enumeration value="Refresh"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:list>
</xs:simpleType>
```

The following table specifies the allowable values for the **ClientActions** simple type.

Value	Meaning
None	Reserved. MUST be ignored.
Dismiss	Reserved. MUST be ignored.
Close	Reserved. MUST be ignored.

Value	Meaning
OpenInClient	Reserved. MUST be ignored.
Refresh	Reserved. MUST be ignored.

2.2.5.3   duration

Namespace: http://schemas.microsoft.com/2003/10/Serialization/

Reserved. The client and server MUST NOT use it as the type of any element. Client and server MUST ignore it if receiving an element of this type.

```
<xs:simpleType name="duration" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:duration">
    <xs:pattern value="\-?P(\d*D)?(T(\d*H)?(\d*M)?(\d*(\.\d*)?S)?)?"/>
    <xs:minInclusive value="-P10675199DT2H48M5.4775808S"/>
    <xs:maxInclusive value="P10675199DT2H48M5.4775807S"/>
  </xs:restriction>
</xs:simpleType>
```

2.2.5.4   guid

Namespace: http://schemas.microsoft.com/2003/10/Serialization/

Reserved. The client and server MUST NOT use it as the type of any element. Client and server MUST ignore it if receiving an element of this type.

```
<xs:simpleType name="guid" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:string">
    <xs:pattern value="[\da-fA-F]{8}-[\da-fA-F]{4}-[\da-fA-F]{4}-[\da-fA-F]{4}-[\da-fA-F]{12}"/>
  </xs:restriction>
</xs:simpleType>
```

2.2.5.5   PowerpointView

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

A simple type that specifies an enumeration of all the views of a presentation. This simple type's contents are a restriction of the **xs:string** ([XMLSCHEMA2] section 3.2.1) data type.

```
<xs:simpleType name="PowerpointView" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:string">
    <xs:enumeration value="ReadingView"/>
    <xs:enumeration value="SlideShowView"/>
    <xs:enumeration value="EditView"/>
    <xs:enumeration value="StaticView"/>
    <xs:enumeration value="OutlineView"/>
    <xs:enumeration value="AttendeeView"/>
    <xs:enumeration value="ChromelessView"/>
  </xs:restriction>
```

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

The following table specifies the allowable values for the **PowerpointView** simple type.

Value	Meaning
ReadingView	A view of the presentation contents that has been optimized for reading. This view includes presentation notes, images of presentation slide content and animation information.
SlideShowView	A view of the presentation contents that has been optimized for presenting. This view includes images of presentation slide content and animation information.
EditView	Reserved. MUST be ignored.
StaticView	A view of the presentation that has been optimized for viewing presentation slide contents without animations.
OutlineView	A view of the presentation that has been optimized for viewing presentation slide contents in a text format.
AttendeeView	A view of the presentation that has been optimized for attending a **presentation broadcast**.
ChromelessView	A view of the presentation contents that has been optimized for embedding. This view includes images of presentation slide content and animation information.

2.2.5.6   ServerCapability

Namespace:
http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interface.Data

Reserved. MUST be ignored.

```
<xs:simpleType name="ServerCapability" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:string">
    <xs:enumeration value="SupportAudio"/>
    <xs:enumeration value="SupportVideo"/>
    <xs:enumeration value="SupportNotes"/>
    <xs:enumeration value="SupportHandoutMaster"/>
    <xs:enumeration value="FileSizeLimited"/>
    <xs:enumeration value="UseWebDav"/>
    <xs:enumeration value="SessionTimeout"/>
    <xs:enumeration value="SessionIdleTimeout"/>
    <xs:enumeration value="SupportMeetingNotes"/>
    <xs:enumeration value="SupportDocumentUpdate"/>
  </xs:restriction>
</xs:simpleType>
```

The following table specifies the allowable values for the **ServerCapability** simple type.

Value	Meaning
SupportAudio	Reserved. MUST be ignored.
SupportVideo	Reserved. MUST be ignored.

Value	Meaning
SupportNotes	Reserved. MUST be ignored.
SupportHandoutMaster	Reserved. MUST be ignored.
FileSizeLimited	Reserved. MUST be ignored.
UseWebDav	Reserved. MUST be ignored.
SessionTimeout	Reserved. MUST be ignored.
SessionIdleTimeout	Reserved. MUST be ignored.
SupportMeetingNotes	Reserved. MUST be ignored.
SupportDocumentUpdate	Reserved. MUST be ignored.

2.2.5.7 ServiceErrorType

Namespace: http://schemas.datacontract.org/2004/07/p

A simple type that specifies an enumeration of a set of protocol errors returned by the protocol server to the protocol client.

```
<xs:simpleType name="ServiceErrorType" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:string">
    <xs:enumeration value="UnknownError"/>
    <xs:enumeration value="ApplicationError"/>
    <xs:enumeration value="Timeout"/>
    <xs:enumeration value="ServiceBusy"/>
    <xs:enumeration value="SessionFull"/>
  </xs:restriction>
</xs:simpleType>
```

The following table specifies the allowable values for the **ServiceErrorType** simple type.

Value	Meaning
UnknownError	The protocol server encountered an unknown error.
ApplicationError	The protocol server encountered an application error.
Timeout	The protocol server timed out.
ServiceBusy	The protocol server is busy.
SessionFull	The broadcast session on the protocol server is full.

2.2.5.8 SlideShowState

Namespace:
http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interface.Data

A simple type that SHOULD<37> specify an enumeration of all the possible slide show states. This simple type's contents are a restriction of the **xs:string** ([XMLSCHEMA2] section 3.2.1) data type.

```
<xs:simpleType name="SlideShowState" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:string">
    <xs:enumeration value="NotStartedYet"/>
    <xs:enumeration value="BlackScreen"/>
    <xs:enumeration value="WhiteScreen"/>
    <xs:enumeration value="Normal"/>
    <xs:enumeration value="BroadcastEnded"/>
    <xs:enumeration value="SlideShowEnded"/>
  </xs:restriction>
</xs:simpleType>
```

The following table specifies the allowable values for the **SlideShowState** simple type.

Value	Meaning
NotStartedYet	slide show has not started yet.
BlackScreen	slide show is displaying a black Screen.
WhiteScreen	slide show is displaying a white Screen.
Normal	slide show is displaying presentation slides.
BroadcastEnded	slide show broadcast has ended.
SlideShowEnded	slide show has ended.

2.2.5.9   ST_AnimRepeatType

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

A simple type that specifies how an animation effect is repeated for a shape. This simple type's
contents are a restriction of the **xs:string** ([XMLSCHEMA2] section 3.2.1) data type.

```
<xs:simpleType name="ST_AnimRepeatType" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:string">
    <xs:enumeration value="cnt"/>
    <xs:enumeration value="clk"/>
    <xs:enumeration value="sld"/>
  </xs:restriction>
</xs:simpleType>
```

The following table specifies the allowable values for the **ST_AnimRepeatType** simple type.

Value	Meaning
cnt	The animation effect is repeated a specific number of times.
clk	The animation effect is repeated until the next click.
sld	The animation effect is repeated until the end of the current presentation slide.

2.2.5.10   ST_AnimStart

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

A simple type that specifies when an animation starts. This simple type's contents are a restriction of the **xs:string** ([XMLSCHEMA2] section 3.2.1) data type.

```
<xs:simpleType name="ST_AnimStart" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:string">
    <xs:enumeration value="c"/>
    <xs:enumeration value="w"/>
    <xs:enumeration value="a"/>
  </xs:restriction>
</xs:simpleType>
```

The following table specifies the allowable values for the **ST_AnimStart** simple type.

Value	Meaning
c	The animation starts on click.
w	The animation starts when the previous animation in the animation sequence starts.
a	The animation starts after the previous animation in the animation sequence ends.

2.2.5.11   ST_EffectType

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

A simple type that specifies the type of animation effect for a shape. This simple type's contents are a restriction of the **xs:string** ([XMLSCHEMA2] section 3.2.1) data type.

```
<xs:simpleType name="ST_EffectType" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:string">
    <xs:enumeration value="entr"/>
    <xs:enumeration value="exit"/>
    <xs:enumeration value="emph"/>
    <xs:enumeration value="path"/>
  </xs:restriction>
</xs:simpleType>
```

The following table specifies the allowable values for the **ST_EffectType** simple type.

Value	Meaning
entr	The animation is an entrance animation.
exit	The animation is an exit animation.
emph	The animation is an emphasis animation.
path	The animation is a motion path animation.

2.2.5.12   ST_HideAfterAnimType

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

A simple type that specifies if and when an animated shape is hidden after the animation effect ends. This simple type's content are a restriction of the **xs:string** ([XMLSCHEMA2] section 3.2.1) data type.

```
<xs:simpleType name="ST_HideAfterAnimType" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:string">
    <xs:enumeration value="non"/>
    <xs:enumeration value="imm"/>
    <xs:enumeration value="clk"/>
  </xs:restriction>
</xs:simpleType>
```

The following table specifies the allowable values for the **ST_HideAfterAnimType** simple type.

Value	Meaning
non	Do not hide the object after the animation effect ends.
imm	Hide the object immediately after the animation effect ends.
clk	Hide the object on the click following the animation effect.

2.2.5.13   PowerPointFormat

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

A simple type that SHOULD<38> specify an enumeration of formats for rendering presentation slides. The content of this simple type are a restriction of the **xs:string** ([XMLSCHEMA2] section 3.2.1) data type.

```
<xs:simpleType name="PowerPointFormat" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:string">
    <xs:enumeration value="AnimatedMedium"/>
    <xs:enumeration value="AnimatedLarge"/>
    <xs:enumeration value="AnimatedSmall"/>
    <xs:enumeration value="AnimatedExtraSmall"/>
    <xs:enumeration value="AnimatedExtraLarge"/>
    <xs:enumeration value="Media"/>
    <xs:enumeration value="AnimatedExtraExtraLarge"/>
  </xs:restriction>
</xs:simpleType>
```

The following table specifies the allowable values for the **PowerPointFormat** simple type.

Value	Meaning
AnimatedMedium	Render presentation content at medium size and include animation information.

Value	Meaning
AnimatedLarge	Render presentation content at large size and include animation information.
AnimatedSmall	Render presentation content at small size and include animation information.
AnimatedExtraSmall	Render presentation content at extra small size and include animation information.
AnimatedExtraLarge	Render presentation content at extra large size and include animation information.
Media	Render only media presentation content and do not include animation information.
AnimatedExtraExtraLarge	Render presentation content at extra, extra large size and include animation information.

2.2.5.14   ErrorCode

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

Reserved. MUST be ignored.

```
<xs:simpleType name="ErrorCode" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:string">
    <xs:enumeration value="ErrorRESERVEDSuccess"/>
    <xs:enumeration value="ErrorRESERVEDUnknown"/>
    <xs:enumeration value="ErrorCannotOpenDocumentFileType"/>
    <xs:enumeration value="ErrorCannotOpenDocumentIRM"/>
    <xs:enumeration value="ErrorCannotOpenDocumentPassword"/>
    <xs:enumeration value="ErrorCannotOpenDocument"/>
    <xs:enumeration value="ErrorCannotInstallFonts"/>
    <xs:enumeration value="ErrorCannotConvertModifyPassword"/>
    <xs:enumeration value="ErrorCannotComposeSlideParse"/>
    <xs:enumeration value="ErrorCannotComposeSlideUnexpected"/>
    <xs:enumeration value="ErrorWacConversionFailure"/>
    <xs:enumeration value="ErrorResourceNotGenerated"/>
    <xs:enumeration value="ErrorGenericSlideCorruption"/>
    <xs:enumeration value="ErrorFileNotFound"/>
    <xs:enumeration value="ErrorGeneralUnknown"/>
    <xs:enumeration value="ErrorFailedToOpenDocument"/>
    <xs:enumeration value="ErrorFailedToRetrieveResource"/>
    <xs:enumeration value="ErrorFailedToRenderDocument"/>
    <xs:enumeration value="ErrorFailedToRenderSlide"/>
    <xs:enumeration value="ErrorFailedToSaveDocument"/>
    <xs:enumeration value="ErrorCannotSaveDocument"/>
    <xs:enumeration value="ErrorInvalidCommand"/>
    <xs:enumeration value="ErrorDocVersionMismatch"/>
    <xs:enumeration value="ErrorCannotAcquirePptEditLock"/>
    <xs:enumeration value="ErrorRequiresCheckout"/>
    <xs:enumeration value="ErrorLockedForOfflineCheckout"/>
    <xs:enumeration value="ErrorLockedByAnotherUser"/>
    <xs:enumeration value="ErrorAccessDenied"/>
    <xs:enumeration value="ErrorNoLicense"/>
    <xs:enumeration value="ErrorRequestTooBig"/>
    <xs:enumeration value="ErrorTextTooBig"/>
```

```
      <xs:enumeration value="ErrorTryAgain"/>
      <xs:enumeration value="ErrorUnexpected"/>
      <xs:enumeration value="ErrorCannotOpenDocumentMacro"/>
      <xs:enumeration value="ErrorCannotOpenDocumentFinal"/>
      <xs:enumeration value="ErrorCannotOpenDocumentSigned"/>
      <xs:enumeration value="ErrorCannotOpenEmbeddedFonts"/>
      <xs:enumeration value="ErrorNoAvailableEditAppServer"/>
      <xs:enumeration value="ErrorServiceUnavailable"/>
      <xs:enumeration value="ErrorPptEditExistingExclusiveLock"/>
      <xs:enumeration value="ErrorPptEditCheckedOutByAnother"/>
      <xs:enumeration value="ErrorCannotOpenDocumentGatekeeperFailure"/>
      <xs:enumeration value="ErrorEditWorkerTimeout"/>
      <xs:enumeration value="ErrorEditSlideCorruption"/>
      <xs:enumeration value="ErrorServiceBusy"/>
      <xs:enumeration value="ErrorClipartCannotConnect"/>
      <xs:enumeration value="ErrorClipartCannotDownload"/>
      <xs:enumeration value="ErrorMediaNotEnabled"/>
      <xs:enumeration value="ErrorUnsupportedMediaFormat"/>
      <xs:enumeration value="ErrorLinkedMediaNotEnabled"/>
      <xs:enumeration value="ErrorUnsupportedLinkTarget"/>
      <xs:enumeration value="ErrorEmbeddedMediaNotEnabled"/>
      <xs:enumeration value="ErrorEmbeddedMediaExceedsMaxSize"/>
      <xs:enumeration value="ErrorTranscodingNotEnabled"/>
      <xs:enumeration value="ErrorMediaUnavailable"/>
      <xs:enumeration value="ErrorCannotOpenODPDocumentPassword"/>
      <xs:enumeration value="ErrorLocalChangeLostDueToCoautherEdit"/>
      <xs:enumeration value="ErrorNumberOfCoauthorsReachedMax"/>
      <xs:enumeration value="ErrorCannotAcquirePptEditSharedLock"/>
      <xs:enumeration value="ErrorInProgress"/>
      <xs:enumeration value="ErrorImageTooLarge"/>
      <xs:enumeration value="ErrorImageWrongFormat"/>
      <xs:enumeration value="ErrorImageNoAccess"/>
      <xs:enumeration value="ErrorWacItemRetrievalDocumentOutputNotFound"/>
      <xs:enumeration value="ErrorWacItemRetrievalAccessDenied"/>
      <xs:enumeration value="ErrorWacItemRetrievalCommunicationErrorStreamDirty"/>
      <xs:enumeration value="ErrorWacItemRetrievalCommunicationErrorStreamClean"/>
      <xs:enumeration value="ErrorWacItemRetrievalUnknownError"/>
      <xs:enumeration value="ErrorWacConversionManagerDoesNotSupportThisRequest"/>
      <xs:enumeration value="ErrorWacConversionCannotFindSourceDocument"/>
      <xs:enumeration value="ErrorWacConversionWorkerException"/>
      <xs:enumeration value="ErrorWacConversionWorkerCrashed"/>
      <xs:enumeration value="ErrorWacConversionWorkerHung"/>
      <xs:enumeration value="ErrorWacConversionUnknownResponse"/>
      <xs:enumeration value="ErrorWacConversionUnknownError"/>
      <xs:enumeration value="ErrorWacConversionFirstServerResult"/>
      <xs:enumeration value="ErrorCannotOpenDocumentWrongExt"/>
      <xs:enumeration value="ErrorCannotOpenDocumentStgDocFileCorrupt"/>
      <xs:enumeration value="ErrorCannotOpenDocumentStgFileAlreadyExists"/>
      <xs:enumeration value="ErrorCannotOpenDocumentMmcfPackagePartNotFound"/>
      <xs:enumeration value="ErrorCannotOpenDocumentArchiveError"/>
      <xs:enumeration value="ErrorCannotPastePictureCannotCreateUrl"/>
      <xs:enumeration value="ErrorCannotPastePictureInvalidResponse"/>
      <xs:enumeration value="ErrorCannotPastePictureNotFound"/>
      <xs:enumeration value="ErrorCannotPastePictureResponseEmpty"/>
      <xs:enumeration value="ErrorCannotPastePictureUnexpectedStatusCode"/>
      <xs:enumeration value="ErrorCannotPastePictureUnexpectedWebException"/>
      <xs:enumeration value="ErrorRESERVEDLastError"/>
   </xs:restriction>
```

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

The following table specifies the allowable values for the **ErrorCode** simple type.

Value	Meaning
ErrorRESERVEDSuccess	Reserved. MUST be ignored.
ErrorRESERVEDUnknown	Reserved. MUST be ignored.
ErrorCannotOpenDocumentFileType	Reserved. MUST be ignored.
ErrorCannotOpenDocumentIRM	Reserved. MUST be ignored.
ErrorCannotOpenDocumentPassword	Reserved. MUST be ignored.
ErrorCannotOpenDocument	Reserved. MUST be ignored.
ErrorCannotInstallFonts	Reserved. MUST be ignored.
ErrorCannotConvertModifyPassword	Reserved. MUST be ignored.
ErrorCannotComposeSlideParse	Reserved. MUST be ignored.
ErrorCannotComposeSlideUnexpected	Reserved. MUST be ignored.
ErrorWacConversionFailure	Reserved. MUST be ignored.
ErrorResourceNotGenerated	Reserved. MUST be ignored.
ErrorGenericSlideCorruption	Reserved. MUST be ignored.
ErrorFileNotFound	Reserved. MUST be ignored.
ErrorGeneralUnknown	Reserved. MUST be ignored.
ErrorFailedToOpenDocument	Reserved. MUST be ignored.
ErrorFailedToRetrieveResource	Reserved. MUST be ignored.
ErrorFailedToRenderDocument	Reserved. MUST be ignored.
ErrorFailedToRenderSlide	Reserved. MUST be ignored.
ErrorFailedToSaveDocument	Reserved. MUST be ignored.
ErrorCannotSaveDocument	Reserved. MUST be ignored.
ErrorInvalidCommand	Reserved. MUST be ignored.
ErrorDocVersionMismatch	Reserved. MUST be ignored.
ErrorCannotAcquirePptEditLock	Reserved. MUST be ignored.
ErrorRequiresCheckout	Reserved. MUST be ignored.
ErrorLockedForOfflineCheckout	Reserved. MUST be ignored.
ErrorLockedByAnotherUser	Reserved. MUST be ignored.

Value	Meaning
ErrorAccessDenied	Reserved. MUST be ignored.
ErrorNoLicense	Reserved. MUST be ignored.
ErrorRequestTooBig	Reserved. MUST be ignored.
ErrorTextTooBig	Reserved. MUST be ignored.
ErrorTryAgain	Reserved. MUST be ignored.
ErrorUnexpected	Reserved. MUST be ignored.
ErrorCannotOpenDocumentMacro	Reserved. MUST be ignored.
ErrorCannotOpenDocumentFinal	Reserved. MUST be ignored.
ErrorCannotOpenDocumentSigned	Reserved. MUST be ignored.
ErrorCannotOpenEmbeddedFonts	Reserved. MUST be ignored.
ErrorNoAvailableEditAppServer	Reserved. MUST be ignored.
ErrorServiceUnavailable	Reserved. MUST be ignored.
ErrorPptEditExistingExclusiveLock	Reserved. MUST be ignored.
ErrorPptEditCheckedOutByAnother	Reserved. MUST be ignored.
ErrorCannotOpenDocumentGatekeeperFailure	Reserved. MUST be ignored.
ErrorEditWorkerTimeout	Reserved. MUST be ignored.
ErrorEditSlideCorruption	Reserved. MUST be ignored.
ErrorServiceBusy	Reserved. MUST be ignored.
ErrorClipartCannotConnect	Reserved. MUST be ignored.
ErrorClipartCannotDownload	Reserved. MUST be ignored.
ErrorMediaNotEnabled	Reserved. MUST be ignored.
ErrorUnsupportedMediaFormat	Reserved. MUST be ignored.
ErrorLinkedMediaNotEnabled	Reserved. MUST be ignored.
ErrorUnsupportedLinkTarget	Reserved. MUST be ignored.
ErrorEmbeddedMediaNotEnabled	Reserved. MUST be ignored.
ErrorEmbeddedMediaExceedsMaxSize	Reserved. MUST be ignored.
ErrorTranscodingNotEnabled	Reserved. MUST be ignored.
ErrorMediaUnavailable	Reserved. MUST be ignored.
ErrorCannotOpenODPDocumentPassword	Reserved. MUST be ignored.
ErrorLocalChangeLostDueToCoautherEdit	Reserved. MUST be ignored.

Value	Meaning
ErrorNumberOfCoauthorsReachedMax	Reserved. MUST be ignored.
ErrorCannotAcquirePptEditSharedLock	Reserved. MUST be ignored.
ErrorInProgress	Reserved. MUST be ignored.
ErrorImageTooLarge	Reserved. MUST be ignored.
ErrorImageWrongFormat	Reserved. MUST be ignored.
ErrorImageNoAccess	Reserved. MUST be ignored.
ErrorWacItemRetrievalDocumentOutputNotFound	Reserved. MUST be ignored.
ErrorWacItemRetrievalAccessDenied	Reserved. MUST be ignored.
ErrorWacItemRetrievalCommunicationErrorStreamDirty	Reserved. MUST be ignored.
ErrorWacItemRetrievalCommunicationErrorStreamClean	Reserved. MUST be ignored.
ErrorWacItemRetrievalUnknownError	Reserved. MUST be ignored.
ErrorWacConversionManagerDoesNotSupportThisRequest	Reserved. MUST be ignored.
ErrorWacConversionCannotFindSourceDocument	Reserved. MUST be ignored.
ErrorWacConversionWorkerException	Reserved. MUST be ignored.
ErrorWacConversionWorkerCrashed	Reserved. MUST be ignored.
ErrorWacConversionWorkerHung	Reserved. MUST be ignored.
ErrorWacConversionUnknownResponse	Reserved. MUST be ignored.
ErrorWacConversionUnknownError	Reserved. MUST be ignored.
ErrorWacConversionFirstServerResult	Reserved. MUST be ignored.
ErrorCannotOpenDocumentWrongExt	Reserved. MUST be ignored.
ErrorCannotOpenDocumentStgDocFileCorrupt	Reserved. MUST be ignored.
ErrorCannotOpenDocumentStgFileAlreadyExists	Reserved. MUST be ignored.
ErrorCannotOpenDocumentMmcfPackagePartNotFound	Reserved. MUST be ignored.
ErrorCannotOpenDocumentArchiveError	Reserved. MUST be ignored.
ErrorCannotPastePictureCannotCreateUrl	Reserved. MUST be ignored.
ErrorCannotPastePictureInvalidResponse	Reserved. MUST be ignored.
ErrorCannotPastePictureNotFound	Reserved. MUST be ignored.
ErrorCannotPastePictureResponseEmpty	Reserved. MUST be ignored.
ErrorCannotPastePictureUnexpectedStatusCode	Reserved. MUST be ignored.
ErrorCannotPastePictureUnexpectedWebException	Reserved. MUST be ignored.

Value	Meaning
ErrorRESERVEDLastError	Reserved. MUST be ignored.

2.2.5.15 ST_FetchLocation

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

Reserved. MUST be ignored.

```
<xs:simpleType name="ST_FetchLocation" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:string">
    <xs:enumeration value="be"/>
    <xs:enumeration value="femc"/>
    <xs:enumeration value="disk"/>
  </xs:restriction>
</xs:simpleType>
```

The following table specifies the allowable values for the **ST_FetchLocation** simple type.

Value	Meaning
be	Reserved. MUST be ignored.
femc	Reserved. MUST be ignored.
disk	Reserved. MUST be ignored.

2.2.6 Attributes

This specification does not define any common XML schema attribute definitions.

2.2.7 Groups

This specification does not define any common XML schema group definitions.

2.2.8 Attribute Groups

This specification does not define any common XML schema attribute group definitions.

3   Protocol Details

In the following sections, the schema definition might differ from the processing rules imposed by the protocol. The WSDL in this specification matches the WSDL that shipped with the product and provides a base description of the schema. The text that introduces the WSDL might specify differences that reflect actual Microsoft product behavior. For example, the schema definition might allow for an element to be **empty**, **null**, or **not present** but the behavior of the protocol as specified restricts the same elements to being **non-empty**, **not null**, and **present**.

The client side of this protocol is simply a pass-through. That is, no additional timers or other state is required on the client side of this protocol. Calls made by the higher-layer protocol or application are passed directly to the transport, and the results returned by the transport are passed directly back to the higher-layer protocol or application.

Except where specified, protocol clients SHOULD interpret HTTP status codes returned by the protocol server as specified in [RFC2616] (Section 10, Status Code Definitions).

This protocol allows protocol servers to notify protocol clients of application-level faults using SOAP faults. Except where specified, these SOAP faults are not significant for interoperability, and protocol clients can interpret them in an implementation-specific manner.

This protocol allows protocol servers to perform implementation-specific authorization checks and notify protocol clients of authorization faults either using HTTP status codes or using SOAP faults as specified previously in this section.

3.1   Server Details

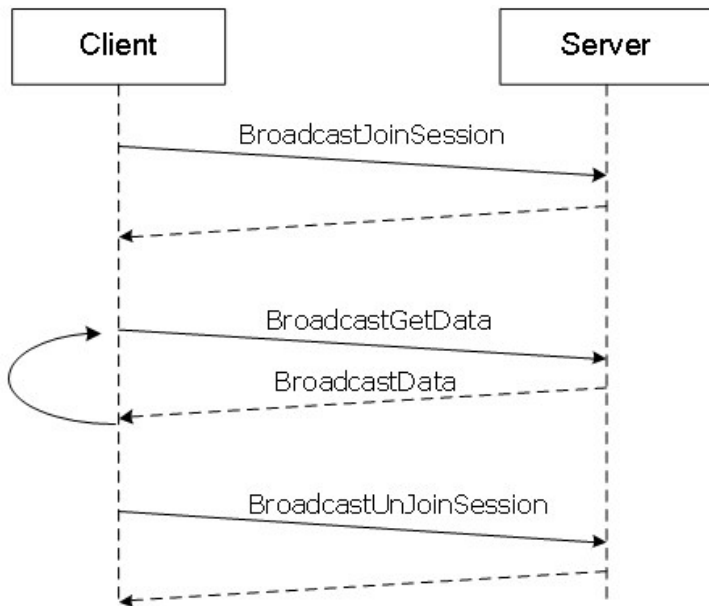The following high-level sequence diagram illustrates the operation of the protocol.
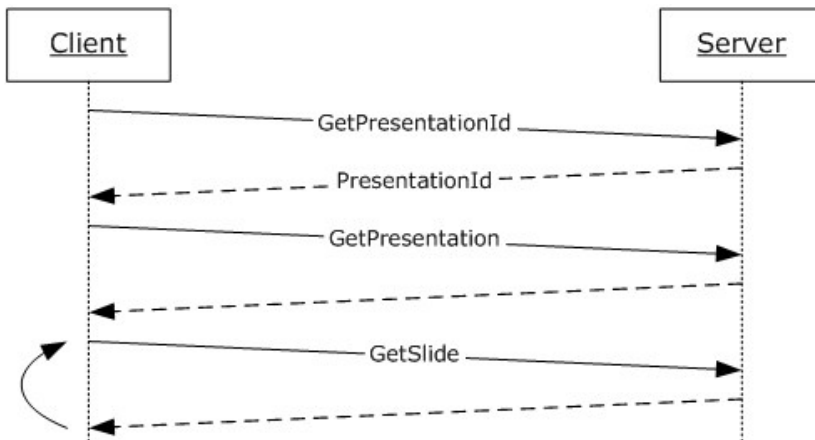
Figure 2: PowerPoint Web Viewer Presentation Data Protocol high-level sequence diagram.

First, a protocol client sends the **IPptService_GetPresentationId_InputMessage SOAP message** as specified in [MS-PWEDPS] section 3.1.4.27 to obtain a valid **presentationId** within an **IPptService_GetPresentationId_OutputMessage.** Next, a protocol client sends an **IPptViewingService_GetPresentation_InputMessage** (section 3.1.4.6.1.1) message and the protocol server responds with an **IPptViewingService_GetPresentation_OutputMessage** (section 3.1.4.6.1.2) containing information about the requested presentation. Next, the protocol client sends one or more **IPptViewingService_GetSlide_InputMessage** (section 3.1.4.9.1.1)

messages and the protocol server responds with an
IPptViewingService_GetSlide_OutputMessage (section 3.1.4.9.1.2) containing information
about the requested presentation slide.

The following high-level sequence diagram illustrates the operation of the attendee client protocol.

**Figure 3: PowerPoint Web Viewer Presentation Data Protocol high-level sequence
diagram for attendee clients.**

First, a protocol client acting as slide show broadcast attendee sends a **BroadcastJoinSession**
(section 3.1.4.3.2.1) message and the protocol server responds with a
BroadcastJoinSessionResponse (section 3.1.4.3.2.2) message to acknowledge the request. Next,
the protocol client sends one or more **BroadcastGetData** (section 3.1.4.2.2.1) messages and the
server sends a **BroadcastGetDataResponse** (section 3.1.4.2.2.2) message containing the current
data about the state of a broadcast. Finally, the protocol client SHOULD<39> send a
BroadcastUnjoinSession (section 3.1.4.4.2.1) message to unjoin from the session and the
protocol server will respond with a **BroadcastUnjoinSessionResponse** (section 3.1.4.4.2.2)
message. To obtain a valid **presentationId** for use with the protocol methods **GetPresentation**
(section 3.1.4.6) and **GetSlide** (section 3.1.4.8), a protocol client acting as a slide show broadcast
attendee sends a **GetMetadataXml** request as specified in [MS-OMPWHP] section 3.1.4.1.1. A valid
presentationId is the value of the query string parameter named "presentationId" in the **url**
attribute of **slideImage** element in the **mobilePres** root element returned by the
GetMetadataXml method, as specified in [MS-PWVRSC] section 2.3.10.

3.1.1   Abstract Data Model

This section describes a conceptual model of possible data organization that an implementation
maintains to participate in this protocol. The described organization is provided to facilitate the
explanation of how the protocol behaves. This document does not mandate that implementations
adhere to this model as long as their external behavior is consistent with that described in this
document.

The protocol server maintains the following data across all messages exchanged during a presentation session:

▪ **presentationId**: An entity which represents a unique identifier for a presentation.

The protocol server maintains the following data across all messages exchanged during a broadcast session:

▪ **SessionId**: An entity which represents a unique identifier for a broadcast session.

3.1.2 Timers

None.

3.1.3 Initialization

The protocol server MUST expose its Web methods at the following URL, which builds upon a base URL. The URL SHOULD<40> conform to the following structure: *base URL*/p/ppt/view.svc. This is the minimal required structure. Case-sensitivity is specific to the protocol server implementation.

3.1.4 Message Processing Events and Sequencing Rules

Section 3.1 specifies the sequencing of the protocol messages and how they relate to each other. The following sections specify the details of each individual message.

The following table summarizes the list of operations as defined by this specification.

Operation	Description
BinaryConvert	The **BinaryConvert** operation is used to convert a presentation from the binary file format for a PPT file (.ppt) described in [MS-PPT] to the Office Open XML File Format Specification PresentationML format described in the [ISO/IEC29500:2011] specification.
BroadcastGetData	The **BroadcastGetData** operation SHOULD<41> be used by the broadcast attendee to retrieve information about the current state of the broadcast on the protocol server.
BroadcastJoinSession	The **BroadcastJoinSession** operation SHOULD<42> be used to join an attendee client to a slide show broadcast session.
BroadcastUnjoinSession	The **BroadcastUnjoinSession** operation SHOULD<43> be used to unjoin an attendee client from a slide show broadcast session.
GetNotesHtmlServiceResult	The **GetNotesHtmlServiceResult** protocol method returns the presentation notes content of a specified presentation.
GetPresentation	The **GetPresentation** protocol method returns information about the content of a specified presentation.
GetPresentationInfoXml	Reserved. MUST not be called.
GetSlide	The **GetSlide** protocol method returns information about the content of a specified presentation slide contained within a specified presentation.
GetSlideInfo	Reserved. MUST not be called.
LogULS	Reserved. MUST not be called.

Operation	Description
Print	A **Print** operation SHOULD[<44>] be used to print a presentation.

3.1.4.1 BinaryConvert

The **BinaryConvert** operation is used to convert a presentation from the binary file format for a PPT file (.ppt) described in [MS-PPT] to the Office Open XML File Format Specification PresentationML format described in the [ISO/IEC29500:2011] specification.

The following is the WSDL port type specification of the **BinaryConvert WSDL operation**.

```
<wsdl:operation name="BinaryConvert" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/BinaryConvert"
message="tns4:IPptViewingService_BinaryConvert_InputMessage"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
  <wsdl:output
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/BinaryConvertResponse"
message="tns4:IPptViewingService_BinaryConvert_OutputMessage"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
</wsdl:operation>
```

The protocol client sends an **IpptViewingService_BinaryConvert_InputMessage** request message, and the protocol server MUST respond with an **IpptViewingService_BinaryConvert_OutputMessage** response message.

3.1.4.1.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
IPptViewingService_BinaryConvert_InputMessage	The request WSDL message for the **BinaryConvert** WSDL operation.
IPptViewingService_BinaryConvert_OutputMessage	The response WSDL message for the **BinaryConvert** WSDL operation.

3.1.4.1.1.1 IPptViewingService_BinaryConvert_InputMessage

The request WSDL message for the **BinaryConvert** WSDL operation.

The **SOAP action** value is:

```
http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewingService/IP
ptViewingService/BinaryConvert
```

The **SOAP body** contains the **BinaryConvert** element.

3.1.4.1.1.2 IPptViewingService_BinaryConvert_OutputMessage

The response WSDL message for the **BinaryConvert** WSDL operation.

The SOAP body contains the **BinaryConvertResponse** element.

3.1.4.1.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
BinaryConvert	The input data for the **BinaryConvert** WSDL operation.
BinaryConvertResponse	The result data for the **BinaryConvert** WSDL operation.

3.1.4.1.2.1 BinaryConvert

The **BinaryConvert** element specifies the input data for the **BinaryConvert** WSDL operation.

```
<xs:element name="BinaryConvert" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" name="presentationId" nillable="true" type="xs:string"/>
      <xs:element minOccurs="0" name="targetId" nillable="true" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

presentationId: An **xs:string** ([XMLSCHEMA2] section 3.2.1) element that specifies the identifier of the presentation to convert, as specified in [MS-PWEDPS] section 3.1.4.10. This element MUST be present.

targetId: Reserved. MUST be ignored.

3.1.4.1.2.2 BinaryConvertResponse

The **BinaryConvertResponse** element specifies the result data for the **BinaryConvert** WSDL operation.

```
<xs:element name="BinaryConvertResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element xmlns:tns2="http://schemas.datacontract.org/2004/07/p" minOccurs="0"
name="BinaryConvertResult" nillable="true" type="tns2:ServiceResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

BinaryConvertResult: A **ServiceResult** (section 2.2.4.60) element that specifies the result of the operation. If the **Result** child element of **BinaryConvertResult** is present, then the **Result** child element MUST be a **PptViewingService.BinaryConversionResult** (section 2.2.4.57).

3.1.4.1.3 Complex Types

None.

3.1.4.1.4 Simple Types

None.

3.1.4.1.5 Attributes

None.

3.1.4.1.6 Groups

None.

3.1.4.1.7 Attribute Groups

None.

3.1.4.2 BroadcastGetData

The **BroadcastGetData** operation SHOULD<45> be used by the broadcast attendee to retrieve information about the current state of the broadcast on the protocol server.

The following is the WSDL port type specification of the **BroadcastGetData** WSDL operation.

```
<wsdl:operation name="BroadcastGetData" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/BroadcastGetData"
message="tns4:IPptViewingService_BroadcastGetData_InputMessage"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
  <wsdl:output
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/BroadcastGetDataResponse"
message="tns4:IPptViewingService_BroadcastGetData_OutputMessage"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
</wsdl:operation>
```

The protocol client sends an **IPptViewingService_BroadcastGetData_InputMessage** request message, and the protocol server MUST respond with an **IPptViewingService_BroadcastGetData_OutputMessage** response message.

3.1.4.2.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
IPptViewingService_BroadcastGetData_InputMessage	The request WSDL message for the **BroadcastGetData** WSDL operation.
IPptViewingService_BroadcastGetData_OutputMessage	The response WSDL message for the **BroadcastGetData** WSDL operation.

3.1.4.2.1.1 IPptViewingService_BroadcastGetData_InputMessage

The request WSDL message for the **BroadcastGetData** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewingService/IP
ptViewingService/BroadcastGetData
```

The SOAP body contains the **BroadcastGetData** element.

3.1.4.2.1.2 IPptViewingService_BroadcastGetData_OutputMessage

The response WSDL message for the **BroadcastGetData** WSDL operation.

The SOAP body contains the **BroadcastGetDataResponse** element.

3.1.4.2.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
BroadcastGetData	The input data for the **BroadcastGetData** WSDL operation.
BroadcastGetDataResponse	The result data for the **BroadcastGetData** WSDL operation.

3.1.4.2.2.1 BroadcastGetData

The **BroadcastGetData** element specifies the input data for the **BroadcastGetData** WSDL operation.

```
<xs:element name="BroadcastGetData" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element
xmlns:q12="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interfa
ce.Data" minOccurs="0" name="user" nillable="true" type="q12:BroadcastUser"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

user: A **BroadcastUser** (section 3.1.4.2.3.1) element that is obtained by making a **BroadcastJoinSession** (section 3.1.4.3) web method call. This element MUST be present.

3.1.4.2.2.2 BroadcastGetDataResponse

The **BroadcastGetDataResponse** element specifies the result data for the **BroadcastGetData** WSDL operation.

```
<xs:element name="BroadcastGetDataResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
```

```
          <xs:element xmlns:tns2="http://schemas.datacontract.org/2004/07/p" minOccurs="0"
   name="BroadcastGetDataResult" nillable="true" type="tns2:ServiceResult"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
```

BroadcastGetDataResult: A **ServiceResult** (section [2.2.4.60](#)) that specifies the result of the operation. This element MUST be present. The **Result** child element MUST be a **BroadcastData** (section [2.2.4.15](#)) element if the **Error** child element is not present.

3.1.4.2.3 Complex Types

The following table summarizes the XML schema complex type definitions that are specific to this operation.

Complex type	Description
BroadcastUser	A complex type that specifies a user of a broadcast session.

3.1.4.2.3.1 BroadcastUser

Namespace:
http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interface.Data

A complex type that specifies a user of a broadcast session.

```
  <xs:complexType name="BroadcastUser" xmlns:xs="http://www.w3.org/2001/XMLSchema">
    <xs:sequence>
      <xs:element minOccurs="0" name="SessionId" nillable="true" type="xs:string"/>
      <xs:element minOccurs="0" name="UserToken" nillable="true" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
```

SessionId: An **xs:string** [XMLSCHEMA2] (section 3.2.1) element that specifies the identifier of the broadcast session on the protocol server. This element MUST be present.

UserToken: An **xs:string** [XMLSCHEMA2] (section 3.2.1) element that specifies the identifier of a user of the broadcast session on the protocol server. This element MUST be present.

3.1.4.2.4 Simple Types

None.

3.1.4.2.5 Attributes

None.

3.1.4.2.6 Groups

None.

3.1.4.2.7   Attribute Groups

None.

3.1.4.3   BroadcastJoinSession

The **BroadcastJoinSession** operation SHOULD<46> be used to join an attendee client to a slide show broadcast session.

The following is the WSDL port type specification of the **BroadcastJoinSession** WSDL operation.

```
<wsdl:operation name="BroadcastJoinSession" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/BroadcastJoinSession"
message="tns4:IPptViewingService_BroadcastJoinSession_InputMessage"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
  <wsdl:output
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/BroadcastJoinSessionResponse"
message="tns4:IPptViewingService_BroadcastJoinSession_OutputMessage"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
</wsdl:operation>
```

The protocol client sends an **IPptViewingService_BroadcastJoinSession_InputMessage** request message, and the protocol server MUST respond with an **IPptViewingService_BroadcastJoinSession_OutputMessage** response message.

3.1.4.3.1   Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
IPptViewingService_BroadcastJoinSession_InputMessage	The request WSDL message for the **BroadcastJoinSession** WSDL operation.
IPptViewingService_BroadcastJoinSession_OutputMessage	The response WSDL message for the **BroadcastJoinSession** WSDL operation.

3.1.4.3.1.1   IPptViewingService_BroadcastJoinSession_InputMessage

The request WSDL message for the **BroadcastJoinSession** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewingService/IP
ptViewingService/BroadcastJoinSession
```

The SOAP body contains the **BroadcastJoinSession** element.

3.1.4.3.1.2 IPptViewingService_BroadcastJoinSession_OutputMessage

The response WSDL message for the **BroadcastJoinSession** WSDL operation.

The SOAP body contains the **BroadcastJoinSessionResponse** element.

3.1.4.3.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
BroadcastJoinSession	The input data for the **BroadcastJoinSession** WSDL operation.
BroadcastJoinSessionResponse	The result data for the **BroadcastJoinSession** WSDL operation.

3.1.4.3.2.1 BroadcastJoinSession

The **BroadcastJoinSession** element specifies the input data for the **BroadcastJoinSession** WSDL operation.

```
<xs:element name="BroadcastJoinSession" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" name="sessionId" nillable="true" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

sessionId: An **xs:string** [XMLSCHEMA2] (section 3.2.1) element that specifies the broadcast session to join. This element MUST be present.

3.1.4.3.2.2 BroadcastJoinSessionResponse

The **BroadcastJoinSessionResponse** element specifies the result data for the **BroadcastJoinSession** WSDL operation.

```
<xs:element name="BroadcastJoinSessionResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element xmlns:tns2="http://schemas.datacontract.org/2004/07/p" minOccurs="0"
name="BroadcastJoinSessionResult" nillable="true" type="tns2:ServiceResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

BroadcastJoinSessionResult: A **ServiceResult** (section 2.2.4.60) that specifies the result of the operation. This element MUST be present. The **Result** child element MUST be a **BroadcastUser** (section 3.1.4.2.3.1) if the **Error** child element is not present.

3.1.4.3.3 Complex Types

None.

3.1.4.3.4 Simple Types

None.

3.1.4.3.5 Attributes

None.

3.1.4.3.6 Groups

None.

3.1.4.3.7 Attribute Groups

None.

3.1.4.4 BroadcastUnjoinSession

The **BroadcastUnjoinSession** operation SHOULD<47> be used to unjoin an attendee client from a slide show broadcast session.

The following is the WSDL port type specification of the **BroadcastUnjoinSession** WSDL operation.

```
<wsdl:operation name="BroadcastUnjoinSession" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/BroadcastUnjoinSession"
message="tns4:IPptViewingService_BroadcastUnjoinSession_InputMessage"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
  <wsdl:output
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/BroadcastUnjoinSessionResponse"
message="tns4:IPptViewingService_BroadcastUnjoinSession_OutputMessage"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
</wsdl:operation>
```

The protocol client sends an **IPptViewingService_BroadcastUnjoinSession_InputMessage** request message, and the protocol server MUST respond with an **IPptViewingService_BroadcastUnjoinSession_OutputMessage** response message.

3.1.4.4.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
IPptViewingService_BroadcastUnjoinSession_InputMessage	The request WSDL message for the **BroadcastUnjoinSession** WSDL operation.
IPptViewingService_BroadcastUnjoinSession_OutputMessage	The response WSDL message for the **BroadcastUnjoinSession** WSDL operation.

Release: November 18, 2013

3.1.4.4.1.1 IPptViewingService_BroadcastUnjoinSession_InputMessage

The request WSDL message for the **BroadcastUnjoinSession** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewingService/IP
ptViewingService/BroadcastUnjoinSession
```

The SOAP body contains the **BroadcastUnjoinSession** element.

3.1.4.4.1.2 IPptViewingService_BroadcastUnjoinSession_OutputMessage

The response WSDL message for the **BroadcastUnjoinSession** WSDL operation.

The SOAP body contains the **BroadcastUnjoinSessionResponse** element.

3.1.4.4.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
BroadcastUnjoinSession	The input data for the **BroadcastUnjoinSession** WSDL operation.
BroadcastUnjoinSessionResponse	The result data for the **BroadcastUnjoinSession** WSDL operation.

3.1.4.4.2.1 BroadcastUnjoinSession

The **BroadcastUnjoinSession** element specifies the input data for the **BroadcastUnjoinSession** WSDL operation.

```
<xs:element name="BroadcastUnjoinSession" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" name="sessionId" nillable="true" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

sessionId: An **xs:string** [XMLSCHEMA2] (section 3.2.1) element that specifies the broadcast session to unjoin from. This element MUST be present.

3.1.4.4.2.2 BroadcastUnjoinSessionResponse

The **BroadcastUnjoinSessionResponse** element specifies the result data for the **BroadcastUnjoinSession** WSDL operation.

```
<xs:element name="BroadcastUnjoinSessionResponse"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
```

```
        <xs:sequence>
          <xs:element xmlns:tns2="http://schemas.datacontract.org/2004/07/p" minOccurs="0"
  name="BroadcastUnjoinSessionResult" nillable="true" type="tns2:ServiceResult"/>
        </xs:sequence>
      </xs:complexType>
</xs:element>
```

BroadcastUnjoinSessionResult: A **ServiceResult** (section 2.2.4.60) that specifies the result of the operation. This element MUST be present. If the **Result** child element is present, it MUST be ignored by the protocol client. The protocol client MAY retry the request or display the error to the user if the **Error** child element is present.

3.1.4.4.3   Complex Types

None.

3.1.4.4.4   Simple Types

None.

3.1.4.4.5   Attributes

None.

3.1.4.4.6   Groups

None.

3.1.4.4.7   Attribute Groups

None.

3.1.4.5   GetNotesHtmlServiceResult

The **GetNotesHtmlServiceResult** protocol method returns the presentation notes content of a specified presentation.

The following is the WSDL port type specification of the **GetNotesHtmlServiceResult** WSDL operation.

```
<wsdl:operation name="GetNotesHtmlServiceResult"
xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/GetNotesHtmlServiceResult"
message="tns4:IPptViewingService_GetNotesHtmlServiceResult_InputMessage"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
  <wsdl:output
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/GetNotesHtmlServiceResultResponse"
message="tns4:IPptViewingService_GetNotesHtmlServiceResult_OutputMessage"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
</wsdl:operation>
```

The protocol client sends an **IPptViewingService_GetNotesHtmlServiceResult_InputMessage** request message and the protocol server MUST respond with an **IPptViewingService_GetNotesHtmlServiceResult_OutputMessage** response message.

3.1.4.5.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
IPptViewingService_GetNotesHtmlServiceResult_InputMessage	The request WSDL message for the **GetNotesHtmlServiceResult** WSDL operation.
IPptViewingService_GetNotesHtmlServiceResult_OutputMessage	The response WSDL message for the **GetNotesHtmlServiceResult** WSDL operation.

3.1.4.5.1.1 IPptViewingService_GetNotesHtmlServiceResult_InputMessage

The request WSDL message for the **GetNotesHtmlServiceResult** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewingService/IP
ptViewingService/GetNotesHtmlServiceResult
```

The SOAP body contains the **GetNotesHtmlServiceResult** element.

3.1.4.5.1.2 IPptViewingService_GetNotesHtmlServiceResult_OutputMessage

The response WSDL message for the **GetNotesHtmlServiceResult** WSDL operation.

The SOAP body contains the **GetNotesHtmlServiceResultResponse** element.

3.1.4.5.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
GetNotesHtmlServiceResult	The input data for the **GetNotesHtmlServiceResult** WSDL operation.
GetNotesHtmlServiceResultResponse	The result data for the **GetNotesHtmlServiceResult** WSDL operation.

3.1.4.5.2.1 GetNotesHtmlServiceResult

The **GetNotesHtmlServiceResult** element specifies the input data for the **GetNotesHtmlServiceResult** WSDL operation.

```
<xs:element name="GetNotesHtmlServiceResult" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" name="notesResourceId" nillable="true" type="xs:string"/>
      <xs:element minOccurs="0" name="presentationId" nillable="true" type="xs:string"/>
      <xs:element
xmlns:tns="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interfa
ce.Shared" minOccurs="0" name="powerpointView" type="tns:PowerpointView"/>
      <xs:element
xmlns:tns="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interfa
ce.Shared" minOccurs="0" name="format" type="tns:PowerPointFormat"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

notesResourceId: An **xs:string** [XMLSCHEMA2] (section 3.2.1) element that specifies the identifier of the presentation notes to be retrieved. This element MUST be present and MUST be a valid identifier contained within the **notesId** child element of a **CT_Slide** (section 2.2.4.50) retrieved with the same **presentationId** identifier.

presentationId: An **xs:string** ([XMLSCHEMA2] section 3.2.1) element that specifies the identifier of the presentation containing the presentation notes to be retrieved, as specified in [MS-PWEDPS] (section 3.1.4.12. This element MUST be present.

powerpointView: A **PowerpointView** (section 2.2.5.5) element that specifies the view for which notes are being requested. The value MUST be **OutlineView** or **ReadingView**.

format: A **PowerPointFormat** (section 2.2.5.13) element that specifies the format for which notes are being requested.

3.1.4.5.2.2 GetNotesHtmlServiceResultResponse

The **GetNotesHtmlServiceResultResponse** element specifies the result data for the **GetNotesHtmlServiceResult** WSDL operation.

```
<xs:element name="GetNotesHtmlServiceResultResponse"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element xmlns:tns2="http://schemas.datacontract.org/2004/07/p" minOccurs="0"
name="GetNotesHtmlServiceResultResult" nillable="true" type="tns2:ServiceResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

GetNotesHtmlServiceResultResult: A **ServiceResult** (section 2.2.4.60) that specifies the result of the operation. The **Result** child element MUST be an **xs:string** [XMLSCHEMA2] (section 3.2.1) that contains a valid [HTML] fragment.

3.1.4.5.3 Complex Types

None.

3.1.4.5.4 Simple Types

None.

3.1.4.5.5 Attributes

None.

3.1.4.5.6 Groups

None.

3.1.4.5.7 Attribute Groups

None.

3.1.4.6 GetPresentation

The **GetPresentation** protocol method returns information about the content of a specified presentation.

The following is the WSDL port type specification of the **GetPresentation** WSDL operation.

```
<wsdl:operation name="GetPresentation" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/GetPresentation"
message="tns4:IPptViewingService_GetPresentation_InputMessage"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
  <wsdl:output
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/GetPresentationResponse"
message="tns4:IPptViewingService_GetPresentation_OutputMessage"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
</wsdl:operation>
```

The protocol client sends an **IPptViewingService_GetPresentation_InputMessage** request message and the protocol server MUST respond with an **IPptViewingService_GetPresentation_OutputMessage** response message.

3.1.4.6.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
IPptViewingService_GetPresentation_InputMessage	The request WSDL message for the **GetPresentation** WSDL operation.
IPptViewingService_GetPresentation_OutputMessage	The response WSDL message for the **GetPresentation** WSDL operation.

3.1.4.6.1.1 IPptViewingService_GetPresentation_InputMessage

The request WSDL message for the **GetPresentation** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewingService/IP
ptViewingService/GetPresentation
```

The SOAP body contains the **GetPresentation** element.

3.1.4.6.1.2   IPptViewingService_GetPresentation_OutputMessage

The response WSDL message for the **GetPresentation** WSDL operation.

The SOAP body contains the **GetPresentationResponse** element.

3.1.4.6.2   Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
GetPresentation	The input data for the **GetPresentation** WSDL operation.
GetPresentationResponse	The result data for the **GetPresentation** WSDL operation.

3.1.4.6.2.1   GetPresentation

The **GetPresentation** element specifies the input data for the **GetPresentation** WSDL operation.

```
<xs:element name="GetPresentation" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" name="presentationId" nillable="true" type="xs:string"/>
      <xs:element
xmlns:tns="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interfa
ce.Shared" minOccurs="0" name="powerpointView" type="tns:PowerpointView"/>
      <xs:element
xmlns:tns="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interfa
ce.Shared" minOccurs="0" name="format" type="tns:PowerPointFormat"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

presentationId: An **xs:string** [XMLSCHEMA2] (section 3.2.1) element that specifies the identifier of the presentation to retrieve information about, as specified in [MS-PWEDPS] (section 3.1.4.10. This element MUST be present.

powerpointView: A **PowerpointView** (section 2.2.5.5) element that specifies the view. This element MUST be present.

format: A **PowerPointFormat** (section 2.2.5.13) element that specifies the format being requested.

Release: November 18, 2013

3.1.4.6.2.2 GetPresentationResponse

The **GetPresentationResponse** element specifies the result data for the **GetPresentation** WSDL operation.

```
<xs:element name="GetPresentationResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element xmlns:tns2="http://schemas.datacontract.org/2004/07/p" minOccurs="0"
name="GetPresentationResult" nillable="true" type="tns2:ServiceResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

GetPresentationResult: A **ServiceResult** (section 2.2.4.60) element that specifies the result of the operation. If the **Result** child element of **GetPresentationResult** is present, then the **Result** child element MUST be a **CT_PresentationShowInfo** (section 2.2.4.44) element.

3.1.4.6.3 Complex Types

None.

3.1.4.6.4 Simple Types

None.

3.1.4.6.5 Attributes

None.

3.1.4.6.6 Groups

None.

3.1.4.6.7 Attribute Groups

None.

3.1.4.7 GetPresentationInfoXml

Reserved. MUST not be called.

The following is the WSDL port type specification of the **GetPresentationInfoXml** WSDL operation.

```
<wsdl:operation name="GetPresentationInfoXml" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/GetPresentationInfoXml"
message="tns4:IPptViewingService_GetPresentationInfoXml_InputMessage"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
  <wsdl:output
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/GetPresentationInfoXmlResponse"
message="tns4:IPptViewingService_GetPresentationInfoXml_OutputMessage"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
```

```
</wsdl:operation>
```

Reserved. MUST not be called.

3.1.4.7.1   Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
IPptViewingService_GetPresentationInfoXml_InputMessage	The request WSDL message for the **GetPresentationInfoXml** WSDL operation.
IPptViewingService_GetPresentationInfoXml_OutputMessage	The response WSDL message for the **GetPresentationInfoXml** WSDL operation.

3.1.4.7.1.1   IPptViewingService_GetPresentationInfoXml_InputMessage

The request WSDL message for the **GetPresentationInfoXml** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewingService/IP
ptViewingService/GetPresentationInfoXml
```

The SOAP body contains the **GetPresentationInfoXml** element.

3.1.4.7.1.2   IPptViewingService_GetPresentationInfoXml_OutputMessage

The response WSDL message for the **GetPresentationInfoXml** WSDL operation.

The SOAP body contains the **GetPresentationInfoXmlResponse** element.

3.1.4.7.2   Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
GetPresentationInfoXml	The input data for the **GetPresentationInfoXml** WSDL operation.
GetPresentationInfoXmlResponse	The result data for the **GetPresentationInfoXml** WSDL operation.

3.1.4.7.2.1   GetPresentationInfoXml

The **GetPresentationInfoXml** element specifies the input data for the **GetPresentationInfoXml** WSDL operation.

```
<xs:element name="GetPresentationInfoXml" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" name="presentationId" nillable="true" type="xs:string"/>
      <xs:element minOccurs="0" name="powerpointView" nillable="true" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

presentationId: Reserved. MUST be ignored.

powerpointView: Reserved. MUST be ignored.

3.1.4.7.2.2 GetPresentationInfoXmlResponse

The **GetPresentationInfoXmlResponse** element specifies the result data for the
GetPresentationInfoXml WSDL operation.

```
<xs:element name="GetPresentationInfoXmlResponse"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element xmlns:tns2="http://schemas.datacontract.org/2004/07/p" minOccurs="0"
name="GetPresentationInfoXmlResult" nillable="true" type="tns2:ServiceResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

GetPresentationInfoXmlResult: Reserved. MUST be ignored.

3.1.4.7.3 Complex Types

None.

3.1.4.7.4 Simple Types

None.

3.1.4.7.5 Attributes

None.

3.1.4.7.6 Groups

None.

3.1.4.7.7 Attribute Groups

None.

3.1.4.8 GetSlide

The **GetSlide** protocol method returns information about the content of a specified presentation
slide contained within a specified presentation.

The following is the WSDL port type specification of the **GetSlide** WSDL operation.

```
<wsdl:operation name="GetSlide" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/GetSlide"
message="tns4:IPptViewingService_GetSlide_InputMessage"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
  <wsdl:output
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/GetSlideResponse"
message="tns4:IPptViewingService_GetSlide_OutputMessage"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
</wsdl:operation>
```

The protocol client sends an **IPptViewingService_GetSlide_InputMessage** request message and the protocol server MUST respond with an **IPptViewingService_GetSlide_OutputMessage** response message as follows:

3.1.4.8.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
IPptViewingService_GetSlide_InputMessage	The request WSDL message for the **GetSlide** WSDL operation.
IPptViewingService_GetSlide_OutputMessage	The response WSDL message for the **GetSlide** WSDL operation.

3.1.4.8.1.1 IPptViewingService_GetSlide_InputMessage

The request WSDL message for the **GetSlide** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewingService/IP
ptViewingService/GetSlide
```

The SOAP body contains the **GetSlide** element.

3.1.4.8.1.2 IPptViewingService_GetSlide_OutputMessage

The response WSDL message for the **GetSlide** WSDL operation.

The SOAP body contains the **GetSlideResponse** element.

3.1.4.8.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
GetSlide	The input data for the **GetSlide** WSDL operation.
GetSlideResponse	The result data for the **GetSlide** WSDL operation.

3.1.4.8.2.1   GetSlide

The **GetSlide** element specifies the input data for the **GetSlide** WSDL operation.

```
<xs:element name="GetSlide" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" name="slideInfoId" nillable="true" type="xs:string"/>
      <xs:element minOccurs="0" name="presentationId" nillable="true" type="xs:string"/>
      <xs:element
xmlns:tns="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interfa
ce.Shared" minOccurs="0" name="powerpointView" type="tns:PowerpointView"/>
      <xs:element
xmlns:tns="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interfa
ce.Shared" minOccurs="0" name="format" type="tns:PowerPointFormat"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

slideInfoId: An **xs:string** [XMLSCHEMA2] (section 3.2.1) element that specifies the identifier of the presentation slide to retrieve information about. This element MUST contain a string as specified in the **sldInfo** child element of the CT_SlideEntry element.

presentationId: An **xs:string** [XMLSCHEMA2] (section 3.2.1) element that specifies the identifier of the presentation to retrieve information about, as specified in [MS-PWEDPS] (section 3.1.4.10). This element MUST be present.

powerpointView: A **PowerpointView** (section 2.2.5.5) element that specifies the view. This element MUST be present.

format: A **PowerPointFormat** (section 2.2.5.13) element that specifies the format being requested.

3.1.4.8.2.2   GetSlideResponse

The **GetSlideResponse** element specifies the result data for the **GetSlide** WSDL operation.

```
<xs:element name="GetSlideResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element xmlns:tns2="http://schemas.datacontract.org/2004/07/p" minOccurs="0"
name="GetSlideResult" nillable="true" type="tns2:ServiceResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

GetSlideResult: A **ServiceResult** (section 2.2.4.60) that specifies the result of the operation. If the **Result** child element of **GetSlideResult** is present, then the **Result** child element MUST be a **CT_SlideShowInfo** (section 2.2.4.53).

3.1.4.8.3 Complex Types

None.

3.1.4.8.4 Simple Types

None.

3.1.4.8.5 Attributes

None.

3.1.4.8.6 Groups

None.

3.1.4.8.7 Attribute Groups

None.

3.1.4.9 GetSlideInfo

Reserved. MUST not be called.

The following is the WSDL port type specification of the **GetSlideInfo** WSDL operation.

```
<wsdl:operation name="GetSlideInfo" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/GetSlideInfo"
message="tns4:IPptViewingService_GetSlideInfo_InputMessage"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
  <wsdl:output
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/GetSlideInfoResponse"
message="tns4:IPptViewingService_GetSlideInfo_OutputMessage"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
</wsdl:operation>
```

Reserved. MUST not be called.

3.1.4.9.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
IPptViewingService_GetSlideInfo_InputMessage	The request WSDL message for the **GetSlideInfo** WSDL operation.
IPptViewingService_GetSlideInfo_OutputMessage	The response WSDL message for the **GetSlideInfo** WSDL operation.

3.1.4.9.1.1   IPptViewingService_GetSlideInfo_InputMessage

The request WSDL message for the **GetSlideInfo** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewingService/IP
ptViewingService/GetSlideInfo
```

The SOAP body contains the **GetSlideInfo** element.

3.1.4.9.1.2   IPptViewingService_GetSlideInfo_OutputMessage

The response WSDL message for the **GetSlideInfo** WSDL operation.

The SOAP body contains the **GetSlideInfoResponse** element.

3.1.4.9.2   Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
GetSlideInfo	The input data for the **GetSlideInfo** WSDL operation.
GetSlideInfoResponse	The result data for the **GetSlideInfo** WSDL operation.

3.1.4.9.2.1   GetSlideInfo

The **GetSlideInfo** element specifies the input data for the **GetSlideInfo** WSDL operation.

```
<xs:element name="GetSlideInfo" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" name="slideInfoId" nillable="true" type="xs:string"/>
      <xs:element minOccurs="0" name="resourceInfoListId" nillable="true" type="xs:string"/>
      <xs:element minOccurs="0" name="presentationId" nillable="true" type="xs:string"/>
      <xs:element minOccurs="0" name="powerpointView" nillable="true" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

slideInfoId: Reserved. MUST be ignored.

resourceInfoListId: Reserved. MUST be ignored.

presentationId: Reserved. MUST be ignored.

powerpointView: Reserved. MUST be ignored.

3.1.4.9.2.2 GetSlideInfoResponse

The **GetSlideInfoResponse** element specifies the result data for the **GetSlideInfo** WSDL operation.

```
<xs:element name="GetSlideInfoResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element xmlns:tns2="http://schemas.datacontract.org/2004/07/p" minOccurs="0"
name="GetSlideInfoResult" nillable="true" type="tns2:ServiceResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

GetSlideInfoResult: Reserved. MUST be ignored.

3.1.4.9.3 Complex Types

None.

3.1.4.9.4 Simple Types

None.

3.1.4.9.5 Attributes

None.

3.1.4.9.6 Groups

None.

3.1.4.9.7 Attribute Groups

None.

3.1.4.10 LogULS

Reserved. MUST not be called.

The following is the WSDL port type specification of the **LogULS** WSDL operation.

```
<wsdl:operation name="LogULS" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/LogULS" message="tns4:IPptViewingService_LogULS_InputMessage"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
  <wsdl:output
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/LogULSResponse"
message="tns4:IPptViewingService_LogULS_OutputMessage"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
</wsdl:operation>
```

Reserved. MUST not be called.

3.1.4.10.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
IPptViewingService_LogULS_InputMessage	The request WSDL message for the **LogULS** WSDL operation.
IPptViewingService_LogULS_OutputMessage	The response WSDL message for the **LogULS** WSDL operation.

3.1.4.10.1.1 IPptViewingService_LogULS_InputMessage

The request WSDL message for the **LogULS** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewingService/IP
ptViewingService/LogULS
```

The SOAP body contains the **LogULS** element.

3.1.4.10.1.2 IPptViewingService_LogULS_OutputMessage

The response WSDL message for the **LogULS** WSDL operation.

The SOAP body contains the **LogULSResponse** element.

3.1.4.10.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
LogULS	The input data for the **LogULS** WSDL operation.
LogULSResponse	The result data for the **LogULS** WSDL operation.

3.1.4.10.2.1 LogULS

The **LogULS** element specifies the input data for the **LogULS** WSDL operation.

```
<xs:element name="LogULS" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" name="tagID" type="xs:unsignedInt"/>
      <xs:element minOccurs="0" name="level" type="xs:unsignedInt"/>
      <xs:element minOccurs="0" name="message" nillable="true" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

tagID: Reserved. MUST be ignored.

level: Reserved. MUST be ignored.

message: Reserved. MUST be ignored.

3.1.4.10.2.2 LogULSResponse

The **LogULSResponse** element specifies the result data for the **LogULS** WSDL operation.

```
<xs:element name="LogULSResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element xmlns:tns2="http://schemas.datacontract.org/2004/07/p" minOccurs="0"
name="LogULSResult" nillable="true" type="tns2:ServiceResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

LogULSResult: Reserved. MUST be ignored.

3.1.4.10.3 Complex Types

None.

3.1.4.10.4 Simple Types

None.

3.1.4.10.5 Attributes

None.

3.1.4.10.6 Groups

None.

3.1.4.10.7 Attribute Groups

None.

3.1.4.11 Print

A **Print** operation SHOULD<48> be used to print a presentation.

The following is the WSDL port type specification of the **Print** WSDL operation.

```
<wsdl:operation name="Print" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/Print" message="tns4:IPptViewingService_Print_InputMessage"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
  <wsdl:output
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/PrintResponse"
```

```
message="tns4:IPptViewingService_Print_OutputMessage"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
</wsdl:operation>
```

The protocol client sends an **IPptViewingService_Print_InputMessage** request message, and the protocol server responds with an **IPptViewingService_Print_OutputMessage** response message.

3.1.4.11.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
IPptViewingService_Print_InputMessage	The request WSDL message for the **Print** WSDL operation.
IPptViewingService_Print_OutputMessage	The response WSDL message for the **Print** WSDL operation.

3.1.4.11.1.1 IPptViewingService_Print_InputMessage

The request WSDL message for the **Print** WSDL operation.

The SOAP action value is:

```
http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewingService/IP
ptViewingService/Print
```

The SOAP body contains the **Print** element.

3.1.4.11.1.2 IPptViewingService_Print_OutputMessage

The response WSDL message for the **Print** WSDL operation.

The SOAP body contains the **PrintResponse** element.

3.1.4.11.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
Print	The input data for the **Print** WSDL operation.
PrintResponse	The result data for the **Print** WSDL operation.

3.1.4.11.2.1 Print

The **Print** element specifies the input data for the **Print** WSDL operation.

```
<xs:element name="Print" xmlns:xs="http://www.w3.org/2001/XMLSchema">
```

```
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" name="presentationId" nillable="true" type="xs:string"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
```

presentationId: An **xs:string** [XMLSCHEMA2] (section 3.2.1) element that specifies the identifier of the presentation to retrieve information about, as specified in [MS-PWEDPS] (section 3.1.4.10). This element MUST be present.

3.1.4.11.2.2 PrintResponse

The **PrintResponse** element specifies the result data for the **Print** WSDL operation.

```
  <xs:element name="PrintResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
    <xs:complexType>
      <xs:sequence>
        <xs:element xmlns:tns2="http://schemas.datacontract.org/2004/07/p" minOccurs="0"
  name="PrintResult" nillable="true" type="tns2:ServiceResult"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
```

PrintResult: A **ServiceResult** (section 2.2.4.60) that specifies the result of the operation.

3.1.4.11.3 Complex Types

None.

3.1.4.11.4 Simple Types

None.

3.1.4.11.5 Attributes

None.

3.1.4.11.6 Groups

None.

3.1.4.11.7 Attribute Groups

None.

3.1.5 Timer Events

None.

3.1.6 Other Local Events

None.

4 Protocol Examples

The following example contains a sample interaction between the protocol client and the protocol server.

4.1 Interaction Between Protocol Client and Protocol Server

The protocol client sends a request to the PowerPoint Web Editor Data Protocol [MS-PWEDPS] server for the identifier of a presentation. The following **IPptService_GetPresentationId_InputMessage** message is sent to the protocol server:

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
   <s:Body>
      <GetPresentationId
xmlns="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointEditServer
InternalService/">
         <rawDocId>/Shared Documents/MyFile.pptx</rawDocId>
      </GetPresentationId>
   </s:Body>
</s:Envelope>
```

The protocol server responds with the appropriate identifier for the presentation. The following **IPptService_GetPresentationId_OutputMessage** message is sent to the protocol client:

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
   <s:Body>
      <GetPresentationIdResponse
xmlns="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointEditServer
InternalService/">

<GetPresentationIdResult>d=F39bc64b0ef8e43c493bc0191f7fb5371m371f1619a41e40dd8a9a007e0723241f
m18af359c163142ad81aa5449d829efd1m</GetPresentationIdResult>
      </GetPresentationIdResponse>
   </s:Body>
</s:Envelope>
```

Next, the protocol client sends a request to the protocol server for information about the presentation. The following **IPptViewingService_GetPresentation_InputMessage** message is sent to the protocol server:

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
   <s:Body>
      <GetPresentation
xmlns="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewingSer
vice/"><presentationId>d=F39bc64b0ef8e43c493bc0191f7fb5371m371f1619a41e40dd8a9a007e0723241fm1
8af359c163142ad81aa5449d829efd1m</presentationId>
         <powerpointView>ReadingView</powerpointView>
      </GetPresentation>
   </s:Body>
</s:Envelope>
```

The protocol server responds with the appropriate information about the presentation. The following **IPptViewingService_GetPresentation_OutputMessage** message is sent to the protocol client:

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Body>
    <GetPresentationResponse
xmlns="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewingSer
vice/">
      <GetPresentationResult xmlns:a="http://schemas.datacontract.org/2004/07/p"
xmlns:i="http://www.w3.org/2001/XMLSchema-instance">
        <a:Error i:nil="true"/>
        <a:Result i:type="b:CT_PresentationShowInfo"
xmlns:b="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interface
.Shared">
          <b:h>600</b:h>
          <b:hasCmt>false</b:hasCmt>
          <b:rtl>false</b:rtl>
          <b:schmVer>0</b:schmVer>
          <b:showPr>
            <b:Item i:type="b:CT_EmptyType"/>
          </b:showPr>
          <b:sldLst>
            <b:CT_SlideEntry>
              <b:id>256</b:id>
              <b:sldInfo>100.sldInfo.xml</b:sldInfo>
              <b:title>Edit #1 Edit #4</b:title>
            </b:CT_SlideEntry>
            <b:CT_SlideEntry>
              <b:id>257</b:id>
              <b:sldInfo>101.sldInfo.xml</b:sldInfo>
              <b:title>Edit #2 </b:title>
            </b:CT_SlideEntry>
          </b:sldLst>
          <b:w>800</b:w>
        </a:Result>
      </GetPresentationResult>
    </GetPresentationResponse>
  </s:Body>
</s:Envelope>
```

Next, the protocol client sends a request to the protocol server for information about a presentation slide. The **slideInfoId** is specified by the **sldInfo** child element of the **CT_SlideEntry** (section 2.2.4.51) element in the response of the previous request. The following **IPptViewingService_GetSlide_InputMessage** message is sent to the protocol server:

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Body>
    <GetSlide
xmlns="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewingSer
vice/">
      <slideInfoId>100.sldInfo.xml</slideInfoId>

<presentationId>d=F39bc64b0ef8e43c493bc0191f7fb5371m371f1619a41e40dd8a9a007e0723241fm18af359c
163142ad81aa5449d829efd1m</presentationId>
      <powerpointView>ReadingView</powerpointView>
    </GetSlide>
  </s:Body>
</s:Envelope>
```

The protocol server responds with the appropriate information about the presentation slide. The following **IPptViewingService_GetSlide_OutputMessage** message is sent to the protocol client:

```xml
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Body>
    <GetSlideResponse
xmlns="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewingSer
vice/">
      <GetSlideResult xmlns:a="http://schemas.datacontract.org/2004/07/p"
xmlns:i="http://www.w3.org/2001/XMLSchema-instance">
        <a:Error i:nil="true"/>
        <a:Result i:type="b:CT_SlideShowInfo"
xmlns:b="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interface
.Shared">
          <b:errLst i:nil="true"/>
          <b:errMsgLst xmlns:c="http://schemas.microsoft.com/2003/10/Serialization/Arrays"/>
          <b:schmVer>0</b:schmVer>
          <b:sld>
            <b:animLst>
              <b:anim i:nil="true"/>
              <b:id>0</b:id>
            </b:animLst>
            <b:animSeqs i:nil="true"/>
            <b:bg>
              <b:Item i:type="b:CT_SolidFill">
                <b:clr>////</b:clr>
                <b:transp>0</b:transp>
              </b:Item>
            </b:bg>
            <b:bgReg i:nil="true"/>
            <b:hidden>false</b:hidden>
            <b:id>256</b:id>
            <b:layoutInfo i:nil="true"/>
            <b:notesId/>
            <b:resCat>
              <b:CT_ResourceEntry>
                <b:id>S0_1</b:id>

  <b:name>./imagehandler.ashx?PV=0&amp;Pid=d%3DF39bc64b0ef8e43c493bc0191f7fb5371m371f1619a41e40
dd8a9a007e0723241fm18af359c163142ad81aa5449d829efd1m&amp;Rid=S0%5F1%2Epng</b:name>
              </b:CT_ResourceEntry>
            </b:resCat>
            <b:spLst>
              <b:CT_Shape>
                <b:bgSp>false</b:bgSp>
                <b:children i:nil="true"/>
                <b:clckTgts i:nil="true"
xmlns:c="http://schemas.microsoft.com/2003/10/Serialization/Arrays"/>
                <b:id>3</b:id>
                <b:pos>
                  <b:x>60</b:x>
                  <b:y>186</b:y>
                </b:pos>
                <b:reg>
                  <b:h>129</b:h>
                  <b:imgID>S0_1</b:imgID>
                  <b:w>680</b:w>
                  <b:x>0</b:x>
                  <b:y>0</b:y>
                </b:reg>
```

```
            </b:CT_Shape>
          </b:spLst>
          <b:ssTimes i:nil="true"/>
          <b:title/>
          <b:trans i:nil="true"/>
        </b:sld>
      </a:Result>
    </GetSlideResult>
  </GetSlideResponse>
  </s:Body>
</s:Envelope>
```

4.1.1   Interaction Between Attendee Protocol Client and Protocol Server

The attendee protocol client begins by sending a request to the protocol server to join the slide show broadcast. The following **BroadcastJoinSessionSoapIn** message () is sent to the protocol server:

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
   <soap:Body>
      <BroadcastJoinSession
xmlns="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewingSer
vice/">
         <sessionId>601022d2-306a-43fb-8ffd-a4a739cba8c0</sessionId>
      </BroadcastJoinSession>
   </soap:Body>
</soap:Envelope>
```

The protocol server responds with a message to acknowledge the request and to provide host information and a session identifier to be used by the attendee protocol client for future requests. The following **BroadcastJoinSessionSoapOut** message is sent to the attendee protocol client:

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
   <soap:Body>
      <BroadcastJoinSessionResult>
         <Result xsi:type="BroadcastUser">
            <SessionId>601022d2-306a-43fb-8ffd-a4a739cba8c0</SessionId>
            <UserToken>f52b7833-6167-438f-b71d-ea99219c4da3</UserToken>
         </Result>
      </BroadcastJoinSessionResult>
   </soap:Body>
</soap:Envelope>
```

Next, the attendee protocol client requests information about the current state of the slide show broadcast from the protocol server. The following **BroadcastGetDataSoapIn** message is sent to the protocol server:

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
   <soap:Body>
      <BroadcastGetData
xmlns="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewingSer
vice">
```

```
            <User>
               <SessionId>601022d2-306a-43fb-8ffd-a4a739cba8c0</SessionId>
               <UserToken>f52b7833-6167-438f-b71d-ea99219c4da3</UserToken>
            </User>
         </BroadcastGetData>
      </soap:Body>
   </soap:Envelope>
```

The protocol server responds with information about the current state of the slide show broadcast. The following **BroadcastGetDataSoapOut** message is sent to the attendee protocol client:

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
   <soap:Body>
      <BroadcastGetDataResponse>
         <BroadcastGetDataResult>
            <Result xsi:type="BroadcastData">
               <SlideShowState>Normal</SlideShowState>
               <HostToken> /sites/broadcast/9d51d0b1f4774b6893cb728c0ba15a57/faf48352-f17f-
46ed-ad44-9adac3fd37bb.pptx</HostToken>
               <SlideId>256</SlideId>
               <AnimationStepDataList>
                  <BroadcastAnimationStepData>
                     <TimelineId>0_anim</TimelineId>
                     <Step>0</Step>
                  </BroadcastAnimationStepData>
               </AnimationStepDataList>
               <SequenceNumber>2</SequenceNumber>
            </Result>
         </BroadcastGetDataResult>
      </BroadcastGetDataResponse>
   </soap:Body>
</soap:Envelope>
```

The attendee protocol client continues to send **BroadcastGetDataSoapIn** messages to request the latest state of the slide show broadcast.

Finally, the attendee protocol client unjoins from the slide show broadcast by sending **BroadcastUnjoinSessionSoapIn** message to the protocol server:

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
   <soap:Body>
      <BroadcastUnjoinSession
xmlns="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewingSer
vice/">
         <sessionId>601022d2-306a-43fb-8ffd-a4a739cba8c0</sessionId>
      </BroadcastUnjoinSession>
   </soap:Body>
</soap:Envelope>
```

The protocol server responds by sending the **BroadcastUnjoinSessionSoapOut** message to the attendee protocol client:

```
      <soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
```

```
    <soap:Body>
        <BroadcastUnjoinSessionResponse
xmlns="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewingSer
vice/">
            <BroadcastUnjoinSessionResult xmlns:a="http://schemas.datacontract.org/2004/07/p"
xmlns:i="http://www.w3.org/2001/XMLSchema-instance">
                <a:Error i:nil="true"/><a:Result i:nil="true"/>
            </BroadcastUnjoinSessionResult>
        </BroadcastUnjoinSessionResponse>
    </soap:Body>
</soap:Envelope>
```

5   Security

5.1   Security Considerations for Implementers

A **GetNotesHtmlServiceResultResponse** (section 3.1.4.5.2.2) contains [HTML] fragments. HTML fragments are susceptible to **cross-site scripting** attacks. Implementers are advised to sanitize these HTML fragments when generating or processing a **GetNotesHtmlServiceResultResponse**.

There are no additional security considerations that are specific to this protocol. General security considerations pertaining to [RFC2822] apply.

5.2   Index of Security Parameters

None.

6   Appendix A: Full WSDL

For ease of implementation, the full WSDL is provided in this appendix.

```
<?xml version="1.0"?>
<wsdl:definitions
xmlns:tns4="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewi
ngService/" xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"
targetNamespace="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPoint
ViewingService/" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:types>
    <xs:schema
xmlns:tns5="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewi
ngService/Imports"
targetNamespace="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPoint
ViewingService/Imports">
      <xs:import
namespace="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interfa
ce.Shared"/>
      <xs:import
namespace="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Pipe.In
terface"/>
      <xs:import namespace="http://schemas.datacontract.org/2004/07/p"/>
      <xs:import namespace="http://schemas.microsoft.com/2003/10/Serialization/"/>
      <xs:import namespace="http://schemas.microsoft.com/2003/10/Serialization/Arrays"/>
      <xs:import
namespace="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewin
gService/"/>
    </xs:schema>
  </wsdl:types>
  <wsdl:portType name="IPptViewingService">
    <wsdl:operation name="GetPresentation">
      <wsdl:input
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/GetPresentation"
message="tns4:IPptViewingService_GetPresentation_InputMessage"/>
      <wsdl:output
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/GetPresentationResponse"
message="tns4:IPptViewingService_GetPresentation_OutputMessage"/>
    </wsdl:operation>
    <wsdl:operation name="GetSlide">
      <wsdl:input
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/GetSlide"
message="tns4:IPptViewingService_GetSlide_InputMessage"/>
      <wsdl:output
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/GetSlideResponse"
message="tns4:IPptViewingService_GetSlide_OutputMessage"/>
    </wsdl:operation>
    <wsdl:operation name="GetNotesHtmlServiceResult">
      <wsdl:input
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/GetNotesHtmlServiceResult"
message="tns4:IPptViewingService_GetNotesHtmlServiceResult_InputMessage"/>
      <wsdl:output
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/GetNotesHtmlServiceResultResponse"
message="tns4:IPptViewingService_GetNotesHtmlServiceResult_OutputMessage"/>
```

```
      </wsdl:operation>
      <wsdl:operation name="BinaryConvert">
        <wsdl:input
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/BinaryConvert"
message="tns4:IPptViewingService_BinaryConvert_InputMessage"/>
        <wsdl:output
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/BinaryConvertResponse"
message="tns4:IPptViewingService_BinaryConvert_OutputMessage"/>
      </wsdl:operation>
      <wsdl:operation name="Print">
        <wsdl:input
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/Print" message="tns4:IPptViewingService_Print_InputMessage"/>
        <wsdl:output
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/PrintResponse"
message="tns4:IPptViewingService_Print_OutputMessage"/>
      </wsdl:operation>
      <wsdl:operation name="LogULS">
        <wsdl:input
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/LogULS" message="tns4:IPptViewingService_LogULS_InputMessage"/>
        <wsdl:output
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/LogULSResponse"
message="tns4:IPptViewingService_LogULS_OutputMessage"/>
      </wsdl:operation>
      <wsdl:operation name="GetPresentationInfoXml">
        <wsdl:input
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/GetPresentationInfoXml"
message="tns4:IPptViewingService_GetPresentationInfoXml_InputMessage"/>
        <wsdl:output
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/GetPresentationInfoXmlResponse"
message="tns4:IPptViewingService_GetPresentationInfoXml_OutputMessage"/>
      </wsdl:operation>
      <wsdl:operation name="GetSlideInfo">
        <wsdl:input
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/GetSlideInfo"
message="tns4:IPptViewingService_GetSlideInfo_InputMessage"/>
        <wsdl:output
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/GetSlideInfoResponse"
message="tns4:IPptViewingService_GetSlideInfo_OutputMessage"/>
      </wsdl:operation>
      <wsdl:operation name="BroadcastJoinSession">
        <wsdl:input
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/BroadcastJoinSession"
message="tns4:IPptViewingService_BroadcastJoinSession_InputMessage"/>
        <wsdl:output
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/BroadcastJoinSessionResponse"
message="tns4:IPptViewingService_BroadcastJoinSession_OutputMessage"/>
      </wsdl:operation>
      <wsdl:operation name="BroadcastUnjoinSession">
        <wsdl:input
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
```

```
ingService/IPptViewingService/BroadcastUnjoinSession"
message="tns4:IPptViewingService_BroadcastUnjoinSession_InputMessage"/>
        <wsdl:output
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/BroadcastUnjoinSessionResponse"
message="tns4:IPptViewingService_BroadcastUnjoinSession_OutputMessage"/>
      </wsdl:operation>
      <wsdl:operation name="BroadcastGetData">
        <wsdl:input
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/BroadcastGetData"
message="tns4:IPptViewingService_BroadcastGetData_InputMessage"/>
        <wsdl:output
wsaw:Action="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointView
ingService/IPptViewingService/BroadcastGetDataResponse"
message="tns4:IPptViewingService_BroadcastGetData_OutputMessage"/>
      </wsdl:operation>
  </wsdl:portType>
  <wsdl:binding name="DefaultBinding_IPptViewingService" type="tns4:IPptViewingService">
    <soap:binding transport="http://schemas.xmlsoap.org/soap/http"/>
    <wsdl:operation name="GetPresentation">
      <soap:operation
soapAction="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewi
ngService/IPptViewingService/GetPresentation" style="document"/>
      <wsdl:input>
        <soap:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="GetSlide">
      <soap:operation
soapAction="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewi
ngService/IPptViewingService/GetSlide" style="document"/>
      <wsdl:input>
        <soap:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="GetNotesHtmlServiceResult">
      <soap:operation
soapAction="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewi
ngService/IPptViewingService/GetNotesHtmlServiceResult" style="document"/>
      <wsdl:input>
        <soap:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="BinaryConvert">
      <soap:operation
soapAction="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewi
ngService/IPptViewingService/BinaryConvert" style="document"/>
      <wsdl:input>
        <soap:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
```

```
          <soap:body use="literal"/>
        </wsdl:output>
      </wsdl:operation>
      <wsdl:operation name="Print">
        <soap:operation
soapAction="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewi
ngService/IPptViewingService/Print" style="document"/>
        <wsdl:input>
          <soap:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
          <soap:body use="literal"/>
        </wsdl:output>
      </wsdl:operation>
      <wsdl:operation name="LogULS">
        <soap:operation
soapAction="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewi
ngService/IPptViewingService/LogULS" style="document"/>
        <wsdl:input>
          <soap:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
          <soap:body use="literal"/>
        </wsdl:output>
      </wsdl:operation>
      <wsdl:operation name="GetPresentationInfoXml">
        <soap:operation
soapAction="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewi
ngService/IPptViewingService/GetPresentationInfoXml" style="document"/>
        <wsdl:input>
          <soap:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
          <soap:body use="literal"/>
        </wsdl:output>
      </wsdl:operation>
      <wsdl:operation name="GetSlideInfo">
        <soap:operation
soapAction="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewi
ngService/IPptViewingService/GetSlideInfo" style="document"/>
        <wsdl:input>
          <soap:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
          <soap:body use="literal"/>
        </wsdl:output>
      </wsdl:operation>
      <wsdl:operation name="BroadcastJoinSession">
        <soap:operation
soapAction="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewi
ngService/IPptViewingService/BroadcastJoinSession" style="document"/>
        <wsdl:input>
          <soap:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
          <soap:body use="literal"/>
        </wsdl:output>
      </wsdl:operation>
      <wsdl:operation name="BroadcastUnjoinSession">
```

```
      <soap:operation
soapAction="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewi
ngService/IPptViewingService/BroadcastUnjoinSession" style="document"/>
      <wsdl:input>
        <soap:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="BroadcastGetData">
      <soap:operation
soapAction="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewi
ngService/IPptViewingService/BroadcastGetData" style="document"/>
      <wsdl:input>
        <soap:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
  </wsdl:binding>
  <wsdl:message name="IPptViewingService_BinaryConvert_InputMessage">
    <wsdl:part name="parameters" element="tns4:BinaryConvert"/>
  </wsdl:message>
  <wsdl:message name="IPptViewingService_BinaryConvert_OutputMessage">
    <wsdl:part name="parameters" element="tns4:BinaryConvertResponse"/>
  </wsdl:message>
  <wsdl:message name="IPptViewingService_BroadcastGetData_InputMessage">
    <wsdl:part name="parameters" element="tns4:BroadcastGetData"/>
  </wsdl:message>
  <wsdl:message name="IPptViewingService_BroadcastGetData_OutputMessage">
    <wsdl:part name="parameters" element="tns4:BroadcastGetDataResponse"/>
  </wsdl:message>
  <wsdl:message name="IPptViewingService_BroadcastJoinSession_InputMessage">
    <wsdl:part name="parameters" element="tns4:BroadcastJoinSession"/>
  </wsdl:message>
  <wsdl:message name="IPptViewingService_BroadcastJoinSession_OutputMessage">
    <wsdl:part name="parameters" element="tns4:BroadcastJoinSessionResponse"/>
  </wsdl:message>
  <wsdl:message name="IPptViewingService_BroadcastUnjoinSession_InputMessage">
    <wsdl:part name="parameters" element="tns4:BroadcastUnjoinSession"/>
  </wsdl:message>
  <wsdl:message name="IPptViewingService_BroadcastUnjoinSession_OutputMessage">
    <wsdl:part name="parameters" element="tns4:BroadcastUnjoinSessionResponse"/>
  </wsdl:message>
  <wsdl:message name="IPptViewingService_GetNotesHtmlServiceResult_InputMessage">
    <wsdl:part name="parameters" element="tns4:GetNotesHtmlServiceResult"/>
  </wsdl:message>
  <wsdl:message name="IPptViewingService_GetNotesHtmlServiceResult_OutputMessage">
    <wsdl:part name="parameters" element="tns4:GetNotesHtmlServiceResultResponse"/>
  </wsdl:message>
  <wsdl:message name="IPptViewingService_GetPresentation_InputMessage">
    <wsdl:part name="parameters" element="tns4:GetPresentation"/>
  </wsdl:message>
  <wsdl:message name="IPptViewingService_GetPresentation_OutputMessage">
    <wsdl:part name="parameters" element="tns4:GetPresentationResponse"/>
  </wsdl:message>
  <wsdl:message name="IPptViewingService_GetPresentationInfoXml_InputMessage">
```

```
          <wsdl:part name="parameters" element="tns4:GetPresentationInfoXml"/>
        </wsdl:message>
        <wsdl:message name="IPptViewingService_GetPresentationInfoXml_OutputMessage">
          <wsdl:part name="parameters" element="tns4:GetPresentationInfoXmlResponse"/>
        </wsdl:message>
        <wsdl:message name="IPptViewingService_GetSlide_InputMessage">
          <wsdl:part name="parameters" element="tns4:GetSlide"/>
        </wsdl:message>
        <wsdl:message name="IPptViewingService_GetSlide_OutputMessage">
          <wsdl:part name="parameters" element="tns4:GetSlideResponse"/>
        </wsdl:message>
        <wsdl:message name="IPptViewingService_GetSlideInfo_InputMessage">
          <wsdl:part name="parameters" element="tns4:GetSlideInfo"/>
        </wsdl:message>
        <wsdl:message name="IPptViewingService_GetSlideInfo_OutputMessage">
          <wsdl:part name="parameters" element="tns4:GetSlideInfoResponse"/>
        </wsdl:message>
        <wsdl:message name="IPptViewingService_LogULS_InputMessage">
          <wsdl:part name="parameters" element="tns4:LogULS"/>
        </wsdl:message>
        <wsdl:message name="IPptViewingService_LogULS_OutputMessage">
          <wsdl:part name="parameters" element="tns4:LogULSResponse"/>
        </wsdl:message>
        <wsdl:message name="IPptViewingService_Print_InputMessage">
          <wsdl:part name="parameters" element="tns4:Print"/>
        </wsdl:message>
        <wsdl:message name="IPptViewingService_Print_OutputMessage">
          <wsdl:part name="parameters" element="tns4:PrintResponse"/>
        </wsdl:message>
      </wsdl:definitions>
```

7 Appendix B: Full XML Schema

Schema name	Prefix	Section
http://schemas.datacontract.org/2004/07 /Microsoft.Office.Server.Powerpoint.Interface.Shared	tns	7.2
http://schemas.datacontract.org/2004/07 /Microsoft.Office.Server.Powerpoint.Pipe.Interface	tns1	7.3
http://schemas.datacontract.org/2004/07/p	tns2	7.4
http://schemas.microsoft.com/2003/10/Serialization/Arrays	q1	7.5
http://schemas.microsoft.com/2003/10/Serialization/	tns3	7.6
http://schemas.microsoft.com/office/PowerPoint/Server/WebServices /PowerPointViewingService/	tns4	7.7
http://schemas.datacontract.org/2004/07 /Microsoft.Office.Server.Powerpoint.Interface.Data	q12	7.1

For ease of implementation, the following sections provide the full XML schema for this protocol.

7.1 http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interface.Data Schema

```
<?xml version="1.0"?>
<xs:schema
xmlns:q12="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interfa
ce.Data" elementFormDefault="qualified"
targetNamespace="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.I
nterface.Data" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType name="BroadcastUser">
    <xs:sequence>
      <xs:element minOccurs="0" name="SessionId" nillable="true" type="xs:string"/>
      <xs:element minOccurs="0" name="UserToken" nillable="true" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="BroadcastUser" nillable="true" type="q12:BroadcastUser"/>
  <xs:complexType name="BroadcastAnimationStepData">
    <xs:sequence>
      <xs:element minOccurs="0" name="Step" type="xs:int"/>
      <xs:element minOccurs="0" name="TimelineId" nillable="true" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="BroadcastAnimationStepData" nillable="true"
type="q12:BroadcastAnimationStepData"/>
  <xs:complexType name="BroadcastData">
    <xs:sequence>
      <xs:element minOccurs="0" name="AnimationStepDataList" nillable="true"
type="q12:ArrayOfBroadcastAnimationStepData"/>
      <xs:element minOccurs="0" name="HostToken" nillable="true" type="xs:string"/>
      <xs:element minOccurs="0" name="SequenceNumber" type="xs:int"/>
      <xs:element minOccurs="0" name="SlideId" type="xs:unsignedInt"/>
      <xs:element minOccurs="0" name="SlideShowState" type="q12:SlideShowState"/>
```

```
      </xs:sequence>
    </xs:complexType>
    <xs:element name="BroadcastData" nillable="true" type="q12:BroadcastData"/>
    <xs:complexType name="ArrayOfBroadcastAnimationStepData">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="unbounded" name="BroadcastAnimationStepData"
  nillable="true" type="q12:BroadcastAnimationStepData"/>
      </xs:sequence>
    </xs:complexType>
    <xs:element name="ArrayOfBroadcastAnimationStepData" nillable="true"
  type="q12:ArrayOfBroadcastAnimationStepData"/>
    <xs:simpleType name="SlideShowState">
      <xs:restriction base="xs:string">
        <xs:enumeration value="NotStartedYet"/>
        <xs:enumeration value="BlackScreen"/>
        <xs:enumeration value="WhiteScreen"/>
        <xs:enumeration value="Normal"/>
        <xs:enumeration value="BroadcastEnded"/>
        <xs:enumeration value="SlideShowEnded"/>
      </xs:restriction>
    </xs:simpleType>
    <xs:element name="SlideShowState" nillable="true" type="q12:SlideShowState"/>
    <xs:complexType name="BroadcastFile">
      <xs:sequence>
        <xs:element minOccurs="0" name="FilePath" nillable="true" type="xs:string"/>
        <xs:element minOccurs="0" name="PresentationId" nillable="true" type="xs:string"/>
      </xs:sequence>
    </xs:complexType>
    <xs:element name="BroadcastFile" nillable="true" type="q12:BroadcastFile"/>
    <xs:complexType name="ClientInfo">
      <xs:sequence>
        <xs:element minOccurs="0" name="Name" nillable="true" type="xs:string"/>
        <xs:element minOccurs="0" name="Version" nillable="true" type="q12:Version"/>
      </xs:sequence>
    </xs:complexType>
    <xs:element name="ClientInfo" nillable="true" type="q12:ClientInfo"/>
    <xs:complexType name="Version">
      <xs:sequence>
        <xs:element minOccurs="0" name="MajorNumber" type="xs:int"/>
        <xs:element minOccurs="0" name="MinorNumber" type="xs:int"/>
      </xs:sequence>
    </xs:complexType>
    <xs:element name="Version" nillable="true" type="q12:Version"/>
    <xs:complexType name="CapabilityData">
      <xs:sequence>
        <xs:element minOccurs="0" name="Capability" type="q12:ServerCapability"/>
        <xs:element minOccurs="0" name="Value" nillable="true" type="xs:string"/>
      </xs:sequence>
    </xs:complexType>
    <xs:element name="CapabilityData" nillable="true" type="q12:CapabilityData"/>
    <xs:simpleType name="ServerCapability">
      <xs:restriction base="xs:string">
        <xs:enumeration value="SupportAudio"/>
        <xs:enumeration value="SupportVideo"/>
        <xs:enumeration value="SupportNotes"/>
        <xs:enumeration value="SupportHandoutMaster"/>
        <xs:enumeration value="FileSizeLimited"/>
        <xs:enumeration value="UseWebDav"/>
        <xs:enumeration value="SessionTimeout"/>
```

```
        <xs:enumeration value="SessionIdleTimeout"/>
        <xs:enumeration value="SupportMeetingNotes"/>
        <xs:enumeration value="SupportDocumentUpdate"/>
      </xs:restriction>
   </xs:simpleType>
   <xs:element name="ServerCapability" nillable="true" type="q12:ServerCapability"/>
   <xs:complexType name="ServerInfo">
      <xs:sequence>
        <xs:element minOccurs="0" name="CapabilitiesList" nillable="true"
type="q12:ArrayOfCapabilityData"/>
        <xs:element minOccurs="0" name="Name" nillable="true" type="xs:string"/>
        <xs:element minOccurs="0" name="PresenterServiceUrl" nillable="true" type="xs:string"/>
        <xs:element minOccurs="0" name="Version" nillable="true" type="q12:Version"/>
      </xs:sequence>
   </xs:complexType>
   <xs:element name="ServerInfo" nillable="true" type="q12:ServerInfo"/>
   <xs:complexType name="ArrayOfCapabilityData">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="unbounded" name="CapabilityData" nillable="true"
type="q12:CapabilityData"/>
      </xs:sequence>
   </xs:complexType>
   <xs:element name="ArrayOfCapabilityData" nillable="true" type="q12:ArrayOfCapabilityData"/>
   <xs:complexType name="BroadcastProtocolInfo">
      <xs:sequence>
        <xs:element minOccurs="0" name="ClientInfo" nillable="true" type="q12:ClientInfo"/>
        <xs:element minOccurs="0" name="VersionList" nillable="true"
type="q12:ArrayOfVersion"/>
      </xs:sequence>
   </xs:complexType>
   <xs:element name="BroadcastProtocolInfo" nillable="true" type="q12:BroadcastProtocolInfo"/>
   <xs:complexType name="ArrayOfVersion">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="unbounded" name="Version" nillable="true"
type="q12:Version"/>
      </xs:sequence>
   </xs:complexType>
   <xs:element name="ArrayOfVersion" nillable="true" type="q12:ArrayOfVersion"/>
   <xs:complexType name="BroadcastHostInfo">
      <xs:sequence>
        <xs:element minOccurs="0" name="HostUrl" nillable="true" type="xs:string"/>
        <xs:element minOccurs="0" name="ProtocolVersion" nillable="true" type="q12:Version"/>
      </xs:sequence>
   </xs:complexType>
   <xs:element name="BroadcastHostInfo" nillable="true" type="q12:BroadcastHostInfo"/>
</xs:schema>
```

7.2 http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interface.Shared Schema

```
<?xml version="1.0"?>
<xs:schema
xmlns:tns="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interfa
ce.Shared" elementFormDefault="qualified"
targetNamespace="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.I
nterface.Shared" xmlns:xs="http://www.w3.org/2001/XMLSchema">
   <xs:import namespace="http://schemas.microsoft.com/2003/10/Serialization/Arrays"/>
```

```xml
<xs:complexType name="CT_SlideLayoutInfo">
  <xs:sequence>
    <xs:element name="fTitleLayout" type="xs:boolean"/>
    <xs:element name="layoutId" type="xs:unsignedInt"/>
    <xs:element name="masterId" type="xs:unsignedInt"/>
  </xs:sequence>
</xs:complexType>
<xs:element name="CT_SlideLayoutInfo" nillable="true" type="tns:CT_SlideLayoutInfo"/>
<xs:complexType name="CT_LayoutPosition">
  <xs:sequence>
    <xs:element name="x" type="xs:int"/>
    <xs:element name="y" type="xs:int"/>
  </xs:sequence>
</xs:complexType>
<xs:element name="CT_LayoutPosition" nillable="true" type="tns:CT_LayoutPosition"/>
<xs:complexType name="CT_Point2D">
  <xs:sequence>
    <xs:element name="x" type="xs:int"/>
    <xs:element name="y" type="xs:int"/>
  </xs:sequence>
</xs:complexType>
<xs:element name="CT_Point2D" nillable="true" type="tns:CT_Point2D"/>
<xs:complexType name="CT_Error">
  <xs:sequence>
    <xs:element name="id" type="xs:unsignedInt"/>
    <xs:element xmlns:q1="http://schemas.microsoft.com/2003/10/Serialization/Arrays" name="p" nillable="true" type="q1:ArrayOfstring"/>
  </xs:sequence>
</xs:complexType>
<xs:element name="CT_Error" nillable="true" type="tns:CT_Error"/>
<xs:complexType name="CT_ErrorInfo">
  <xs:sequence>
    <xs:element name="err" nillable="true" type="tns:CT_Error"/>
    <xs:element name="schmVer" type="xs:unsignedInt"/>
  </xs:sequence>
</xs:complexType>
<xs:element name="CT_ErrorInfo" nillable="true" type="tns:CT_ErrorInfo"/>
<xs:complexType name="CT_MediaLink">
  <xs:sequence>
    <xs:element name="autoPlay" type="xs:boolean"/>
    <xs:element name="ct" nillable="true" type="xs:string"/>
    <xs:element name="dur" type="xs:unsignedInt"/>
    <xs:element name="fullscreen" type="xs:boolean"/>
    <xs:element name="hideWhenStopped" type="xs:boolean"/>
    <xs:element name="narration" type="xs:boolean"/>
    <xs:element name="playAcrossSlides" type="xs:unsignedInt"/>
    <xs:element name="repeat" type="xs:unsignedInt"/>
    <xs:element name="rewind" type="xs:boolean"/>
    <xs:element name="src" nillable="true" type="xs:string"/>
    <xs:element name="trimEnd" type="xs:unsignedInt"/>
    <xs:element name="trimStart" type="xs:unsignedInt"/>
    <xs:element name="volume" type="xs:double"/>
  </xs:sequence>
</xs:complexType>
<xs:element name="CT_MediaLink" nillable="true" type="tns:CT_MediaLink"/>
<xs:complexType name="CT_MediaLocal">
  <xs:sequence>
    <xs:element name="autoPlay" type="xs:boolean"/>
    <xs:element name="ct" nillable="true" type="xs:string"/>
```

```xml
        <xs:element name="dur" type="xs:unsignedInt"/>
        <xs:element name="fullscreen" type="xs:boolean"/>
        <xs:element name="hideWhenStopped" type="xs:boolean"/>
        <xs:element name="id" nillable="true" type="xs:string"/>
        <xs:element name="narration" type="xs:boolean"/>
        <xs:element name="playAcrossSlides" type="xs:unsignedInt"/>
        <xs:element name="repeat" type="xs:unsignedInt"/>
        <xs:element name="rewind" type="xs:boolean"/>
        <xs:element name="src" nillable="true" type="xs:string"/>
        <xs:element name="trimEnd" type="xs:unsignedInt"/>
        <xs:element name="trimStart" type="xs:unsignedInt"/>
        <xs:element name="volume" type="xs:double"/>
      </xs:sequence>
    </xs:complexType>
    <xs:element name="CT_MediaLocal" nillable="true" type="tns:CT_MediaLocal"/>
    <xs:complexType name="CT_Media">
      <xs:sequence>
        <xs:element name="Item" nillable="true" type="xs:anyType"/>
        <xs:element name="name" nillable="true" type="xs:string"/>
      </xs:sequence>
    </xs:complexType>
    <xs:element name="CT_Media" nillable="true" type="tns:CT_Media"/>
    <xs:complexType name="CT_Comment">
      <xs:sequence>
        <xs:element name="authorId" type="xs:unsignedInt"/>
        <xs:element name="authorName" nillable="true" type="xs:string"/>
        <xs:element name="dt" type="xs:dateTime"/>
        <xs:element name="idx" type="xs:unsignedInt"/>
        <xs:element name="pos" nillable="true" type="tns:CT_Point2D"/>
        <xs:element name="text" nillable="true" type="xs:string"/>
      </xs:sequence>
    </xs:complexType>
    <xs:element name="CT_Comment" nillable="true" type="tns:CT_Comment"/>
    <xs:complexType name="CT_CommentThread">
      <xs:sequence>
        <xs:element name="chld" nillable="true" type="tns:ArrayOfCT_Comment"/>
        <xs:element name="comment" nillable="true" type="tns:CT_Comment"/>
      </xs:sequence>
    </xs:complexType>
    <xs:element name="CT_CommentThread" nillable="true" type="tns:CT_CommentThread"/>
    <xs:complexType name="ArrayOfCT_Comment">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="unbounded" name="CT_Comment" nillable="true"
  type="tns:CT_Comment"/>
      </xs:sequence>
    </xs:complexType>
    <xs:element name="ArrayOfCT_Comment" nillable="true" type="tns:ArrayOfCT_Comment"/>
    <xs:complexType name="CT_ViewingFrontEndPerformanceMetrics">
      <xs:sequence>
        <xs:element name="fetchLoc" type="tns:ST_FetchLocation"/>
        <xs:element name="rendered" type="xs:boolean"/>
      </xs:sequence>
    </xs:complexType>
    <xs:element name="CT_ViewingFrontEndPerformanceMetrics" nillable="true"
  type="tns:CT_ViewingFrontEndPerformanceMetrics"/>
    <xs:simpleType name="ST_FetchLocation">
      <xs:restriction base="xs:string">
        <xs:enumeration value="be"/>
        <xs:enumeration value="femc"/>
```

```
          <xs:enumeration value="disk"/>
        </xs:restriction>
      </xs:simpleType>
      <xs:element name="ST_FetchLocation" nillable="true" type="tns:ST_FetchLocation"/>
      <xs:complexType name="CT_ViewingBackEndPerformanceMetrics">
        <xs:sequence>
          <xs:element name="hostDlTime" type="xs:unsignedInt"/>
        </xs:sequence>
      </xs:complexType>
      <xs:element name="CT_ViewingBackEndPerformanceMetrics" nillable="true"
type="tns:CT_ViewingBackEndPerformanceMetrics"/>
      <xs:complexType name="CT_ViewingSlidePerformanceMetrics">
        <xs:sequence>
          <xs:element name="beMetrics" nillable="true"
type="tns:CT_ViewingBackEndPerformanceMetrics"/>
          <xs:element name="feMetrics" nillable="true"
type="tns:CT_ViewingFrontEndPerformanceMetrics"/>
          <xs:element name="renderTime" type="xs:unsignedInt"/>
        </xs:sequence>
      </xs:complexType>
      <xs:element name="CT_ViewingSlidePerformanceMetrics" nillable="true"
type="tns:CT_ViewingSlidePerformanceMetrics"/>
      <xs:complexType name="CT_ViewingPresentationPerformanceMetrics">
        <xs:sequence>
          <xs:element name="beMetrics" nillable="true"
type="tns:CT_ViewingBackEndPerformanceMetrics"/>
          <xs:element name="feMetrics" nillable="true"
type="tns:CT_ViewingFrontEndPerformanceMetrics"/>
        </xs:sequence>
      </xs:complexType>
      <xs:element name="CT_ViewingPresentationPerformanceMetrics" nillable="true"
type="tns:CT_ViewingPresentationPerformanceMetrics"/>
      <xs:complexType name="CT_ResourceEntry">
        <xs:sequence>
          <xs:element name="id" nillable="true" type="xs:string"/>
          <xs:element name="name" nillable="true" type="xs:string"/>
        </xs:sequence>
      </xs:complexType>
      <xs:element name="CT_ResourceEntry" nillable="true" type="tns:CT_ResourceEntry"/>
      <xs:complexType name="CT_MotionPathMoveCmd">
        <xs:sequence>
          <xs:element name="x" type="xs:int"/>
          <xs:element name="y" type="xs:int"/>
        </xs:sequence>
      </xs:complexType>
      <xs:element name="CT_MotionPathMoveCmd" nillable="true" type="tns:CT_MotionPathMoveCmd"/>
      <xs:complexType name="CT_MotionPathLineCmd">
        <xs:sequence>
          <xs:element name="x" type="xs:int"/>
          <xs:element name="y" type="xs:int"/>
        </xs:sequence>
      </xs:complexType>
      <xs:element name="CT_MotionPathLineCmd" nillable="true" type="tns:CT_MotionPathLineCmd"/>
      <xs:complexType name="CT_MotionPathCurveCmd">
        <xs:sequence>
          <xs:element name="x1" type="xs:int"/>
          <xs:element name="x2" type="xs:int"/>
          <xs:element name="x3" type="xs:int"/>
          <xs:element name="y1" type="xs:int"/>
```

```xml
      <xs:element name="y2" type="xs:int"/>
      <xs:element name="y3" type="xs:int"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="CT_MotionPathCurveCmd" nillable="true" type="tns:CT_MotionPathCurveCmd"/>
  <xs:complexType name="CT_MotionPath">
    <xs:sequence>
      <xs:element xmlns:q1="http://schemas.microsoft.com/2003/10/Serialization/Arrays"
 name="Items" nillable="true" type="q1:ArrayOfanyType"/>
      <xs:element name="rev" type="xs:boolean"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="CT_MotionPath" nillable="true" type="tns:CT_MotionPath"/>
  <xs:complexType name="CT_Rectangle">
    <xs:sequence>
      <xs:element name="h" type="xs:int"/>
      <xs:element name="l" type="xs:int"/>
      <xs:element name="t" type="xs:int"/>
      <xs:element name="w" type="xs:int"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="CT_Rectangle" nillable="true" type="tns:CT_Rectangle"/>
  <xs:complexType name="CT_Hyperlink">
    <xs:sequence>
      <xs:element name="rct" nillable="true" type="tns:CT_Rectangle"/>
      <xs:element name="tip" nillable="true" type="xs:string"/>
      <xs:element name="url" nillable="true" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="CT_Hyperlink" nillable="true" type="tns:CT_Hyperlink"/>
  <xs:complexType name="CT_Action">
    <xs:sequence>
      <xs:element name="rct" nillable="true" type="tns:CT_Rectangle"/>
      <xs:element name="sldId" type="xs:unsignedInt"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="CT_Action" nillable="true" type="tns:CT_Action"/>
  <xs:complexType name="CT_InteractiveAnimUse">
    <xs:sequence>
      <xs:element name="rct" nillable="true" type="tns:CT_Rectangle"/>
      <xs:element name="seqId" type="xs:unsignedInt"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="CT_InteractiveAnimUse" nillable="true" type="tns:CT_InteractiveAnimUse"/>
  <xs:complexType name="CT_MediaCtrl">
    <xs:sequence>
      <xs:element name="elemId" nillable="true" type="xs:string"/>
      <xs:element name="rct" nillable="true" type="tns:CT_Rectangle"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="CT_MediaCtrl" nillable="true" type="tns:CT_MediaCtrl"/>
  <xs:complexType name="CT_AnimTiming">
    <xs:sequence>
      <xs:element name="off" type="xs:unsignedInt"/>
      <xs:element name="spd" nillable="true" type="xs:string"/>
      <xs:element name="st" type="tns:ST_AnimStart"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="CT_AnimTiming" nillable="true" type="tns:CT_AnimTiming"/>
```

```
<xs:simpleType name="ST_AnimStart">
  <xs:restriction base="xs:string">
    <xs:enumeration value="c"/>
    <xs:enumeration value="w"/>
    <xs:enumeration value="a"/>
  </xs:restriction>
</xs:simpleType>
<xs:element name="ST_AnimStart" nillable="true" type="tns:ST_AnimStart"/>
<xs:complexType name="CT_AnimIteration">
  <xs:sequence>
    <xs:element name="interval" type="xs:int"/>
    <xs:element name="reversed" type="xs:boolean"/>
  </xs:sequence>
</xs:complexType>
<xs:element name="CT_AnimIteration" nillable="true" type="tns:CT_AnimIteration"/>
<xs:complexType name="CT_GenericImageRegion">
  <xs:sequence>
    <xs:element name="h" type="xs:int"/>
    <xs:element name="imgID" nillable="true" type="xs:string"/>
    <xs:element name="w" type="xs:int"/>
    <xs:element name="x" type="xs:int"/>
    <xs:element name="y" type="xs:int"/>
  </xs:sequence>
</xs:complexType>
<xs:element name="CT_GenericImageRegion" nillable="true" type="tns:CT_GenericImageRegion"/>
<xs:complexType name="CT_ImageRegionUse">
  <xs:sequence>
    <xs:element name="pos" nillable="true" type="tns:CT_LayoutPosition"/>
    <xs:element name="reg" nillable="true" type="tns:CT_GenericImageRegion"/>
  </xs:sequence>
</xs:complexType>
<xs:element name="CT_ImageRegionUse" nillable="true" type="tns:CT_ImageRegionUse"/>
<xs:complexType name="CT_ImageGraph">
  <xs:sequence>
    <xs:element name="base" nillable="true" type="tns:CT_ImageRegionUse"/>
    <xs:element name="children" nillable="true" type="tns:ArrayOfCT_ImageRegionUse"/>
  </xs:sequence>
</xs:complexType>
<xs:element name="CT_ImageGraph" nillable="true" type="tns:CT_ImageGraph"/>
<xs:complexType name="ArrayOfCT_ImageRegionUse">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="CT_ImageRegionUse"
nillable="true" type="tns:CT_ImageRegionUse"/>
  </xs:sequence>
</xs:complexType>
<xs:element name="ArrayOfCT_ImageRegionUse" nillable="true"
type="tns:ArrayOfCT_ImageRegionUse"/>
<xs:complexType name="CT_ImageBackground">
  <xs:sequence>
    <xs:element name="h" type="xs:int"/>
    <xs:element name="imgID" nillable="true" type="xs:string"/>
    <xs:element name="w" type="xs:int"/>
    <xs:element name="x" type="xs:int"/>
    <xs:element name="y" type="xs:int"/>
  </xs:sequence>
</xs:complexType>
<xs:element name="CT_ImageBackground" nillable="true" type="tns:CT_ImageBackground"/>
<xs:complexType name="CT_SolidFill">
  <xs:sequence>
```

```xml
      <xs:element name="clr" nillable="true" type="xs:base64Binary"/>
      <xs:element name="transp" type="xs:unsignedByte"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="CT_SolidFill" nillable="true" type="tns:CT_SolidFill"/>
  <xs:complexType name="CT_BackgroundDesc">
    <xs:sequence>
      <xs:element name="Item" nillable="true" type="xs:anyType"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="CT_BackgroundDesc" nillable="true" type="tns:CT_BackgroundDesc"/>
  <xs:complexType name="CT_AnimRepeatOption">
    <xs:sequence>
      <xs:element name="count" type="xs:int"/>
      <xs:element name="type" type="tns:ST_AnimRepeatType"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="CT_AnimRepeatOption" nillable="true" type="tns:CT_AnimRepeatOption"/>
  <xs:simpleType name="ST_AnimRepeatType">
    <xs:restriction base="xs:string">
      <xs:enumeration value="cnt"/>
      <xs:enumeration value="clk"/>
      <xs:enumeration value="sld"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:element name="ST_AnimRepeatType" nillable="true" type="tns:ST_AnimRepeatType"/>
  <xs:complexType name="CT_ScaleBy">
    <xs:sequence>
      <xs:element name="x" type="xs:int"/>
      <xs:element name="y" type="xs:int"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="CT_ScaleBy" nillable="true" type="tns:CT_ScaleBy"/>
  <xs:complexType name="CT_Anim">
    <xs:sequence>
      <xs:element name="autoRev" type="xs:boolean"/>
      <xs:element name="dir" type="xs:int"/>
      <xs:element name="effectId" type="xs:unsignedInt"/>
      <xs:element name="effectType" type="tns:ST_EffectType"/>
      <xs:element name="empImgs" nillable="true" type="tns:CT_ImageGraph"/>
      <xs:element name="hideAfter" type="tns:ST_HideAfterAnimType"/>
      <xs:element name="iter" nillable="true" type="tns:CT_AnimIteration"/>
      <xs:element name="mp" nillable="true" type="tns:CT_MotionPath"/>
      <xs:element name="repeat" nillable="true" type="tns:CT_AnimRepeatOption"/>
      <xs:element name="rewind" type="xs:boolean"/>
      <xs:element name="rotAng" type="xs:int"/>
      <xs:element name="scaleBy" nillable="true" type="tns:CT_ScaleBy"/>
      <xs:element name="smEnd" type="xs:unsignedByte"/>
      <xs:element name="smSt" type="xs:unsignedByte"/>
      <xs:element name="sp" type="xs:unsignedInt"/>
      <xs:element name="timing" nillable="true" type="tns:CT_AnimTiming"/>
      <xs:element name="transp" type="xs:unsignedByte"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="CT_Anim" nillable="true" type="tns:CT_Anim"/>
  <xs:simpleType name="ST_EffectType">
    <xs:restriction base="xs:string">
      <xs:enumeration value="entr"/>
      <xs:enumeration value="exit"/>
```

```xml
      <xs:enumeration value="emph"/>
      <xs:enumeration value="path"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:element name="ST_EffectType" nillable="true" type="tns:ST_EffectType"/>
  <xs:simpleType name="ST_HideAfterAnimType">
    <xs:restriction base="xs:string">
      <xs:enumeration value="non"/>
      <xs:enumeration value="imm"/>
      <xs:enumeration value="clk"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:element name="ST_HideAfterAnimType" nillable="true" type="tns:ST_HideAfterAnimType"/>
  <xs:complexType name="CT_Transition">
    <xs:sequence>
      <xs:element name="dir" type="xs:unsignedByte"/>
      <xs:element name="dur" type="xs:int"/>
      <xs:element name="media" nillable="true" type="tns:CT_Media"/>
      <xs:element name="stopSound" type="xs:boolean"/>
      <xs:element name="type" type="xs:unsignedByte"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="CT_Transition" nillable="true" type="tns:CT_Transition"/>
  <xs:complexType name="CT_Shape">
    <xs:sequence>
      <xs:element name="bgSp" type="xs:boolean"/>
      <xs:element name="children" nillable="true" type="tns:ArrayOfCT_ImageRegionUse"/>
      <xs:element xmlns:q1="http://schemas.microsoft.com/2003/10/Serialization/Arrays"
 name="clckTgts" nillable="true" type="q1:ArrayOfanyType"/>
      <xs:element name="id" type="xs:unsignedInt"/>
      <xs:element name="media" nillable="true" type="tns:CT_Media"/>
      <xs:element name="pos" nillable="true" type="tns:CT_LayoutPosition"/>
      <xs:element name="reg" nillable="true" type="tns:CT_GenericImageRegion"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="CT_Shape" nillable="true" type="tns:CT_Shape"/>
  <xs:complexType name="CT_AnimList">
    <xs:sequence>
      <xs:element name="anim" nillable="true" type="tns:ArrayOfCT_Anim"/>
      <xs:element name="id" type="xs:unsignedInt"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="CT_AnimList" nillable="true" type="tns:CT_AnimList"/>
  <xs:complexType name="ArrayOfCT_Anim">
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="unbounded" name="CT_Anim" nillable="true"
type="tns:CT_Anim"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="ArrayOfCT_Anim" nillable="true" type="tns:ArrayOfCT_Anim"/>
  <xs:complexType name="CT_SlideShowTimings">
    <xs:sequence>
      <xs:element name="autoAdv" type="xs:boolean"/>
      <xs:element name="autoAdvTime" type="xs:int"/>
      <xs:element name="clickTimes" nillable="true" type="xs:string"/>
      <xs:element name="manualAdv" type="xs:boolean"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="CT_SlideShowTimings" nillable="true" type="tns:CT_SlideShowTimings"/>
```

```xml
<xs:complexType name="CT_Slide">
  <xs:sequence>
    <xs:element name="animLst" nillable="true" type="tns:CT_AnimList"/>
    <xs:element name="animSeqs" nillable="true" type="tns:ArrayOfCT_AnimList"/>
    <xs:element name="bg" nillable="true" type="tns:CT_BackgroundDesc"/>
    <xs:element name="bgReg" nillable="true" type="tns:CT_GenericImageRegion"/>
    <xs:element name="cmLst" nillable="true" type="tns:ArrayOfCT_CommentThread"/>
    <xs:element name="hidden" type="xs:boolean"/>
    <xs:element name="id" type="xs:unsignedInt"/>
    <xs:element name="layoutInfo" nillable="true" type="tns:CT_SlideLayoutInfo"/>
    <xs:element name="notesId" nillable="true" type="xs:string"/>
    <xs:element name="perf" nillable="true" type="tns:CT_ViewingSlidePerformanceMetrics"/>
    <xs:element name="resCat" nillable="true" type="tns:ArrayOfCT_ResourceEntry"/>
    <xs:element name="spLst" nillable="true" type="tns:ArrayOfCT_Shape"/>
    <xs:element name="ssTimes" nillable="true" type="tns:CT_SlideShowTimings"/>
    <xs:element name="title" nillable="true" type="xs:string"/>
    <xs:element name="trans" nillable="true" type="tns:CT_Transition"/>
  </xs:sequence>
</xs:complexType>
<xs:element name="CT_Slide" nillable="true" type="tns:CT_Slide"/>
<xs:complexType name="ArrayOfCT_AnimList">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="CT_AnimList" nillable="true"
type="tns:CT_AnimList"/>
  </xs:sequence>
</xs:complexType>
<xs:element name="ArrayOfCT_AnimList" nillable="true" type="tns:ArrayOfCT_AnimList"/>
<xs:complexType name="ArrayOfCT_CommentThread">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="CT_CommentThread" nillable="true"
type="tns:CT_CommentThread"/>
  </xs:sequence>
</xs:complexType>
<xs:element name="ArrayOfCT_CommentThread" nillable="true"
type="tns:ArrayOfCT_CommentThread"/>
<xs:complexType name="ArrayOfCT_ResourceEntry">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="CT_ResourceEntry" nillable="true"
type="tns:CT_ResourceEntry"/>
  </xs:sequence>
</xs:complexType>
<xs:element name="ArrayOfCT_ResourceEntry" nillable="true"
type="tns:ArrayOfCT_ResourceEntry"/>
<xs:complexType name="ArrayOfCT_Shape">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="CT_Shape" nillable="true"
type="tns:CT_Shape"/>
  </xs:sequence>
</xs:complexType>
<xs:element name="ArrayOfCT_Shape" nillable="true" type="tns:ArrayOfCT_Shape"/>
<xs:complexType name="CT_SlideEntry">
  <xs:sequence>
    <xs:element name="id" type="xs:unsignedInt"/>
    <xs:element name="sldInfo" nillable="true" type="xs:string"/>
    <xs:element name="title" nillable="true" type="xs:string"/>
  </xs:sequence>
</xs:complexType>
<xs:element name="CT_SlideEntry" nillable="true" type="tns:CT_SlideEntry"/>
<xs:complexType name="CT_EmptyType">
```

```
      <xs:sequence/>
    </xs:complexType>
    <xs:element name="CT_EmptyType" nillable="true" type="tns:CT_EmptyType"/>
    <xs:complexType name="CT_IndexRange">
      <xs:sequence>
        <xs:element name="end" type="xs:unsignedInt"/>
        <xs:element name="st" type="xs:unsignedInt"/>
      </xs:sequence>
    </xs:complexType>
    <xs:element name="CT_IndexRange" nillable="true" type="tns:CT_IndexRange"/>
    <xs:complexType name="CT_CustomShow">
      <xs:sequence>
        <xs:element xmlns:q1="http://schemas.microsoft.com/2003/10/Serialization/Arrays"
  name="s" nillable="true" type="q1:ArrayOfunsignedInt"/>
      </xs:sequence>
    </xs:complexType>
    <xs:element name="CT_CustomShow" nillable="true" type="tns:CT_CustomShow"/>
    <xs:complexType name="CT_ShowProperties">
      <xs:sequence>
        <xs:element name="Item" nillable="true" type="xs:anyType"/>
      </xs:sequence>
    </xs:complexType>
    <xs:element name="CT_ShowProperties" nillable="true" type="tns:CT_ShowProperties"/>
    <xs:complexType name="CT_PresentationShowInfo">
      <xs:sequence>
        <xs:element name="h" type="xs:int"/>
        <xs:element name="perf" nillable="true"
  type="tns:CT_ViewingPresentationPerformanceMetrics"/>
        <xs:element name="rtl" type="xs:boolean"/>
        <xs:element name="schmVer" type="xs:unsignedInt"/>
        <xs:element name="showPr" nillable="true" type="tns:CT_ShowProperties"/>
        <xs:element name="sldLst" nillable="true" type="tns:ArrayOfCT_SlideEntry"/>
        <xs:element name="w" type="xs:int"/>
      </xs:sequence>
    </xs:complexType>
    <xs:element name="CT_PresentationShowInfo" nillable="true"
  type="tns:CT_PresentationShowInfo"/>
    <xs:complexType name="ArrayOfCT_SlideEntry">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="unbounded" name="CT_SlideEntry" nillable="true"
  type="tns:CT_SlideEntry"/>
      </xs:sequence>
    </xs:complexType>
    <xs:element name="ArrayOfCT_SlideEntry" nillable="true" type="tns:ArrayOfCT_SlideEntry"/>
    <xs:complexType name="CT_SlideShowInfo">
      <xs:sequence>
        <xs:element name="errLst" nillable="true" type="tns:ArrayOfCT_Error"/>
        <xs:element xmlns:q1="http://schemas.microsoft.com/2003/10/Serialization/Arrays"
  name="errMsgLst" nillable="true" type="q1:ArrayOfstring"/>
        <xs:element name="schmVer" type="xs:unsignedInt"/>
        <xs:element name="sld" nillable="true" type="tns:ArrayOfCT_Slide"/>
      </xs:sequence>
    </xs:complexType>
    <xs:element name="CT_SlideShowInfo" nillable="true" type="tns:CT_SlideShowInfo"/>
    <xs:complexType name="ArrayOfCT_Error">
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="unbounded" name="CT_Error" nillable="true"
  type="tns:CT_Error"/>
      </xs:sequence>
```

```xml
        </xs:complexType>
        <xs:element name="ArrayOfCT_Error" nillable="true" type="tns:ArrayOfCT_Error"/>
        <xs:complexType name="ArrayOfCT_Slide">
          <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="unbounded" name="CT_Slide" nillable="true"
  type="tns:CT_Slide"/>
          </xs:sequence>
        </xs:complexType>
        <xs:element name="ArrayOfCT_Slide" nillable="true" type="tns:ArrayOfCT_Slide"/>
        <xs:simpleType name="PowerpointView">
          <xs:restriction base="xs:string">
            <xs:enumeration value="ReadingView"/>
            <xs:enumeration value="SlideShowView"/>
            <xs:enumeration value="EditView"/>
            <xs:enumeration value="StaticView"/>
            <xs:enumeration value="OutlineView"/>
            <xs:enumeration value="AttendeeView"/>
            <xs:enumeration value="ChromelessView"/>
          </xs:restriction>
        </xs:simpleType>
        <xs:element name="PowerpointView" nillable="true" type="tns:PowerpointView"/>
        <xs:simpleType name="PowerPointFormat">
          <xs:restriction base="xs:string">
            <xs:enumeration value="AnimatedMedium"/>
            <xs:enumeration value="AnimatedLarge"/>
            <xs:enumeration value="AnimatedSmall"/>
            <xs:enumeration value="AnimatedExtraSmall"/>
            <xs:enumeration value="AnimatedExtraLarge"/>
            <xs:enumeration value="Media"/>
            <xs:enumeration value="AnimatedExtraExtraLarge"/>
          </xs:restriction>
        </xs:simpleType>
        <xs:element name="PowerPointFormat" nillable="true" type="tns:PowerPointFormat"/>
        <xs:simpleType name="ErrorCode">
          <xs:restriction base="xs:string">
            <xs:enumeration value="ErrorRESERVEDSuccess"/>
            <xs:enumeration value="ErrorRESERVEDUnknown"/>
            <xs:enumeration value="ErrorCannotOpenDocumentFileType"/>
            <xs:enumeration value="ErrorCannotOpenDocumentIRM"/>
            <xs:enumeration value="ErrorCannotOpenDocumentPassword"/>
            <xs:enumeration value="ErrorCannotOpenDocument"/>
            <xs:enumeration value="ErrorCannotInstallFonts"/>
            <xs:enumeration value="ErrorCannotConvertModifyPassword"/>
            <xs:enumeration value="ErrorCannotComposeSlideParse"/>
            <xs:enumeration value="ErrorCannotComposeSlideUnexpected"/>
            <xs:enumeration value="ErrorWacConversionFailure"/>
            <xs:enumeration value="ErrorResourceNotGenerated"/>
            <xs:enumeration value="ErrorGenericSlideCorruption"/>
            <xs:enumeration value="ErrorFileNotFound"/>
            <xs:enumeration value="ErrorGeneralUnknown"/>
            <xs:enumeration value="ErrorFailedToOpenDocument"/>
            <xs:enumeration value="ErrorFailedToRetrieveResource"/>
            <xs:enumeration value="ErrorFailedToRenderDocument"/>
            <xs:enumeration value="ErrorFailedToRenderSlide"/>
            <xs:enumeration value="ErrorFailedToSaveDocument"/>
            <xs:enumeration value="ErrorCannotSaveDocument"/>
            <xs:enumeration value="ErrorInvalidCommand"/>
            <xs:enumeration value="ErrorDocVersionMismatch"/>
            <xs:enumeration value="ErrorCannotAcquirePptEditLock"/>
```

```xml
<xs:enumeration value="ErrorRequiresCheckout"/>
<xs:enumeration value="ErrorLockedForOfflineCheckout"/>
<xs:enumeration value="ErrorLockedByAnotherUser"/>
<xs:enumeration value="ErrorAccessDenied"/>
<xs:enumeration value="ErrorNoLicense"/>
<xs:enumeration value="ErrorRequestTooBig"/>
<xs:enumeration value="ErrorTextTooBig"/>
<xs:enumeration value="ErrorTryAgain"/>
<xs:enumeration value="ErrorUnexpected"/>
<xs:enumeration value="ErrorCannotOpenDocumentMacro"/>
<xs:enumeration value="ErrorCannotOpenDocumentFinal"/>
<xs:enumeration value="ErrorCannotOpenDocumentSigned"/>
<xs:enumeration value="ErrorCannotOpenEmbeddedFonts"/>
<xs:enumeration value="ErrorNoAvailableEditAppServer"/>
<xs:enumeration value="ErrorServiceUnavailable"/>
<xs:enumeration value="ErrorPptEditExistingExclusiveLock"/>
<xs:enumeration value="ErrorPptEditCheckedOutByAnother"/>
<xs:enumeration value="ErrorCannotOpenDocumentGatekeeperFailure"/>
<xs:enumeration value="ErrorEditWorkerTimeout"/>
<xs:enumeration value="ErrorEditSlideCorruption"/>
<xs:enumeration value="ErrorServiceBusy"/>
<xs:enumeration value="ErrorClipartCannotConnect"/>
<xs:enumeration value="ErrorClipartCannotDownload"/>
<xs:enumeration value="ErrorMediaNotEnabled"/>
<xs:enumeration value="ErrorUnsupportedMediaFormat"/>
<xs:enumeration value="ErrorLinkedMediaNotEnabled"/>
<xs:enumeration value="ErrorUnsupportedLinkTarget"/>
<xs:enumeration value="ErrorEmbeddedMediaNotEnabled"/>
<xs:enumeration value="ErrorEmbeddedMediaExceedsMaxSize"/>
<xs:enumeration value="ErrorTranscodingNotEnabled"/>
<xs:enumeration value="ErrorMediaUnavailable"/>
<xs:enumeration value="ErrorCannotOpenODPDocumentPassword"/>
<xs:enumeration value="ErrorLocalChangeLostDueToCoautherEdit"/>
<xs:enumeration value="ErrorNumberOfCoauthorsReachedMax"/>
<xs:enumeration value="ErrorCannotAcquirePptEditSharedLock"/>
<xs:enumeration value="ErrorInProgress"/>
<xs:enumeration value="ErrorImageTooLarge"/>
<xs:enumeration value="ErrorImageWrongFormat"/>
<xs:enumeration value="ErrorImageNoAccess"/>
<xs:enumeration value="ErrorWacItemRetrievalDocumentOutputNotFound"/>
<xs:enumeration value="ErrorWacItemRetrievalAccessDenied"/>
<xs:enumeration value="ErrorWacItemRetrievalCommunicationErrorStreamDirty"/>
<xs:enumeration value="ErrorWacItemRetrievalCommunicationErrorStreamClean"/>
<xs:enumeration value="ErrorWacItemRetrievalUnknownError"/>
<xs:enumeration value="ErrorWacConversionManagerDoesNotSupportThisRequest"/>
<xs:enumeration value="ErrorWacConversionCannotFindSourceDocument"/>
<xs:enumeration value="ErrorWacConversionWorkerException"/>
<xs:enumeration value="ErrorWacConversionWorkerCrashed"/>
<xs:enumeration value="ErrorWacConversionWorkerHung"/>
<xs:enumeration value="ErrorWacConversionUnknownResponse"/>
<xs:enumeration value="ErrorWacConversionUnknownError"/>
<xs:enumeration value="ErrorWacConversionFirstServerResult"/>
<xs:enumeration value="ErrorCannotOpenDocumentWrongExt"/>
<xs:enumeration value="ErrorCannotOpenDocumentStgDocFileCorrupt"/>
<xs:enumeration value="ErrorCannotOpenDocumentStgFileAlreadyExists"/>
<xs:enumeration value="ErrorCannotOpenDocumentMmcfPackagePartNotFound"/>
<xs:enumeration value="ErrorCannotOpenDocumentArchiveError"/>
<xs:enumeration value="ErrorCannotPastePictureCannotCreateUrl"/>
<xs:enumeration value="ErrorCannotPastePictureInvalidResponse"/>
```

```
          <xs:enumeration value="ErrorCannotPastePictureNotFound"/>
          <xs:enumeration value="ErrorCannotPastePictureResponseEmpty"/>
          <xs:enumeration value="ErrorCannotPastePictureUnexpectedStatusCode"/>
          <xs:enumeration value="ErrorCannotPastePictureUnexpectedWebException"/>
          <xs:enumeration value="ErrorRESERVEDLastError"/>
        </xs:restriction>
      </xs:simpleType>
      <xs:element name="ErrorCode" nillable="true" type="tns:ErrorCode"/>
    </xs:schema>
```

7.3 http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Pipe.Interface Schema

```
<?xml version="1.0"?>
<xs:schema
xmlns:tns1="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Pipe.Interface" elementFormDefault="qualified"
targetNamespace="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Pipe.Interface" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:import namespace="http://schemas.microsoft.com/2003/10/Serialization/"/>
  <xs:simpleType name="ClientActions">
    <xs:list>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:enumeration value="None"/>
          <xs:enumeration value="Dismiss"/>
          <xs:enumeration value="Close"/>
          <xs:enumeration value="OpenInClient"/>
          <xs:enumeration value="Refresh"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:list>
  </xs:simpleType>
  <xs:element name="ClientActions" nillable="true" type="tns1:ClientActions"/>
</xs:schema>
```

7.4 http://schemas.datacontract.org/2004/07/p Schema

```
<?xml version="1.0"?>
<xs:schema xmlns:tns2="http://schemas.datacontract.org/2004/07/p"
elementFormDefault="qualified" targetNamespace="http://schemas.datacontract.org/2004/07/p"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType name="SlideInfoResult">
    <xs:sequence>
      <xs:element minOccurs="0" name="ResourceInfoList" nillable="true" type="xs:string"/>
      <xs:element minOccurs="0" name="Slide" nillable="true" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="SlideInfoResult" nillable="true" type="tns2:SlideInfoResult"/>
  <xs:complexType name="PptViewingService.BinaryConversionResult">
    <xs:sequence>
      <xs:element minOccurs="0" name="EditUrl" nillable="true" type="xs:string"/>
      <xs:element minOccurs="0" name="FExists" type="xs:boolean"/>
      <xs:element minOccurs="0" name="ViewUrl" nillable="true" type="xs:string"/>
    </xs:sequence>
```

```xml
      </xs:complexType>
      <xs:element name="PptViewingService.BinaryConversionResult" nillable="true"
type="tns2:PptViewingService.BinaryConversionResult"/>
      <xs:complexType name="PptViewingService.PrintResult">
        <xs:sequence>
          <xs:element minOccurs="0" name="PrintUrl" nillable="true" type="xs:string"/>
        </xs:sequence>
      </xs:complexType>
      <xs:element name="PptViewingService.PrintResult" nillable="true"
type="tns2:PptViewingService.PrintResult"/>
      <xs:complexType name="ServiceResult">
        <xs:sequence>
          <xs:element minOccurs="0" name="Error" nillable="true" type="tns2:ServiceError"/>
          <xs:element minOccurs="0" name="Result" nillable="true" type="xs:anyType"/>
        </xs:sequence>
      </xs:complexType>
      <xs:element name="ServiceResult" nillable="true" type="tns2:ServiceResult"/>
      <xs:complexType name="ServiceError">
        <xs:sequence>
          <xs:element
xmlns:tns="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interfa
ce.Shared" minOccurs="0" name="Code" type="tns:ErrorCode"/>
          <xs:element minOccurs="0" name="Message" nillable="true" type="xs:string"/>
          <xs:element
xmlns:tns1="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Pipe.I
nterface" minOccurs="0" name="RecommendedActions" type="tns1:ClientActions"/>
          <xs:element minOccurs="0" name="Title" nillable="true" type="xs:string"/>
          <xs:element minOccurs="0" name="Type" type="tns2:ServiceErrorType"/>
        </xs:sequence>
      </xs:complexType>
      <xs:element name="ServiceError" nillable="true" type="tns2:ServiceError"/>
      <xs:simpleType name="ServiceErrorType">
        <xs:restriction base="xs:string">
          <xs:enumeration value="UnknownError"/>
          <xs:enumeration value="ApplicationError"/>
          <xs:enumeration value="Timeout"/>
          <xs:enumeration value="ServiceBusy"/>
          <xs:enumeration value="SessionFull"/>
        </xs:restriction>
      </xs:simpleType>
      <xs:element name="ServiceErrorType" nillable="true" type="tns2:ServiceErrorType"/>
      <xs:import
namespace="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interfa
ce.Shared"/>
      <xs:import
namespace="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Pipe.In
terface"/>
    </xs:schema>
```

7.5 http://schemas.microsoft.com/2003/10/Serialization/Arrays Schema

```xml
<?xml version="1.0"?>
<xs:schema xmlns:q1="http://schemas.microsoft.com/2003/10/Serialization/Arrays"
elementFormDefault="qualified"
targetNamespace="http://schemas.microsoft.com/2003/10/Serialization/Arrays"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType name="ArrayOfstring">
    <xs:sequence>
```

```
      <xs:element minOccurs="0" maxOccurs="unbounded" name="string" nillable="true"
type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="ArrayOfstring" nillable="true" type="q1:ArrayOfstring"/>
  <xs:complexType name="ArrayOfanyType">
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="unbounded" name="anyType" nillable="true"
type="xs:anyType"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="ArrayOfanyType" nillable="true" type="q1:ArrayOfanyType"/>
  <xs:complexType name="ArrayOfunsignedInt">
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="unbounded" name="unsignedInt"
type="xs:unsignedInt"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="ArrayOfunsignedInt" nillable="true" type="q1:ArrayOfunsignedInt"/>
</xs:schema>
```

7.6 http://schemas.microsoft.com/2003/10/Serialization/ Schema

```
<?xml version="1.0"?>
<xs:schema xmlns:tns3="http://schemas.microsoft.com/2003/10/Serialization/"
attributeFormDefault="qualified" elementFormDefault="qualified"
targetNamespace="http://schemas.microsoft.com/2003/10/Serialization/"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:element name="anyType" nillable="true" type="xs:anyType"/>
  <xs:element name="anyURI" nillable="true" type="xs:anyURI"/>
  <xs:element name="base64Binary" nillable="true" type="xs:base64Binary"/>
  <xs:element name="boolean" nillable="true" type="xs:boolean"/>
  <xs:element name="byte" nillable="true" type="xs:byte"/>
  <xs:element name="dateTime" nillable="true" type="xs:dateTime"/>
  <xs:element name="decimal" nillable="true" type="xs:decimal"/>
  <xs:element name="double" nillable="true" type="xs:double"/>
  <xs:element name="float" nillable="true" type="xs:float"/>
  <xs:element name="int" nillable="true" type="xs:int"/>
  <xs:element name="long" nillable="true" type="xs:long"/>
  <xs:element name="QName" nillable="true" type="xs:QName"/>
  <xs:element name="short" nillable="true" type="xs:short"/>
  <xs:element name="string" nillable="true" type="xs:string"/>
  <xs:element name="unsignedByte" nillable="true" type="xs:unsignedByte"/>
  <xs:element name="unsignedInt" nillable="true" type="xs:unsignedInt"/>
  <xs:element name="unsignedLong" nillable="true" type="xs:unsignedLong"/>
  <xs:element name="unsignedShort" nillable="true" type="xs:unsignedShort"/>
  <xs:element name="char" nillable="true" type="tns3:char"/>
  <xs:simpleType name="char">
    <xs:restriction base="xs:int"/>
  </xs:simpleType>
  <xs:element name="duration" nillable="true" type="tns3:duration"/>
  <xs:simpleType name="duration">
    <xs:restriction base="xs:duration">
      <xs:pattern value="\-?P(\d*D)?(T(\d*H)?(\d*M)?(\d*(\.\d*)?S)?)?"/>
      <xs:minInclusive value="-P10675199DT2H48M5.4775808S"/>
      <xs:maxInclusive value="P10675199DT2H48M5.4775807S"/>
    </xs:restriction>
  </xs:simpleType>
```

```
    <xs:element name="guid" nillable="true" type="tns3:guid"/>
    <xs:simpleType name="guid">
      <xs:restriction base="xs:string">
        <xs:pattern value="[\da-fA-F]{8}-[\da-fA-F]{4}-[\da-fA-F]{4}-[\da-fA-F]{4}-[\da-fA-
F]{12}"/>
      </xs:restriction>
    </xs:simpleType>
    <xs:attribute name="FactoryType" type="xs:QName"/>
    <xs:attribute name="Id" type="xs:ID"/>
    <xs:attribute name="Ref" type="xs:IDREF"/>
</xs:schema>
```

7.7 http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPointViewingService/ Schema

```
<?xml version="1.0"?>
<xs:schema elementFormDefault="qualified"
targetNamespace="http://schemas.microsoft.com/office/PowerPoint/Server/WebServices/PowerPoint
ViewingService/" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:element name="GetPresentation">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" name="presentationId" nillable="true" type="xs:string"/>
        <xs:element
xmlns:tns="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interfa
ce.Shared" minOccurs="0" name="powerpointView" type="tns:PowerpointView"/>
        <xs:element
xmlns:tns="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interfa
ce.Shared" minOccurs="0" name="format" type="tns:PowerPointFormat"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="GetPresentationResponse">
    <xs:complexType>
      <xs:sequence>
        <xs:element xmlns:tns2="http://schemas.datacontract.org/2004/07/p" minOccurs="0"
name="GetPresentationResult" nillable="true" type="tns2:ServiceResult"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="GetSlide">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" name="slideInfoId" nillable="true" type="xs:string"/>
        <xs:element minOccurs="0" name="presentationId" nillable="true" type="xs:string"/>
        <xs:element
xmlns:tns="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interfa
ce.Shared" minOccurs="0" name="powerpointView" type="tns:PowerpointView"/>
        <xs:element
xmlns:tns="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interfa
ce.Shared" minOccurs="0" name="format" type="tns:PowerPointFormat"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="GetSlideResponse">
    <xs:complexType>
      <xs:sequence>
```

```xml
        <xs:element xmlns:tns2="http://schemas.datacontract.org/2004/07/p" minOccurs="0"
name="GetSlideResult" nillable="true" type="tns2:ServiceResult"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="GetNotesHtmlServiceResult">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" name="notesResourceId" nillable="true" type="xs:string"/>
        <xs:element minOccurs="0" name="presentationId" nillable="true" type="xs:string"/>
        <xs:element
xmlns:tns="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interfa
ce.Shared" minOccurs="0" name="powerpointView" type="tns:PowerpointView"/>
        <xs:element
xmlns:tns="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interfa
ce.Shared" minOccurs="0" name="format" type="tns:PowerPointFormat"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="GetNotesHtmlServiceResultResponse">
    <xs:complexType>
      <xs:sequence>
        <xs:element xmlns:tns2="http://schemas.datacontract.org/2004/07/p" minOccurs="0"
name="GetNotesHtmlServiceResultResult" nillable="true" type="tns2:ServiceResult"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="BinaryConvert">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" name="presentationId" nillable="true" type="xs:string"/>
        <xs:element minOccurs="0" name="targetId" nillable="true" type="xs:string"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="BinaryConvertResponse">
    <xs:complexType>
      <xs:sequence>
        <xs:element xmlns:tns2="http://schemas.datacontract.org/2004/07/p" minOccurs="0"
name="BinaryConvertResult" nillable="true" type="tns2:ServiceResult"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="Print">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" name="presentationId" nillable="true" type="xs:string"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="PrintResponse">
    <xs:complexType>
      <xs:sequence>
        <xs:element xmlns:tns2="http://schemas.datacontract.org/2004/07/p" minOccurs="0"
name="PrintResult" nillable="true" type="tns2:ServiceResult"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="LogULS">
    <xs:complexType>
```

```xml
    <xs:sequence>
      <xs:element minOccurs="0" name="tagID" type="xs:unsignedInt"/>
      <xs:element minOccurs="0" name="level" type="xs:unsignedInt"/>
      <xs:element minOccurs="0" name="message" nillable="true" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:element name="LogULSResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element xmlns:tns2="http://schemas.datacontract.org/2004/07/p" minOccurs="0"
name="LogULSResult" nillable="true" type="tns2:ServiceResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:element name="GetPresentationInfoXml">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" name="presentationId" nillable="true" type="xs:string"/>
      <xs:element minOccurs="0" name="powerpointView" nillable="true" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:element name="GetPresentationInfoXmlResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element xmlns:tns2="http://schemas.datacontract.org/2004/07/p" minOccurs="0"
name="GetPresentationInfoXmlResult" nillable="true" type="tns2:ServiceResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:element name="GetSlideInfo">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" name="slideInfoId" nillable="true" type="xs:string"/>
      <xs:element minOccurs="0" name="resourceInfoListId" nillable="true"
type="xs:string"/>
      <xs:element minOccurs="0" name="presentationId" nillable="true" type="xs:string"/>
      <xs:element minOccurs="0" name="powerpointView" nillable="true" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:element name="GetSlideInfoResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element xmlns:tns2="http://schemas.datacontract.org/2004/07/p" minOccurs="0"
name="GetSlideInfoResult" nillable="true" type="tns2:ServiceResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:element name="BroadcastJoinSession">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" name="sessionId" nillable="true" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:element name="BroadcastJoinSessionResponse">
  <xs:complexType>
```

```xml
      <xs:sequence>
        <xs:element xmlns:tns2="http://schemas.datacontract.org/2004/07/p" minOccurs="0"
name="BroadcastJoinSessionResult" nillable="true" type="tns2:ServiceResult"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="BroadcastUnjoinSession">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" name="sessionId" nillable="true" type="xs:string"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="BroadcastUnjoinSessionResponse">
    <xs:complexType>
      <xs:sequence>
        <xs:element xmlns:tns2="http://schemas.datacontract.org/2004/07/p" minOccurs="0"
name="BroadcastUnjoinSessionResult" nillable="true" type="tns2:ServiceResult"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="BroadcastGetData">
    <xs:complexType>
      <xs:sequence>
        <xs:element
xmlns:q12="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interfa
ce.Data" minOccurs="0" name="user" nillable="true" type="q12:BroadcastUser"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="BroadcastGetDataResponse">
    <xs:complexType>
      <xs:sequence>
        <xs:element xmlns:tns2="http://schemas.datacontract.org/2004/07/p" minOccurs="0"
name="BroadcastGetDataResult" nillable="true" type="tns2:ServiceResult"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:import
namespace="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interfa
ce.Data"/>
  <xs:import
namespace="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Powerpoint.Interfa
ce.Shared"/>
  <xs:import namespace="http://schemas.datacontract.org/2004/07/p"/>
</xs:schema>
```

8 Appendix C: 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 Office Home and Business 2010

- Microsoft Office Home and Student 2010

- Microsoft Office Professional 2010

- Microsoft Office Professional Plus 2010

- Microsoft Office Standard 2010

- Microsoft PowerPoint 2010

- Microsoft PowerPoint Web App

- Microsoft Office 2013

- Microsoft PowerPoint 2013

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 2.2.4: This complex type is not supported in Office 2013.

<2> Section 2.2.4: Support for this operation was added in Office 2013.

<3> Section 2.2.4: Support for this operation was added in Office 2013

<4> Section 2.2.4: Support for this type was added in Office 2013.

<5> Section 2.2.4: This complex type is not supported in Office 2013.

<6> Section 2.2.4: This complex type is not supported in Office 2013.

<7> Section 2.2.4: Support for this operation was added in Office 2013

<8> Section 2.2.4: Support for this operation was added in Office 2013.

<9> Section 2.2.4: Support for this type was added in Office 2013.

<10> Section 2.2.4: This type is not supported before Office 2013.

<11> Section 2.2.4: This type is not supported before Office 2013.

<12> Section 2.2.4: This type is not supported before Office 2013.

<13> Section 2.2.4: Support for this operation was added in Office 2013.

<14> Section 2.2.4: This type is not supported before Office 2010 SP1.

<15> Section 2.2.4.2: This complex type is not supported in Office 2013.

<16> Section 2.2.4.14: This complex type is not supported in Office 2013.

<17> Section 2.2.4.15: This complex type is not supported in Office 2013.

<18> Section 2.2.4.44: Support for this element was added in Office 2013. The **hasCmt** element is present in Office 2010 SP1 instead, which is a **xs:Boolean**([XMLSCHEMA2] section 3.2.2) element that specifies whether a presentation has comments.

<19> Section 2.2.4.48: Support for this element was added in Office 2013.

<20> Section 2.2.4.50: Support for this element was added in Office 2013.

<21> Section 2.2.4.50: Support for this element was added in Office 2013.

<22> Section 2.2.4.56: Support for this element was added in Office 2013.

<23> Section 2.2.4.56: Support for this element was added in Office 2013.

<24> Section 2.2.4.63: This type is not supported before Office 2010 SP1.

<25> Section 2.2.4.64: Support for this type was added in Office 2013.

<26> Section 2.2.4.65: Support for this type was added in Office 2013.

<27> Section 2.2.4.66: This type is not supported before Office 2013.

<28> Section 2.2.4.67: This type is not supported before Office 2013.

<29> Section 2.2.4.68: This type is not supported before Office 2013.

<30> Section 2.2.4.69: Support for this operation was added in Office 2013.

<31> Section 2.2.4.70: Support for this operation was added in Office 2013

<32> Section 2.2.4.71: Support for this operation was added in Office 2013

<33> Section 2.2.4.72: Support for this operation was added in Office 2013.

<34> Section 2.2.4.73: Support for this operation was added in Office 2013.

<35> Section 2.2.5: Support for this type was added in Office 2013.

<36> Section 2.2.5: This simple type is not supported in Office 2013.

<37> Section 2.2.5.8: This simple type is not supported in Office 2013.

<38> Section 2.2.5.13: Support for this type was added in Office 2013.

<39> Section 3.1: This message is not supported before Office 2010 Cumulative Update for August 2010.

<40> Section 3.1.3: The URL conforms to the following structure in Office 2010: *base URL*/_vti_bin/ppt/view.svc

<41> Section 3.1.4: This operation is not supported in Office 2013.

Release: November 18, 2013

<42> Section 3.1.4: This operation is not supported in Office 2013.

<43> Section 3.1.4: This operation is not supported before Office 2010 Cumulative Update for August 2010 and in Office 2013.

<44> Section 3.1.4: This operation is not supported before Office 2010 SP1.

<45> Section 3.1.4.2: This operation is not supported in Office 2013.

<46> Section 3.1.4.3: This operation is not supported in Office 2013.

<47> Section 3.1.4.4: This operation is not supported before Office 2010 Cumulative Update for August 2010 and in Office 2013.

<48> Section 3.1.4.11: This operation is not supported before Office 2010 SP1.

9 Change Tracking

No table of changes is available. The document is either new or has had no changes since its last release.

10 Index

Release: November 18, 2013

Messages

N

O

Operations