

[MS-ESURL]: Excel Services Publishing Protocol Specification

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's Open Specification Promise (available here: <http://www.microsoft.com/interop/osp>) or the Community Promise (available here: <http://www.microsoft.com/interop/cp/default.msp>). 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 iplq@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.
- **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
04/04/2008	0.1		Initial Availability
06/27/2008	1.0	Major	Revised and edited the technical content
12/12/2008	1.01	Editorial	Revised and edited the technical content
03/18/2009	1.02	Editorial	Revised and edited the technical content
07/13/2009	1.03	Major	Revised and edited the technical content
08/28/2009	1.04	Editorial	Revised and edited the technical content
11/06/2009	1.05	Editorial	Revised and edited the technical content
02/19/2010	2.0	Minor	Updated the technical content
03/31/2010	2.01	Editorial	Revised and edited the technical content
04/30/2010	2.02	Editorial	Revised and edited the technical content
06/07/2010	2.03	Editorial	Revised and edited the technical content
06/29/2010	2.04	Editorial	Changed language and formatting in the technical content.
07/23/2010	2.05	Minor	Clarified the meaning of the technical content.
09/27/2010	2.05	No change	No changes to the meaning, language, or formatting of the technical content.
11/15/2010	2.05	No change	No changes to the meaning, language, or formatting of the technical content.
12/17/2010	2.05	No change	No changes to the meaning, language, or formatting of the technical content.
03/18/2011	2.05	No change	No changes to the meaning, language, or formatting of the technical content.
06/10/2011	2.05	No change	No changes to the meaning, language, or formatting of the technical content.

Table of Contents

1	Introduction	4
1.1	Glossary	4
1.2	References.....	4
1.2.1	Normative References.....	4
1.2.2	Informative References	5
1.3	Protocol Overview (Synopsis)	5
1.4	Relationship to Other Protocols.....	5
1.5	Prerequisites/Preconditions	5
1.6	Applicability Statement.....	6
1.7	Versioning and Capability Negotiation.....	6
1.8	Vendor-Extensible Fields.....	6
1.9	Standards Assignments	6
2	Messages.....	7
2.1	Transport.....	7
2.2	Message Syntax	7
2.2.1	Request Syntax.....	7
2.2.1.1	Request HTTP Version	7
2.2.1.2	Request HTTP Method	7
2.2.1.3	Request-URI Syntax.....	7
2.2.1.3.1	Query Segment.....	7
2.2.1.4	Request Header Syntax	8
2.2.2	Response Syntax.....	8
2.2.2.1	Response Status.....	8
2.2.2.2	Response Header Syntax	8
2.2.2.3	Response Body Syntax	8
3	Protocol Details	9
3.1	Details.....	9
3.1.1	Abstract Data Model	9
3.1.2	Timers	9
3.1.3	Initialization	9
3.1.4	Higher-Layer Triggered Events.....	9
3.1.5	Message Processing Events and Sequencing Rules.....	9
3.1.6	Timer Events	9
3.1.7	Other Local Events	9
4	Protocol Examples.....	10
5	Security.....	19
5.1	Security Considerations for Implementers.....	19
5.2	Index of Security Parameters	19
6	Appendix A: Product Behavior	20
7	Change Tracking.....	21
8	Index	22

1 Introduction

This document specifies the Excel Services Publishing Protocol, which enables a protocol client to form the protocol server **URL** and associated query string parameters to display the **workbook** in the browser after the workbook is **published** to the protocol server.

1.1 Glossary

The following terms are defined in [\[MS-GLOS\]](#):

authentication
Hypertext Transfer Protocol (HTTP)

The following terms are defined in [\[MS-OFCGLOS\]](#):

permission
published
Request-URI
site
Uniform Resource Locator (URL)
workbook

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

1.2.1 Normative References

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

[MS-WEBSS] Microsoft Corporation, "[Webs Web Service Protocol Specification](#)"

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

[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>

1.2.2 Informative References

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

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

1.3 Protocol Overview (Synopsis)

This protocol specifies how the protocol server URL that is used for displaying the workbook in the browser is formed. At a high level, the protocol involves the following operations:

- Discovery of the URL that is used to display the workbook in the browser given the URL to the workbook.
- Setting the appropriate query string parameters in the URL for displaying the workbook in the browser.

The following sequence diagram illustrates the operations of the protocol.

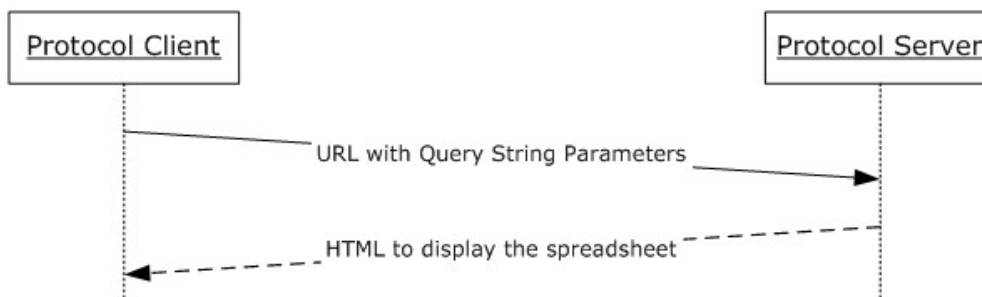


Figure 1: This protocol message processing sequence

1.4 Relationship to Other Protocols

This protocol uses **HTTP** 1.0 (as described in [RFC1945](#)), HTTP 1.1 (as described in [RFC2616](#)), or the HTTPS protocol (as described in [RFC2818](#)) for message transport. The following diagram shows the transport stack that the protocol uses:

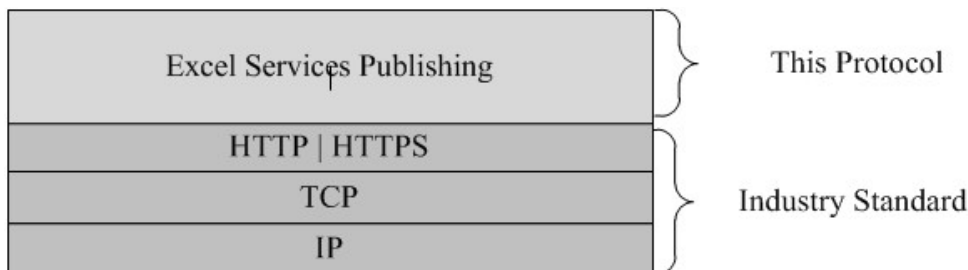


Figure 2: This protocol in relation to other protocols

1.5 Prerequisites/Preconditions

This protocol operates against a **site (2)** identified by a URL that is known by protocol clients. The protocol server endpoint is formed by appending `/_layouts/xlviewer.aspx` to the URL of the site (2), for example: `http://www.contoso.com/Repository/_layouts/xlviewer.aspx`.

The protocol assumes that **authentication (2)** has been performed by the underlying protocols.

1.6 Applicability Statement

This protocol is for providing protocol clients access to an HTML rendering of a workbook.

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.

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 "/_layouts/xlviewer.aspx" to the site (2) URI to which the workbook was published. The protocol client MUST determine the site (2) URI by calling `WebUrlFromPageUrl` (as specified in [\[MS-WEBSS\]](#) section 3.1.4.21) with the full URI to which the workbook was published. Therefore the Path Component of the Request-URI MUST end with "/_layouts/xlviewer.aspx", as specified in [\[RFC2396\]](#) section 3.3.
- The Query Component of the Request-URI MUST be present and follow the rules specified in [\[Query Segment\]](#) and [\[RFC2396\]](#) section 3.4.

The complete contents of the Request-URI MUST be negotiated prior to initiating the protocol as described in [\[Prerequisites/Preconditions\]](#). This includes the Authority Component as specified in [\[RFC2396\]](#) section 3.2 and the Path Component specified in [\[RFC2396\]](#) section 3.3.

2.2.1.3.1 Query Segment

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

- ID
- DefaultItemOpen
- Cookie

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
ID	The location to which the workbook is published. The value for this parameter MUST be a valid URL as specified in [RFC1738] . The Scheme Component as specified in [RFC2396] section 3.1 of the ID URL MUST be either "HTTP" or "HTTPS".
DefaultItemOpen	The value for this parameter MUST be set to 1.
Cookie	An identifier used to make the Request-URI unique. SHOULD be ignored by the protocol server. The protocol client MUST set the value for this parameter to a unique value across all requests from that protocol client.

Table 1: Query Parameters

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.

3 Protocol Details

3.1 Details

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 [Request-URI Syntax](#).
- 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 [Response Syntax](#).

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 workbook is published to the following location:

```
http://server-name/Site/Dir/Book1.xlsx
```

The URL generated by this protocol that will render the workbook in HTML is as follows:

```
http://server-name/Site/_layouts/xlviewer.aspx?id=http://server-  
name/Site/Dir/Book1.xlsx&DefaultItemOpen=1&Cookie=0
```

http://server-name/Site is the URL of the site (2) to which the workbook was published. Microsoft protocol clients determine the site (2) URL by calling **WebUrlFromPageUrl** (as described in [\[MS-WEBS\]](#)) with the full URL to which the workbook was published.

HTTP request:

```
GET  
/team/mysite/_layouts/xlviewer.aspx?id=http%3a%2f%2fServerName%2fSite%2fDocument%20Library%2f  
Example.xlsx&DefaultItemOpen=1&Cookie=2 HTTP/1.1  
Accept: */*  
Host: ServerName
```

HTTP response:

```
HTTP/1.1 200 OK  
Date: Fri, 22 Jan 2010 20:46:55 GMT  
Server: Microsoft-IIS/6.0  
MicrosoftSharePointTeamServices: 12.0.0.4017  
X-Powered-By: ASP.NET  
X-AspNet-Version: 2.0.50727  
Set-Cookie: WSS_KeepSessionAuthenticated=80; path=/  
Set-Cookie: MSOWebPartPage_AnonymousAccessCookie=80; expires=Fri, 22-Jan-2010 21:16:55 GMT;  
path=/  
Cache-Control: private, max-age=0  
Expires: Thu, 07 Jan 2010 20:46:55 GMT  
Last-Modified: Fri, 22 Jan 2010 20:46:55 GMT  
Content-Type: text/html; charset=utf-8  
Content-Length: 20300  
<html id="m_htmlTag" dir="ltr">  
<head>  
  <meta name="WebPartPageExpansion" content="full" />  
  <meta name="GENERATOR" content="Microsoft SharePoint" />  
  <meta name="ProgId" content="SharePoint.WebPartPage.Document" />  
  <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />  
  <title id="m_title">Excel Web Access - http://ServerName/Site/Document  
Library/Example.xlsx</title>  
  <link rel="stylesheet" type="text/css"  
href="/_layouts/1033/styles/EWRDefault.css?rev=oIw8MMnEVJ5jKs65UzX4cw%3D%3D"/>  
<link rel="stylesheet" type="text/css"  
href="/_layouts/1033/styles/core.css?rev=5msmprmeONfN6lJ3wtbAlA%3D%3D"/>
```

```
<script type="text/javascript" language="javascript"
src="/_layouts/1033/init.js?rev=ck%2BhdHQ8ABQHif7kr%2Bj7iQ%3D%3D"></script>
<script src="/_layouts/1033/core.js?rev=S5dt4K8TJGVTYU9HrW6enw%3D%3D"></script>
<script src="/_layouts/1033/owsbrows.js?rev=%2F0cWXc03f8AvM0C%2F2LOCjA%3D%3D"></script>
<script src="/_layouts/EWRScripts.js?rev=ycNXUsNKKdlqh12ZwFcmTQ%3D%3D"></script>
<script type="text/javascript" language="javascript"
src="/_layouts/portal.js?rev=cRI8b5r5N%2BkLhIuWR03ICg%3D%3D"></script>

<meta name="Microsoft Theme" content="default" />
<meta name="Microsoft Border" content="none" />
<link type="text/xml" rel="alternate" href="_vti_bin/spdisco.aspx" />
</head>

<body style="overflow:auto;">
<form name="ctl05" method="post"
action="xlviewer.aspx?id=http%3a%2f%2fServerName%2fSite%2fDocument+Library%2fExample.xls&amp;
;DefaultItemOpen=1&Cookie=2" onsubmit="javascript:return WebForm_OnSubmit();" id="ctl05"
dir="ltr">
<div>
<input type="hidden" name="__EVENTTARGET" id="__EVENTTARGET" value="" />
<input type="hidden" name="__EVENTARGUMENT" id="__EVENTARGUMENT" value="" />
<input type="hidden" name="__REQUESTDIGEST" id="__REQUESTDIGEST"
value="0x287836C9DDD259475E14616190CA7036C18EBEF6F4F6F9AFB1D46B8A3C0D763F5CCFEC4B5E5C51BCB1E1
C4AF4E6327C0C726F3A1C10D7EC9EF9726A135AE3F55,22 Jan 2010 21:28:17 -0000" />
<input type="hidden" name="__VIEWSTATE" id="__VIEWSTATE"
value="/wEPDwUKLTI5NzU2NDc5NW9kFgJmDxYCHgNkaXIFA2x0chYEAgEPFgIeCwLubmVyaHRtbAVNRXhjZWwvV2ViIE
FjY2VzcyAtIGh0dHA6Ly94bHNlcnZpY2VzL3RlYW0vbXN1cmkvU2hhcmVkiERvY3VtZW50cy9FeGFtcGxlLnhs3hkAg0
PFgiFAAUdbHRyFgoCBQ8PFgQeBFRleHQFDk1hbnByYXRhcCBTdXJpHgtOYXZpZ2F0ZVZvYUaUcaHR0cDovL3hsc2Vydmlj
ZXMvdGVhbs9tc3VyaWRkAgkPdxEHwIFEFNoYXJlZCBEB2N1bWVudHMfAwUwL3RlYW0vbXN1cmkvU2hhcmVkiERvY3VtZ
W50cy9Gb3Jtcy9BbGxldGVtcy5hc3B4ZGQCCw9kFgJmD2QWBmYPFgIfAgUmPHNwYW4gc3R5bGU9J3BhZGRpbmctbGVmdD
ozcHgnPjwvc3Bhb3J5aGAgIPDxEHwIFB015IFNpdGUfAwUraHR0cDovL3hsc2VydmljZXM6NTYyNS9fbGF5b3V0cy9NeVN
pdGUuYXNweGRkAgQPFgIfAgU5PHNwYW4gc3R5bGU9J3BhZGRpbmctbGVmdDo0cHg7cGFkZGluZy1yaWdodDozcHgnPnw8
L3NwYW4+ZAIN2QWAmYPZBYCAgMPFgIfAgUBfGQCDw8PFgIeEFBvYXZp3VzV29ya2Jvb2sF+AFscGxTSG5sSWk2N0J1c
zNCaW9tdmXhNXZ0aU1hSzBkUnc4Q3dCK0N1WEFhcEhrRVhBZjZ0Y29mdC5TaGFyZVBvaW50LldlYlBhcnRQYWdlcy5EaXJlY3Rpb2
J4MfY4enQ5SFJxNG56Um8vQVVXaVks5MXJ5cGs0Yzk0a1BybWFSHFNRWx2Yk5TbTMyRHRMRjVKAwdSU3RsczRvVkmXU0Q
wRmw2Yyszm2FaczJ4WHdqTmLCTlFYs1dLS0tRd05KYXZqTki5QWVLRUQ4N1dkUU9wcWlKeW1FT2tKRWoxNlhSNjJjZJl
TjdzZEdxTjK0RmYxY3o2b1hORkxjY3c9PQWBMYPdXyOHgJobQsQmL5c3R1bS5XZWIuVUkuV2ViQ29udHJvbmMuV2ViU
GFydHMvV2ViUGFyEh1bHBNb2RlAR8ACymFAUlp3Jvc29mdC5TaGFyZVBvaW50LldlYlBhcnRQYWdlcy5EaXJlY3Rpb2
4sIElpY3Jvc29mdC5TaGFyZVBvaW50LCBWZXJzaW9uPTEyLjAuMC4wLCBDbDw0dXJlPW5ldXRYyWwsIFB1YmXpY0tleVR
va2VuPtcxZTliY2UxMTFlOTQyOWMAHqJobGUEbnYybG9yZWMAW0dHA6Ly94bHNlcnZpY2VzL3RlYW0vbXN1cmkvX2xh
eW91dHMveGx2aWV3ZXIuYXNweD9pZDlodHRwOi8veGx2ZXJ2aWNlcy90ZWFTL2l1ZDxJpL1NoYXJlZCBEB2N1bWVudHMvR
XhhbXB3ZS54bHN4JkRlZmFlbHRJdGVtT3Blbj0xkNvb2t3b2V0Y29mdC5TaGFyZVBvaW50LldlYlBhcnRQYWdlcy5EaXJlY3Rpb2
VzcGGeCmNvb2t2pZW5hbWUfATJkZAIBDxYCHgR3YmlkBRttX2V4Y2VsV2ViUmVuZGVyZXJfRUNTRnJhbWVkaGIPZBYCAgE
PZBYCZg9kFgJmD2QWBmYPdXyCHglNZXNzYWdlSUQLKZUBTWljcm9zb2Z0Lk9mZmljZS5FeGNlbC5TZXJ2ZXIuRXhjZWxt
ZXJ2ZXJNZXNzYWdlSWQsIElpY3Jvc29mdC5PZmZpY2UuRXhjZWwuU2VydmljZCBWZXJzaW9uPTEyLjAuMC4wLCBDbDw0d
XJlPW5ldXRYyWwsIFB1YmXpY0tleVRva2VuPtcxZTliY2UxMTFlOTQyOWNFfGyeBXdPZHROBQXMDALHgZoZW1naHQFBD
EwMCUEBxN0EwXlBQp6LWluzGV40jA7ZAIBDxYCHw8FF3dpZHR0oJEWMCU7aGVpZ2h0oJEWMCU7FgJmDxYUHHZTY3JpcHR
Gb3JjRnJhbWVDb250ZW50BdMTDQo8aHRtbD4NCgk8Ym9keSBjQW1UaGVJbm10aWFSUGFnZT0nVHJlZSc+DQoJCTxmb3Jt
IG1ldGhvZD0ncG9zdCcgYWN0aW9uPScvdGVhbs9tc3VyaS9fbGF5b3V0cy9FeGNlbFJlbnRlcmVyLmFzcHg/JWNhbmN1b
CUlcmVsb2FkJSFgcg3R5bGU9J2Rpc3BsYXk6bm9uZSc+DQoJCK8aW5wdXQgbmFtZT0nZXdyUG9zdERhdGENIHZhbHVlPS
dscGxTSG5sSWk2N0J1c2NCaW9tdmXhNXZ0aU1hSzBkUnc4Q3dCK0N1WEFhcEhrRVhBZjZ0Y29mdC5TaGFyZVBvaW50LldlYlBhcnRQYWdlcy5EaXJlY3Rpb2
sZlFiUG56c2gvMWVmbVJ4NERvcGxJVfhsQnZiVDQvRDBUaFhmVHFVSDNuN1BMK1V6U3dsbXM2Nz1RWV1Db1htWDJpDvVs
RHprZVpvnDNTZ3BoUmR6OFVrc1RaaDRhRmFzZEGzUFZFWWRtMXzoOVNXTE9rSjZkUjJFZDZvVjBkUlFKd0xpVnFTL1mZo
HRrSTIyYXozVnJhbWVJRdJOOC9qRGN3QUNZaWZHZ2dQdUWVhb09Zc2toNmMvR2ZMOHBPWnZCdFNSU3UzL2E2bjBHSXdkK2
9zYzBGOE9wb1lmm0Q5REhxWVM2d0Vp0prYkRrTzBPdGswMEgrVehNNmwyC2FmMkhBcGxzcWR1M2l1Z205xaDV5Sy9HS1Q
rRHTFNzVKeTVJTUdEcX1DR01vUXZFdkU1Tm11cEtXa2VEW19WVE1MT1ZnSG5UWRSVnRTTtITGL0duNpBTUpvRzJRNVAx
RWshcm5VQjNGNH1oUEFzZHNtVXhqUWwoYX13OU03OE1sOW90SU0vQ1o4Z3JKZDZpR09ieXBBY0Z3VzV0QndjTgdcBnUra
Wm2UHZISjVdek54WU1OenBLMEtHbURqMmRJVdDh3SnhaDRWmh1VDJCM1FMRG56THRYZWxsZDdjdtNjNUJ6dDjtU2RMZF
c2YV1hTVRWdFd4WtBocU9HWHUhgBxYxamljTNTxdTY0RDYafHMEZFT1Q4Z3Jxa1NPSWLkVTcvtOTLMRGhzcmlrQndSNFR
vbXRqaEdmbfMYMDdRZGhjTkg5VU1sUHLqcDMYSHk1Z1ZwaTU2ME1zalh5eWJECUJGb1JLNDZhrTY5dXIwbUZYZYzhVDRS
TEV6dWR1cXJhTHV2RlJUai95Q2U3VU1JaENFVDV0U1VzUkhPdDBYaWZUQzFgTm4zZTR2VnBRTjNaSHZNMTF6Q0E5U1RXc
UJSqmVJYXRRA3BKcCtVMVg3QVBhdEhMUjh1RlpvdkZoSjkyQlgwRjEwRD1Tcc9jY3JyTkFjOEftQTnNemJTVGJzblmVRY
9iejRlEg1TZFNZd3VknTk2dHhIVlF0HRRHOXliVm1hWE5RQ0RDd2psOGJJUmJLRnV0Zl12T3N4bE1yeHRNWMcwWE84OUR
```

SaFglYmloNDVnV1d0enAzMEVEdWljMFlnbW5mWWNBVmxTzFJDuzZHjV2R0NhNVlqR2dzVEIyQjZuaWJXY2FzYXRva2NZ
cU5oTVl4N0QvMUtvREYrdm5Suk4wY2t2Y0ZJPSc+DQoJCTwvZm9ybT4NCgk8L2JvZHk+DQoJPHNjcmldwCB0eXB1PSd0Z
Xh0L2phdmFzY3JpcHQnIGxhbmd1YWdlPSdqYXZhc2NyaXB0Jyd0ZXh0L2phdmFzY3JpcHQnPg0KCQk8IS0tDQoJCQlmdW
5jdGlviBmB2NhbFNjcmldwEdldEF0dHJpYnV0ZShjdHJsLCBhdHRyaWIpDQoJCQl7DQoJCQkJaWYgKGN0cmwuaGFzQXR
0cmldXRlICE9IG51bGwgKQ0KCQkJCQlyZXRLcm4gKGN0cmwuaGFzQXR0cmldXRlKGF0dHJpYikpID8gY3RybC5nZXRb
dHRyaWJldGUoYXR0cmliKSA6IG51bGw7DQoJCQkJZwzzZQ0KCQkJCQlyZXRLcm4gY3RybC5nZXRbBdHRyaWJldGUoYXR0c
mliKTsNCgkJCX0NCg0KCQkJZnVuY3Rpb24gU2V0UG9zdGVkQmFja0FscmVhZHkodmFsKQ0KCQkJCXRYeQ0KCQ
kJCXsNCgkJCQkjd2luZG93LmZyYW1lRWxlbWVudC5zZXRBdHRyaWJldGUoJ1Bvc3RlZEJhY2tBbHJlYWR5JywgdmFsKTs
NCgkJCQl9DQoJCQkJY2F0Y2goZXXgPDQoJCQkJCX0NCgkJCX0NCg0KCQkJZnVuY3Rpb24gRXdyRnJhbWVwb3N0
VG9tZXJ2ZXIoKQ0KCQkJCX0NCgkJCXZhc2YwWwPSAnU3VyZURpZCc7DQoJCQkjdHJ5DQoJCQkJCX0KCQkJCQl2YwWwP
SBMb2NhbFNjcmldwEdldEF0dHJpYnV0ZSh3aW5kb3cuZnJhbWVwFbGVtZW50LldQb3N0ZWRCYWNrQWxyZWFKScPw0KCQ
kJCX0NCgkJCQl1jYXRjaCAoZXXgPDQoJCQkJCX0NCgkJCX0NCgkJCQl2YXlIgc3BlY21hbFJlcG9zdCA9IC1Y2FuY2VsJSI
gPT0gImNhbmd1bD1UcnVlJiIgfhWgIiVyZWxvYWQlIiA9PSAicmVsb2FkPVRydWUmIjsNCgkJCQlpZiAodmFsID09IG51
bGwgfhWgc3BlY21hbFJlcG9zdCkNCgkJCQl7DQoJCQkJCWlmcGhc3BlY21hbFJlcG9zdCkNCgkJCQkJCX0KCQkJCQkJU
2V0UG9zdGVkQmFja0FscmVhZHkoJ1N1cmVEaWQnKTsNCgkJCQkJfQ0KCQkJCQl1bHNlDQoJCQkJCXsNCgkJCQkJCXVnldF
Bvc3RlZEJhY2tBbHJlYWR5KGS1bGwPw0KCQkJCQkjd2luZG93LmZyYW1lRWxlbWVudC5zZXRBdHRyaWJldGUoIkV3c1N
0YXRlcYIsICJsb2FkaW5nIik7DQoJCQkJCX0NCgkJCQkJZG9jdW1lbnQuZm9ybXMuaXRlbSgwkS5zdWJtaXQoKTsNCgk
JCQl9DQoJCQkJZwzzZQ0KCQkJCXsNCgkJCQkJU2V0UG9zdGVkQmFja0FscmVhZHkobnVsbCk7DQoJCQkJCWhpc3RvcnkuY
mFjaygPw0KCQkJCQl3aW5kb3cuc2V0VGltZW9ldCgid2luZG93LmZyYW1lRWxlbWVudC5zZXRBdHRyaWJldGUoIkw3c1N
kJCQl9DQoJCQl9DQoJCQl3aW5kb3cuc2V0VGltZW9ldCgid2luZG93LmZyYW1lRWxlbWVudC5zZXRBdHRyaWJldGUoIkw3c1N
tPg0KCTwvc2NyaXB0Pg0KPC9odG1sPh8NBQQxMDAlHhBfd3JXYW10RWxlbWVudElkBRxtX2V4Y2VsV2ViUmVuZGVyZXJf
V2FpdEltYWdlHw4FBDEwMCUeC2ZyYW1lYm9yZGVyBQEW8FHHotaW5kZXg6MTt2aXNpYmlsaXR5OmhpZGR1bjseCVNjc
m9sbGlzUWUcBm8eD0lZRXdyTWfPbk1mcmFtZQUeDhJ1ZR4JRXdyU3RhHVzZR4JRHVtbXlQYWdlZWQCBAB8WBB8PBQ1kaX
NwbGF5Om5vbmU7HxZlZGRcHuXjujvVxWWE+rd32TChVa4Eaw==" />

</div>

```
<script type="text/javascript">
//
var theForm = document.forms['ctl05'];
if (!theForm) {
    theForm = document.ctl05;
}
function __doPostBack(eventTarget, eventArgument) {
    if (!theForm.onsubmit || (theForm.onsubmit() != false)) {
        theForm.__EVENTTARGET.value = eventTarget;
        theForm.__EVENTARGUMENT.value = eventArgument;
        theForm.submit();
    }
}
//]]&gt;
&lt;/script&gt;</pre></div><div data-bbox="144 583 786 607" data-label="Text"><pre>&lt;script src="/WebResource.axd?d=e0GKyGKnuokxMqsPUJZAlQ2&amp;amp;t=633911231850302493"
type="text/javascript"&gt;&lt;/script&gt;</pre></div><div data-bbox="144 620 721 810" data-label="Text"><pre>&lt;script&gt; var MSOWebPartPageFormName = 'ctl05';&lt;/script&gt;
&lt;script type="text/javascript"&gt;
//<![CDATA[
var originalFormAction = document.forms[0].action;
function FetchCallbackMenuItems(menuTemplate)
{
    var template=document.getElementById(menuTemplate);
    if(template == null || (template != null &amp;&amp; template.hasChildNodes()))
    {
        return;
    }
    __theFormPostData = '';
    WebForm_InitCallback();
    var lastFormAction = document.forms[0].action;
    document.forms[0].action = originalFormAction;</pre></div><div data-bbox="828 849 889 863" data-label="Page-Footer"><p>12 / 22</p></div><div data-bbox="127 868 449 895" data-label="Page-Footer"><p>[MS-ESURL] — v20110608<br/>Excel Services Publishing Protocol Specification</p></div><div data-bbox="132 905 407 920" data-label="Page-Footer"><p>Copyright © 2011 Microsoft Corporation.</p></div><div data-bbox="132 930 370 945" data-label="Page-Footer"><p>Release: Wednesday, June 8, 2011</p></div>
```

```

WebForm_DoCallback('ctl10$MyLinksMenu','',PopulateCallbackMenuItems,'^R^,^F^,ctl10_MyLinksMen
uMenu,ctl10_MyLinksMenuMenuTemplate',null,false);
    document.forms[0].action = lastFormAction;
}
//]]>
</script>
<script type="text/JavaScript" language="JavaScript">
    <!--
        var L_Menu_BaseUrl="/Site";
        var L_Menu_LCID="1033";
        var L_Menu_SiteTheme="";
    </script>
<script src="/_layouts/EWRScripts.js?rev=ycNXUsNKKd1qh12ZwFcmTQ%3D%3D"
type="text/javascript"></script>
<script type="text/javascript">
    <![CDATA[
        function WebForm_OnSubmit() {
            UpdateFormDigest('\u002f\u002f', 1440000);
            return true;
        }
    </script>
//]]>
</script>

<div>

    <input type="hidden" name="__EVENTVALIDATION" id="__EVENTVALIDATION"
value="/wEWAgL85K7DAgLDp935A227vZTrpVx+IX9lEdSAIKYOVXMc" />
</div>

    <table cellpadding="0" cellspacing="0" width="100%" height="100%" border="0">
        <tr>
            <td>
                <!-- begin global breadcrumb -->
                <table width="100%" cellpadding="3" cellspacing="0" border="0" class="ms-
globalbreadcrumb">
                    <tr>
                        <td nowrap="nowrap">
                            <span id="GlobalNavigationSiteMap"><a
href="#GlobalNavigationSiteMap_SkipLink"></a><span><a href="/">Excel Services</a></span><span> &gt;
</span><span><a href="/team">Team</a></span><span> &gt; </span><span></span></span><a
id="GlobalNavigationSiteMap_SkipLink"></a></span>
                            </td>
                        <td nowrap="nowrap">
                            <a id="m_webLink" href="http://ServerName/Site">Site Name</a>
                        </td>
                        <td nowrap="nowrap">
                            <span id="m_backLinkSeparator"> &gt; </span>
                        </td>
                        <td nowrap="nowrap">
                            <a id="m_backLink"
href="/site/Document%20Library/Forms/AllItems.aspx">Shared Documents</a>
                        </td>
                        <td width="100%">
                            &#160;
                        </td>
                    </tr>
                </table>
            </td>
        </tr>
    </table>

```

MS-ESURL] — v20110608
Excel Services Publishing Protocol Specification
Copyright © 2011 Microsoft Corporation.
Release: Wednesday, June 8, 2011

```

        </tr>
        <tr>
            <td style="height:100%;"><div style="overflow:hidden;height:100%;"><div
id="m_excelWebRenderer_WaitImage" width="100%" height="100%" style="z-
index:0;width:100%;height:100%;overflow:auto;">

<table style="height:100%;width:100%;">
    <tr style="height:48%;">
        <td>
            <div style="height:100%;;overflow:hidden;">&nbsp;</div>
        </td>
    </tr>
    <tr>
        <td>
            <table style="height:100%;width:100%;">
                <tr>
                    <td width="100%" valign="top" style="height:2%">
                        <table width="100%" border="0" cellspacing="0" cellpadding="0" class="ms-
propertySheet">
                            <tr>
                                <td align="center" valign="middle">
                                    <table cellpadding="0" cellspacing="0">
                                        <tr>
                                            <td>
                                                <table cellpadding="0" cellspacing="0">
                                                    <tr>
                                                        <td style="padding-top: 0px; padding-left: 20px;
padding-right: 20px;">
                                                            
                                                                </td>
                                                                <td MessageID = "Ewr_LoadProgress" style="padding-
right:20px;" vertical-align="middle">
                                                                    <span class='ewr-progress-msg-font'>Operation in
progress...</span>
                                                                </td>
                                                            </tr>
                                                            <tr>
                                                                <td colspan="2" style="height: 1px">
                                                                    </td>
                                                                </tr>
                                                                <tr>
                                                                    <td colspan="2" style="height: 1px">
                                                                        
                                                                    </td>
                                                                </tr>
                                                                <tr>
                                                                    <td colspan="2" style="height: 1px">
                                                                        
                                                                    </td>
                                                                </tr>
                                                                <tr>
                                                                    <td>
                                                                        
                                                                    </td>
                                                                </tr>

```

MS-ESURL] — v20110608
Excel Services Publishing Protocol Specification
Copyright © 2011 Microsoft Corporation.
Release: Wednesday, June 8, 2011


```

    }

    function SetPostedBackAlready(val)
    {
        try
        {
            window.frameElement.setAttribute('PostedBackAlready', val);
        }
        catch (ex)
        {
        }
    }
}

function EwrFramePostToServer()
{
    var val = 'SureDid';
    try
    {
        val = LocalScriptGetAttribute(window.frameElement, 'PostedBackAlready');
    }
    catch (ex)
    {
    }
    var specialRepost = &quot;%cancel%&quot; == &quot;cancel=True&amp;&quot; ||
&quot;%reload%&quot; == &quot;reload=True&amp;&quot;;
    if (val == null || specialRepost)
    {
        if (!specialRepost)
        {
            SetPostedBackAlready('SureDid');
        }
        else
        {
            SetPostedBackAlready(null);
            window.frameElement.setAttribute(&quot;EwrStatus&quot;,
&quot;loading&quot;);
        }
        document.forms.item(0).submit();
    }
    else
    {
        SetPostedBackAlready(null);
        history.back();
        window.setTimeout(&quot;window.location.reload(false);&quot;, 0);
    }
}
window.setTimeout(&quot;EwrFramePostToServer()&quot;, 0);
// -->
</script>
</html>" width="100%" EwrWaitElementId="m_excelWebRenderer_WaitImage" height="100%"
frameborder="0" style="z-index:1;visibility:hidden;" Scrolling="no" IsEwrMainIframe="true"
EwrStatus="" DummyPage=""></IFrame></div>
<script type='text/javascript' language='javascript'>
    <!--
        FillIFrameWithForm('m_excelWebRenderer_ECSFrame', false, '');
    // -->
</script>
<script type='text/javascript' language='javascript'>
    <!--

```

```

        PollForDocumentCompletion('m_excelWebRenderer_ECSFrame', false);
    // -->
</script><IFRAME id="m_excelWebRenderer_ctl06" style="display:none;" DummyPage=""></IFRAME>
<script type='text/javascript' language='javascript'>
    <!--
        function OpenEwrToolpaneForEditm_excelWebRenderer()
        {
            MSOTlPn_ShowToolPane2('Edit','m_excelWebRenderer');
        }
    // -->
</script></div></td>
    </tr>
    </table>
</div></div></td>
</tr>
</table>

        <!-- end Excel Web Renderer -->
    </td>
</tr>
</table>

<script type="text/javascript">
    //<![CDATA[
    DoEwrResizeViewerPage();
    WebForm_InitCallback();//]]>
</script>

<script type='text/javascript' language='javascript' for='window' event='onbeforeunload'>
    <!--
        EwrMainPageBeforeUnload();
    // -->
</script></form>
</body>
</html>

```

5 Security

5.1 Security Considerations for Implementers

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

The information contained in the workbook identified by the ID 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 workbook in any implementation in which the contents of this workbook are returned in the message body as specified in [Response Body Syntax](#).

There are no restrictions on the protocol server regarding the message header content type, as specified in [Response Header Syntax](#) and 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® Office Excel® 2007
- Microsoft® Excel® 2010
- Microsoft® Office SharePoint® Server 2007
- Microsoft® SharePoint® Server 2010

Exceptions, if any, are noted below. If a service pack or Quick Fix Engineering (QFE) number appears with the product version, behavior changed in that service pack or QFE. The new behavior also applies to subsequent service packs of the product unless otherwise specified. If a product edition appears with the product version, behavior is different in that product edition.

Unless otherwise specified, any statement of optional behavior in this specification that is prescribed using the terms SHOULD or SHOULD NOT implies product behavior in accordance with the SHOULD or SHOULD NOT prescription. Unless otherwise specified, the term MAY implies that the product does not follow the prescription.

7 Change Tracking

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

8 Index

A

[Abstract data model](#) 9
[Applicability](#) 6

C

[Capability negotiation](#) 6
[Change tracking](#) 21

D

[Data model - abstract](#) 9

E

Examples
[overview](#) 10

F

[Fields - vendor-extensible](#) 6

G

[Glossary](#) 4

H

[Higher-layer triggered events](#) 9

I

[Implementer - security considerations](#) 19
[Index of security parameters](#) 19
[Informative references](#) 5
[Initialization](#) 9
[Introduction](#) 4

L

[Local events](#) 9

M

[Message processing](#) 9
[Message syntax](#) 7
Messages
[request header syntax message](#) 8
[request HTTP method message](#) 7
[request HTTP version message](#) 7
[request URI syntax message](#) 7
[response body syntax message](#) 8
[response header syntax message](#) 8
[response status message](#) 8
[syntax](#) 7
[transport](#) 7

N

[Normative references](#) 4

O

[Overview \(synopsis\)](#) 5

P

[Parameters - security index](#) 19
[Preconditions](#) 5
[Prerequisites](#) 5
[Product behavior](#) 20

R

References
[informative](#) 5
[normative](#) 4
[Relationship to other protocols](#) 5
[Request header syntax message](#) 8
[Request HTTP method message](#) 7
[Request HTTP version message](#) 7
[Request URI syntax message](#) 7
[Response body syntax message](#) 8
[Response header syntax message](#) 8
[Response status message](#) 8

S

Security
[implementer considerations](#) 19
[parameter index](#) 19
[Sequencing rules](#) 9
[Standards assignments](#) 6

T

[Timer events](#) 9
[Timers](#) 9
[Tracking changes](#) 21
[Transport](#) 7
[Triggered events - higher-layer](#) 9

V

[Vendor-extensible fields](#) 6
[Versioning](#) 6