[MS-PWPHP]:
PowerPoint Web Presentation Handler Protocol Specification

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Revision Summary

Date	Revision History	Revision Class	Comments
10/08/2012	1.0	New	Released new document.

Table of Contents

1 Introduction

The PowerPoint Web Presentation Handler 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]:

Hypertext Transfer Protocol (HTTP)
Hypertext Transfer Protocol over Secure Sockets Layer (HTTPS)

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

permission
presentation
presentation slide
Request-URI
website

The following terms are specific to this document:

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

1.2 References

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

1.2.1 Normative References

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

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

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

[RFC1945] Berners-Lee, T., Fielding, R., and Frystyk, H., "Hypertext Transfer Protocol -- HTTP/1.0", RFC 1945, May 1996, http://www.ietf.org/rfc/rfc1945.txt

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

[RFC2396] Berners-Lee, T., Fielding, R., and Masinter, L., "Uniform Resource Identifiers (URI): Generic Syntax", RFC 2396, August 1998, http://www.ietf.org/rfc/rfc2396.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

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

1.2.2 Informative References

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

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

1.3 Overview

This 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.

1.4 Relationship to Other Protocols

This protocol uses **HTTP** 1.0, as described in [RFC1945], HTTP 1.1, as described in [RFC2616], or **Hypertext Transfer Protocol over Secure Sockets Layer (HTTPS)**, as described in [RFC2818], for message transport.

The following diagram shows the underlying messaging and transport stack used by the protocol:

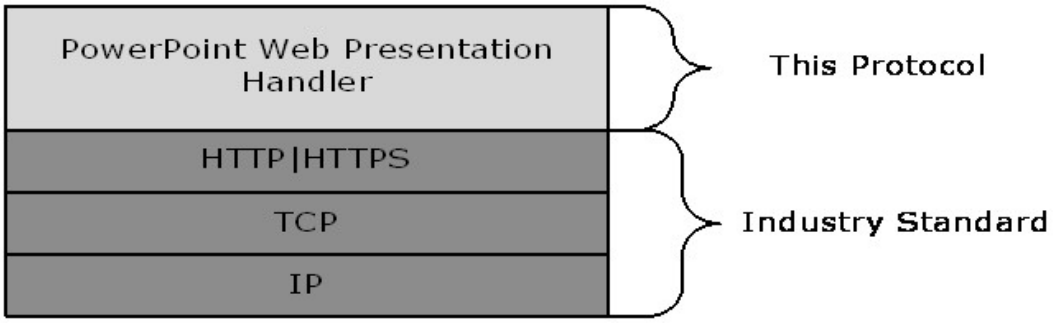

Figure 1: This protocol in relation to other protocols

1.5 Prerequisites/Preconditions

This protocol operates against a **Web site (1)** identified by a URL that is known by protocol clients. The protocol server endpoint is formed by appending /p/presentation.ashx to the URL of the Web site (1), for example: http://www.contoso.com/p/presentation.ashx.

The protocol assumes that authentication 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

Versioning and capability negotiation for this protocol is handled by either the HTTP protocols as described in [RFC1945] and [RFC2616], or the HTTPS protocol as described in [RFC2818].

1.8 Vendor-Extensible Fields

None.

1.9 Standards Assignments

None.

2 Messages

2.1 Transport

All protocol messages MUST use HTTP 1.0 (as specified in [RFC1945]), HTTP 1.1 (as specified in [RFC2616]), or the HTTPS protocol (as specified in [RFC2818]) for message transport. Additionally, protocol servers MUST support JSON [RFC4627] over HTTP and HTTPS.

2.2 Message Syntax

All messages in this protocol MUST be valid HTTP requests and responses as specified in [RFC2616].

2.2.1 Request Syntax

2.2.1.1 Request HTTP Version

The HTTP version MUST be either HTTP 1.0 or HTTP 1.1, as specified in [RFC2616] section 3.1.

2.2.1.2 Request HTTP Method

The protocol client MUST use the HTTP GET method as specified in [RFC2616] section 9.

2.2.1.3 Request-URI Syntax

The **Request-URI** MUST adhere to the following rules:

- The Request-URI sent in the HTTP request MUST be a valid URI as specified in [RFC1738].
- The Scheme Component MUST be either HTTP or HTTPS, as specified in [RFC2396] section 3.1.
- The protocol client MUST generate the Request-URI by appending "/p/presentation.ashx" to the Web site (1) URI.

The Query Component of the Request-URI MUST be present and follow the rules specified in section 2.2.1.3.1 and [RFC2396] section 3.4.

2.2.1.3.1 Query Segment

The Query Component of the Request-URI MUST contain three query string parameters with the following names:

- pid
- ct
- wdSlideId

The value for each query string parameter MUST be a non-empty string and a valid query string parameter value as specified in [RFC2396]. The Query Component MUST NOT contain query string parameters other than the three required parameters, as specified in [RFC2396] section 3.4. The protocol server MUST NOT require the query string parameters to appear in any particular order.

The protocol client and protocol server MUST interpret the query string parameters as defined in the following table.

Parameter name	Description
pid	The identifier of the presentation to retrieve information about.
ct	The value for this parameter MUST be set to "slide".
wdSlideId	The identifier of the **presentation slide** to retrieve information about, as specified in [ISO/IEC29500-1:2011] section 19.7.13.

2.2.1.4 Request Header Syntax

The protocol client MUST provide valid Message Headers as specified in [RFC2616] section 4.2.

2.2.2 Response Syntax

2.2.2.1 Response Status

The protocol server MUST provide a valid status code as specified in [RFC2616] section 6.1.1.

2.2.2.2 Response Header Syntax

The protocol server MUST provide valid message headers as specified in [RFC2616] section 4.2.

2.2.2.3 Response Body Syntax

The protocol server MUST provide a valid message body as specified in [RFC2616] section 4.3.

The content of the message body MUST be a **Slide** as specified in section 2.2.2.3.1.

2.2.2.3.1 Slide

A complex type that specifies a presentation slide.

Child Elements:

FHidden: A Boolean that specifies if the presentation slide is hidden.

Id: An integer that specifies the identifier of the presentation slide.

Notes: A string that specifies the notes for the presentation slide.

Thumbnail: A string that specifies the URL of the thumbnail for the presentation slide.

Title: A string that specifies the title of the presentation slide.

3 Protocol Details

3.1 Common Details

The protocol client sends an HTTP request to the protocol server as specified in section 2.2.1. The protocol server responds with an HTTP response as specified in section 2.2.2.

3.1.1 Abstract Data Model

None.

3.1.2 Timers

None.

3.1.3 Initialization

None.

3.1.4 Higher-Layer Triggered Events

None.

3.1.5 Message Processing Events and Sequencing Rules

The message processing events and sequencing rules are as follows:

- The protocol client MUST generate a valid Request-URI as specified in section 2.2.1.3.
- The protocol client MUST issue the HTTP GET request to the generated URL.
- The protocol server MUST verify that the client has **permission** to access the specified URL and MUST return the appropriate Status Code as specified in [RFC2616] section 6.1.1 if the protocol client does not have permissions. The client MUST be prepared to accept all status codes specified in [RFC2616] section 6.1.1.
- After performing any implementation specific processing, the protocol server MUST return a valid HTTP response as specified in section 2.2.2.

3.1.6 Timer Events

None.

3.1.7 Other Local Events

None.

4 Protocol Examples

The following is an example of this protocol usage. In this example, the identifier of the presentation is the following:

```
http://www.contoso.com/documents/loremipsum.pptx
```

The URL generated by the protocol client to get information about slide 256 is as follows:

```
http://
www.contoso.com/p/presentation.ashx?Pid=http://www.contoso.com/documents/loremipsum.pptx&ct=s
lide&wdSlideId=256
```

HTTP request

```
GET http://
www.contoso.com/p/presentation.ashx?Pid=http://www.contoso.com/documents/loremipsum.pptx&ct=s
lide&wdSlideId=256 HTTP/1.1
Accept: */*
Host: contoso.com
Connection: Keep-Alive
```

HTTP response

```
HTTP/1.1 200 OK
Cache-Control: no-cache, no-store
Pragma: no-cache
Content-Type: application/json; charset=UTF-8
Expires: -1
Vary: Accept-Encoding
Server: Microsoft-IIS/7.5
P3P: CP="CAO DSP COR ADMa DEV CONi TELi CUR PSA PSD TAI IVDi OUR SAMi BUS DEM NAV STA UNI COM
INT PHY ONL FIN PUR"
X-Content-Type-Options: nosniff
X-Download-Options: noopen
Content-Disposition: attachment
X-AspNet-Version: 4.0.30319
X-Powered-By: ASP.NET
Date: Fri, 07 Sep 2012 17:51:48 GMT
Content-Length: 1437

[{"FHidden":false,"Id":256,"Notes":[{"align":0,"buChar":"","level":1,"rtl":false,"t":"Lorem
ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut
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laborum."}],"Thumbnail":".\/imagehandler.ashx?
Pid=http://www.contoso.com/documents/loremipsum.pptx&Rid=img256.png","Title":"Lorem ipsum
dolor sit amet"}]
```

5 Security

5.1 Security Considerations for Implementers

When using this protocol over an untrusted network, an HTTPS (as described in [RFC2818]) connection can help mitigate risks of protocol messages being intercepted or tampered with.

The information contained in the presentation identified by the pid query string parameter is likely to be security sensitive. For example, it could contain confidential data such as financial records. Therefore it is recommended that the protocol server establish that the protocol client has permissions to access the presentation.

There are no restrictions on the protocol server regarding the message header content type, as described in [RFC2616] section 14.17. Therefore, it is recommended that the protocol client checks the Content-Type to avoid running any executable file that could pose a security risk.

5.2 Index of Security Parameters

None.

6 Appendix A: Product Behavior

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

- Microsoft® PowerPoint® 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.

7 Change Tracking

No table of changes is available. The document is either new or has had no changes since its last release.

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