

[MS-DMCSOM]: Document Management Client-Side Object Model 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 [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.
- **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.

Preliminary Documentation. This Open Specification provides documentation for past and current releases and/or for the pre-release (beta) version of this technology. This Open Specification is final documentation for past or current releases as specifically noted in the document, as applicable; it is preliminary documentation for the pre-release (beta) versions. Microsoft will release final documentation in connection with the commercial release of the updated or new version of this technology. As the documentation may change between this preliminary version and the final version of this technology, there are risks in relying on preliminary documentation. To the extent that you incur additional development obligations or any other costs as a result of relying on this preliminary documentation, you do so at your own risk.

Revision Summary

Date	Revision History	Revision Class	Comments
01/20/2012	0.1	New	Released new document.
04/11/2012	0.1	No change	No changes to the meaning, language, or formatting of the technical content.
07/16/2012	0.1	No change	No changes to the meaning, language, or formatting of the technical content.
09/12/2012	0.1	No change	No changes to the meaning, language, or formatting of the technical content.

Table of Contents

1 Introduction	5
1.1 Glossary	5
1.2 References	5
1.2.1 Normative References	5
1.2.2 Informative References	6
1.3 Overview	6
1.4 Relationship to Other Protocols	6
1.5 Prerequisites/Preconditions	6
1.6 Applicability Statement	7
1.7 Versioning and Capability Negotiation	7
1.8 Vendor-Extensible Fields	7
1.9 Standards Assignments	7
2 Messages	8
2.1 Transport	8
2.2 Message Syntax	8
3 Protocol Details	9
3.1 Server 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
3.1.5.1 Microsoft.SharePoint.Client.Video.EmbedCodeConfiguration	9
3.1.5.1.1 Properties	9
3.1.5.1.1.1 Scalar Properties	9
3.1.5.1.1.1.1 AutoPlay	9
3.1.5.1.1.1.2 DisplayTitle	9
3.1.5.1.1.1.3 LinkToOwnerProfilePage	10
3.1.5.1.1.1.4 LinkToVideoHomePage	10
3.1.5.1.1.1.5 Loop	10
3.1.5.1.1.1.6 PixelHeight	10
3.1.5.1.1.1.7 PixelWidth	10
3.1.5.1.1.1.8 PreviewImagePath	10
3.1.5.1.1.1.9 StartTime	10
3.1.5.1.1.2 ObjectPath Properties	11
3.1.5.2 Microsoft.SharePoint.Client.Video.VideoSet	11
3.1.5.2.1 Properties	11
3.1.5.2.1.1 Scalar Properties	11
3.1.5.2.1.2 ObjectPath Properties	11
3.1.5.2.2 Methods	11
3.1.5.2.2.1 Scalar Methods	11
3.1.5.2.2.1.1 GetEmbedCode	11
3.1.5.2.2.1.2 UploadVideo	12
3.1.5.2.2.2 ObjectPath Methods	13
3.1.6 Timer Events	13
3.1.7 Other Local Events	13
4 Protocol Examples	14

4.1 Upload a Video	14
4.2 Retrieve the Embed Code for a Video	14
5 Security	16
5.1 Security Considerations for Implementers	16
5.2 Index of Security Parameters	16
6 Appendix A: Product Behavior	17
7 Change Tracking.....	18
8 Index	19

Preliminary

1 Introduction

The Document Management Client-Side Object Model Protocol provides types, methods, and properties to enable a protocol client to upload videos and update video display properties on a collaboration 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 [\[MS-GLOS\]](#):

authentication

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

absolute URL
CSOM Boolean
CSOM String
CSOM UInt32
embed code
folder
link
list
root folder
server-relative URL
site
Uniform Resource Locator (URL)
video container

The following terms are specific to this document:

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

1.2 References

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

1.2.1 Normative References

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

[MS-CSOM] Microsoft Corporation, "[SharePoint Client Query Protocol Specification](#)".

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

[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 defines types, methods, and properties that protocol clients use to access video data on a **site (2)** on a protocol server. The set of types, properties, and methods provide the ability for remote clients to upload video, and view and update the **embed code** for a **video container**.

1.4 Relationship to Other Protocols

The Document Management Client Side Object Model Protocol is a set of types, properties, and methods that can be accessed by using the SharePoint Client Query protocol as described in [\[MS-CSOM\]](#). This protocol uses JSON as described in [\[RFC4627\]](#) to format data returned to a protocol client. This protocol also uses HTTP, as described in [\[RFC2616\]](#), and HTTPS, as described in [\[RFC2818\]](#). The dependencies for this protocol are shown in the following layering diagram.

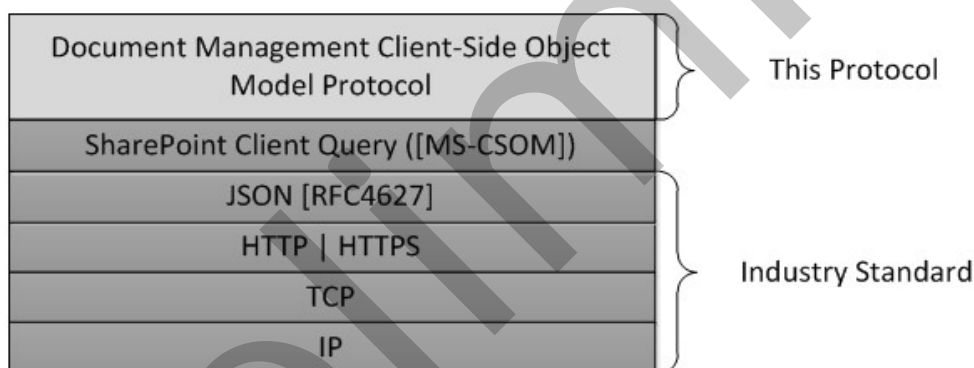


Figure 1: This protocol in relation to other protocols

1.5 Prerequisites/Preconditions

This protocol operates against video loaded on a site (2) that is identified by a **Uniform Resource Locator (URL)** that is recognized by protocol clients. This protocol assumes that **authentication (2)** has been performed by underlying protocols.

1.6 Applicability Statement

This protocol can be used by a protocol client to manage video data on a protocol server. This protocol is optimized to enable a protocol client to specify the exact set of data and operations to perform in a single batch, making it a suitable solution when the connection speed between the protocol client and the protocol server is slow. This protocol is not suitable and is inefficient if both the protocol client and protocol server are on the same computer. In this case, the protocol client can use an API that does not require communication over a network.

1.7 Versioning and Capability Negotiation

None.

1.8 Vendor-Extensible Fields

None.

1.9 Standards Assignments

None.

2 Messages

2.1 Transport

Messages are transported by using the SharePoint Client Query Protocol Specification, as specified in [\[MS-CSOM\]](#).

2.2 Message Syntax

None.

Preliminary

3 Protocol Details

3.1 Server Details

3.1.1 Abstract Data Model

This protocol provides two parent types:

- **Microsoft.SharePoint.Client.Video.EmbedCodeConfiguration** (section [3.1.5.1](#))
- **Microsoft.SharePoint.Client.Video.VideoSet** (section [3.1.5.2](#))

3.1.2 Timers

None.

3.1.3 Initialization

3.1.4 Higher-Layer Triggered Events

None.

3.1.5 Message Processing Events and Sequencing Rules

3.1.5.1 Microsoft.SharePoint.Client.Video.EmbedCodeConfiguration

TypeId: {294CF1EB-CEF4-49E0-B114-648ABB3916AF}

ShortName: SP.Video.EmbedCodeConfiguration

Specifies the set of properties used in configuring the embed code for a video.

3.1.5.1.1 Properties

3.1.5.1.1.1 Scalar Properties

3.1.5.1.1.1.1 AutoPlay

Type: CSOM Boolean

Accessibility: Read/Write

Specifies whether to start playing the video automatically. If not specified, defaults to false.

3.1.5.1.1.1.2 DisplayTitle

Type: CSOM Boolean

Accessibility: Read/Write

Specifies whether to display title of the video in the video container. If not specified, defaults to false.

3.1.5.1.1.1.3 LinkToOwnerProfilePage

Type: CSOM Boolean

Accessibility: Read/Write

Specifies whether to, in the title bar of the video, add a **link (2)** to the profile page of the video owner. If not specified, defaults to false.

3.1.5.1.1.1.4 LinkToVideoHomePage

Type: CSOM Boolean

Accessibility: Read/Write

Specifies whether to, in the title bar of the video, add a link (2) to the video player page. If not specified, defaults to false.

3.1.5.1.1.1.5 Loop

Type: CSOM Boolean

Accessibility: Read/Write

Specifies whether to automatically restart the video from the beginning after it finishes. If not specified, defaults to false.

3.1.5.1.1.1.6 PixelHeight

Type: CSOM UInt32

Accessibility: Read/Write

Specifies the video container height in pixels. If not specified, the height will be taken from the video dimensions.

3.1.5.1.1.1.7 PixelWidth

Type: CSOM UInt32

Accessibility: Read/Write

Specifies the video container width in pixels. If not specified, the width will be taken from the video dimensions.

3.1.5.1.1.1.8 PreviewImagePath

Type: CSOM String

Accessibility: Read/Write

Specifies Uniform Resource Locator (URL) for the preview image that displays before the video plays.

3.1.5.1.1.1.9 StartTime

Type: CSOM UInt32

Accessibility: Read/Write

Specifies the offset in seconds from the beginning of the video stream when playback starts. If not specified, defaults to 0.

3.1.5.1.1.2 ObjectPath Properties

None.

3.1.5.2 Microsoft.SharePoint.Client.Video.VideoSet

TypeId: {999F0B44-5022-4C04-A0C3-D0705E44395F}

ShortName: SP.Video.VideoSet

A class that specifies a **folder** that contains all related information about a video, such as different renditions of the video or the thumbnail image.

3.1.5.2.1 Properties

3.1.5.2.1.1 Scalar Properties

None.

3.1.5.2.1.2 ObjectPath Properties

None.

3.1.5.2.2 Methods

3.1.5.2.2.1 Scalar Methods

3.1.5.2.2.1.1 GetEmbedCode

This method is a static CSOM method.

Return Type: CSOM String

Returns the properties, as specified in section [3.1.5.1.1](#), that are used as parameters to define the embed code for the video at the specified path. The title of the video, the duration of the video, and the description of the video are also returned.

Parameters:

videoPath: **Absolute URL** or relative Uniform Resource Locator (URL) for the video item or player page.

Type: CSOM String

It MUST NOT be NULL. It MUST NOT be empty.

properties: Optional properties to be used to configure the embed code.

Type: Microsoft.SharePoint.Client.Video.EmbedCodeConfiguration

Exceptions:

Error Code	Error Type Name	Condition
- 2147024809	System.ArgumentException	Video cannot be found at the specified path.
- 2147467261	System.ArgumentNullException	Video cannot be found if the path provided is blank or NULL.

3.1.5.2.2.1.2 UploadVideo

This method is a static CSOM method.

Return Type: CSOM String

Uploads the video file with the specified file name to the specified **list (1)**.

Returns the absolute URL of the uploaded video file.

Parameters:

list: List (1) where the file is uploaded.

Type: Microsoft.SharePoint.Client.List

It MUST NOT be NULL.

fileName: File name of the video, including the extension.

Type: CSOM String

It MUST NOT be NULL. It MUST NOT be empty.

file: File stream to be uploaded.

Type: CSOM Stream

It MUST NOT be NULL.

overwriteIfExists: Overwrites the existing file, if set to **true**. If set to **false**, and the file with this name exists, it will not be modified and this method call will have no effect.

Type: CSOM Boolean

parentFolderPath: Optional **server-relative URL** for the folder within the list where the file can be uploaded. If **NULL**, the file will be uploaded to the **root folder**.

Type: CSOM String

Exceptions:

Error Code	Error Type Name	Condition
-1	System.InvalidOperationException	Cannot upload video because another folder with the same name as specified in <i>fileName</i> without the extension already exists.

3.1.5.2.2.2 ObjectPath Methods

None.

3.1.6 Timer Events

None.

3.1.7 Other Local Events

None.

Preliminary

4 Protocol Examples

4.1 Upload a Video

In this example, a video file, with the specified filename (videoname.mp4), is uploaded to the specified list (1).

Request:

```
<Request AddExpandoFieldTypeSuffix="true" SchemaVersion="15.0.0.0" LibraryVersion="15.0.0.0"
ApplicationName=".NET Library"
xmlns="http://schemas.microsoft.com/sharepoint/clientquery/2009">
  <Actions>
    <StaticMethod TypeId="{999f0b44-5022-4c04-a0c3-d0705e44395f}" Name="UploadVideo" Id="11">
      <Parameters>
        <Parameter ObjectPathId="7" />
        <Parameter Type="String">videoname.mp4</Parameter>
        <Parameter Type="Binary">
          <Include href="cid:http://sharepoint.microsoft.com/12" />
        </Parameter>
        <Parameter Type="Boolean">>true</Parameter>
        <Parameter Type="Null" />
      </Parameters>
    </StaticMethod>
  </Actions>
  <ObjectPaths>
    <Identity Id="7" Name="740c6a0b-85e2-48a0-a494-e0f1759d4aa7:web:5eff230f-43c6-4941-b0d9-
f7de8d2a4bce:list:a3b41eec-5f8a-4450-905f-9166df2dda39" />
  </ObjectPaths>
</Request>
```

Response:

```
[
]
  "SchemaVersion": "15.0.0.0", "LibraryVersion": "15.0.3410.1000", "ErrorInfo": null
}, 11, "http:\u002f\u002fserverName\u002flibraryName\u002fvideoname"
```

4.2 Retrieve the Embed Code for a Video

In this example, the embed code for a video with a specified URL is retrieved.

Request:

```
<Request AddExpandoFieldTypeSuffix="true" SchemaVersion="15.0.0.0" LibraryVersion="15.0.0.0"
ApplicationName=".NET Library"
xmlns="http://schemas.microsoft.com/sharepoint/clientquery/2009">
  <Actions>
    <StaticMethod TypeId="{999f0b44-5022-4c04-a0c3-d0705e44395f}" Name="GetEmbedCode" Id="1">
      <Parameters>
        <Parameter Type="String">/libraryName/videoName</Parameter>
        <Parameter TypeId="{294cf1eb-cef4-49e0-b114-648abb3916af}">
          <Property Name="AutoPlay" Type="Boolean">>false</Property>
          <Property Name="DisplayTitle" Type="Boolean">>true</Property>
        </Parameter>
      </Parameters>
    </StaticMethod>
  </Actions>
</Request>
```

```
<Property Name="LinkToOwnerProfilePage" Type="Boolean">true</Property>
<Property Name="LinkToVideoHomePage" Type="Boolean">true</Property>
<Property Name="Loop" Type="Boolean">false</Property>
<Property Name="PixelHeight" Type="UInt32">240</Property>
<Property Name="PixelWidth" Type="UInt32">320</Property>
<Property Name="PreviewImagePath"
Type="String">/libraryName/previewImage.jpg</Property>
<Property Name="StartTime" Type="UInt32">10</Property>
</Parameter>
</Parameters>
</StaticMethod>
</Actions>
</ObjectPaths>
</Request>
```

Response:

```
[
{
  "SchemaVersion": "15.0.0.0", "LibraryVersion": "15.0.3410.1000", "ErrorInfo": null
}, 1, "<iframe type='text\u002fhtml' width='320' height='240'
src='http:\u002f\u002fserverName\u002f_layouts\u002f15\u002fvideoembedplayer.aspx?site=e233b4
fd10cc40f493fa245f49717531&web=44aa6759312640999cd0e372b622c813&folder=ccd17bc6952f41
f9a701df4b52f613cb&img=%2FlibraryName%2FpreviewImage%2Ejpg&t=10&title=1&lHome
=1&lOwner=1' data-title='videoName' data-description='' data-duration='0'>\u002fiframe>"
]
```

5 Security

5.1 Security Considerations for Implementers

None.

5.2 Index of Security Parameters

None.

Preliminary

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® SharePoint® Foundation 2013 Preview

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.

Preliminary

7 Change Tracking

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

Preliminary

8 Index

A

Abstract data model
[server](#) 9
[Applicability](#) 7

C

[Capability negotiation](#) 7
[Change tracking](#) 18

D

Data model - abstract
[server](#) 9

F

[Fields - vendor-extensible](#) 7

G

[Glossary](#) 5

H

Higher-layer triggered events
[server](#) 9

I

[Implementer - security considerations](#) 16
[Index of security parameters](#) 16
[Informative references](#) 6
[Introduction](#) 5

M

Messages
[transport](#) 8

N

[Normative references](#) 5

O

Other local events
[server](#) 13
[Overview \(synopsis\)](#) 6

P

[Parameters - security index](#) 16
[Preconditions](#) 6
[Prerequisites](#) 6
[Product behavior](#) 17

R

[References](#) 5
[informative](#) 6
[normative](#) 5
[Relationship to other protocols](#) 6

S

Security
[implementer considerations](#) 16
[parameter index](#) 16

Server

[abstract data model](#) 9
[higher-layer triggered events](#) 9
[other local events](#) 13
[timer events](#) 13
[timers](#) 9
[Standards assignments](#) 7

T

Timer events
[server](#) 13
Timers
[server](#) 9
[Tracking changes](#) 18
[Transport](#) 8
Triggered events - higher-layer
[server](#) 9

V

[Vendor-extensible fields](#) 7
[Versioning](#) 7