# [MS-SPACSOM]:
# SharePoint Analytics Client-Side Object Model Protocol Specification

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## 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. |

# Table of Contents

# 1 Introduction

The SharePoint Analytics Client-Side Object Model Protocol provides types, methods, and properties to enable a protocol client to access usage information stored 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]:

**application**
**authentication**

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

**CSOM DateTime**
**CSOM GUID**
**CSOM Int32**
**CSOM Object**
**event**
**site**

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 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 a protocol client uses to access historical usage information stored on a protocol server.

## 1.4 Relationship to Other Protocols

The SharePoint Analytics 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.

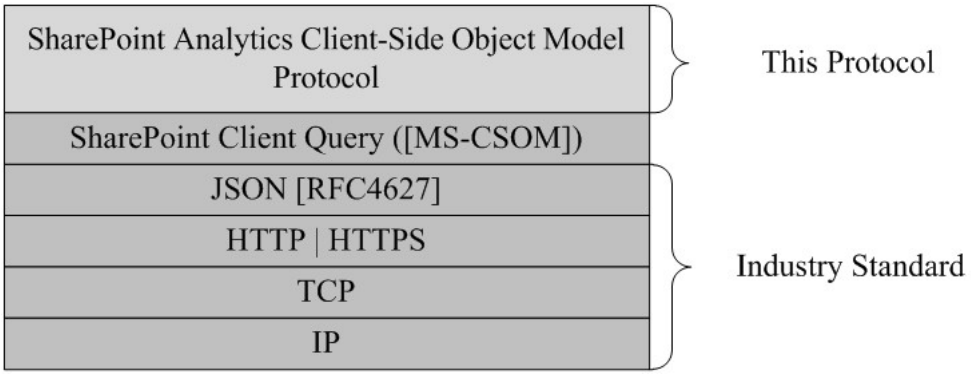


**Figure 1: This protocol in relation to other protocols**

## 1.5 Prerequisites/Preconditions

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

## 1.6 Applicability Statement

This protocol can be used by a protocol client to access historical usage information stored 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 suitable for situations where the connection speed between the protocol client and the protocol server can be 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 client should 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, as specified in [MS-CSOM].

## 2.2 Message Syntax

None.

# 3 Protocol Details

## 3.1 Server Details

### 3.1.1 Abstract Data Model

This protocol shares the abstract data model used by the SharePoint Client Query protocol as described in [MS-CSOM] section 3.1.1.

Specifically with respect to this protocol, the protocol server maintains historical usage information about **events (2)** that occur for items stored on the protocol server, such as how many times a document stored on the server was viewed. These events (2) may be standard (well-known) events (2) or generic user-definable events (2).

The protocol server also maintains historical usage information about user-specified **applications** that are present on the protocol server, such as how many times an application was installed.

### 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

#### 3.1.5.1 Microsoft.Office.Server.Search.Analytics.AnalyticsItemData

**TypeId:** {B8C478A6-A4CD-474D-803A-A002E185EE46}

**ShortName:** Microsoft.Office.Server.Search.Analytics.AnalyticsItemData

Represents historical usage information for an item stored on the protocol server.

##### 3.1.5.1.1 Properties

###### 3.1.5.1.1.1 Scalar Properties

###### 3.1.5.1.1.1.1 EventType

**Type:** **CSOM Int32**

**Accessibility:** Read/Write

The type of event (2), such as View.

This value MUST be one of the following values:

| Value | Description |
|---|---|
| View (0x0001) | An item has been viewed. |
| RecommendationView (0x0002) | An item has been recommended for a user to view. |
| RecommendationClicked (0x0003) | An item has been viewed after it was recommended. |
| UsageEvent1 (0x0100) – UsageEvent12 (0x010D) | A user-defined event (2). |
| AppInstall (0x0200) | An application was installed. |
| AppUninstalled (0x0201) | An application was uninstalled. |
| AppLaunch (0x0202) | An application was launched. |
| AppInstallError (0x0203) | An error occurred during installation of an application. |
| AppRunTimeError (0x0204) | An error occurred during running of an application. |
| AppUpgradeError (0x0205) | An error occurred during upgrade of an application. |

#### 3.1.5.1.1.1.2 LastProcessingTime

**Type:** **CSOM DateTime**

**Accessibility:** Read/Write

The most recent time the protocol server has data for the given item.

#### 3.1.5.1.1.1.3 SiteId

**Type:** **CSOM GUID**

**Accessibility:** Read/Write

The identifier of the **site (2)** that contains the item.

#### 3.1.5.1.1.1.4 TotalHits

**Type:** CSOM Int32

**Accessibility:** Read/Write

The total number of occurrences of the event (2) for the item.

#### 3.1.5.1.1.1.5 TotalUniqueUsers

**Type:** CSOM Int32

**Accessibility:** Read/Write

The total number of unique users that triggered the event (2) for the item.

#### 3.1.5.1.1.2 ObjectPath Properties

None.

### 3.1.5.2 Microsoft.Office.Server.Search.Analytics.UsageAnalytics

**TypeId:** {1B61778A-CEC2-49BF-B9CC-1264B133307F}

**ShortName:** Microsoft.Office.Server.Search.Analytics.UsageAnalytics

Provides access to request historical usage information for items contained in the site (2).

#### 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 GetAnalyticsItemData

**Return Type:** Microsoft.Office.Server.Search.Analytics.AnalyticsItemData

Gets the historical usage information about the specified type of event (2) for an item contained in the site (2). This method returns null if no historical usage information about the specified type of event (2) exists for the item.

**Parameters:**

*eventType:* The type of event (2).

Type: CSOM Int32

*listItem:* The item.

Type: Microsoft.SharePoint.Client.ListItem

#### 3.1.5.2.2.2 ObjectPath Methods

#### 3.1.5.2.2.2.1 CSOM Constructor

Constructs a UsageAnalytics **CSOM Object**.

**Parameters:**

*site:* The site (2) that contains items for which usage information needs to be retrieved.

Type: Microsoft.SharePoint.Client.Site

It MUST NOT be NULL.

### 3.1.6 Timer Events

None.

### 3.1.7 Other Local Events

None.

# 4 Protocol Examples

In this example, a protocol client requests historical information about how often an existing document "TEST" has been viewed:

<Request xmlns="http://schemas.microsoft.com/sharepoint/clientquery/2009" SchemaVersion="15.0.0.0" LibraryVersion="15.0.0.0" ApplicationName="Javascript Library"><Actions><ObjectPath Id="1" ObjectPathId="0" /><ObjectPath Id="3" ObjectPathId="2" /><ObjectPath Id="5" ObjectPathId="4" /><ObjectPath Id="7" ObjectPathId="6" /><ObjectIdentityQuery Id="8" ObjectPathId="6" /><ObjectPath Id="10" ObjectPathId="9" /><ObjectPath Id="12" ObjectPathId="11" /><ObjectPath Id="14" ObjectPathId="13" /><Method Name="GetAnalyticsItemData" Id="15" ObjectPathId="13"><Parameters><Parameter Type="Number">1</Parameter><Parameter ObjectPathId="9" /></Parameters></Method></Actions><ObjectPaths><StaticProperty Id="0" TypeId="{3747adcd-a3c3-41b9-bfab-4a64dd2f1e0a}" Name="Current" /><Property Id="2" ParentId="0" Name="Web" /><Property Id="4" ParentId="2" Name="Lists" /><Method Id="6" ParentId="4" Name="GetByTitle"><Parameters><Parameter Type="String">TEST</Parameter></Parameters></Method><Method Id="9" ParentId="6" Name="GetItemByStringId"><Parameters><Parameter Type="String">3</Parameter></Parameters></Method><Property Id="11" ParentId="0" Name="Site" /><Constructor Id="13" TypeId="{1b61778a-cec2-49bf-b9cc-1264b133307f}"><Parameters><Parameter ObjectPathId="11" /></Parameters></Constructor></ObjectPaths></Request>

The protocol server returns the requested historical usage information as follows:


[

{

"SchemaVersion":"15.0.0.0","LibraryVersion":"15.0.3427.1000","ErrorInfo":null

},1,{

"IsNull":false

},3,{

"IsNull":false

},5,{

"IsNull":false

},7,{

"IsNull":false

},8,{

"_ObjectIdentity_":"740c6a0b-85e2-48a0-a494-e0f1759d4aa7:web:6f046c5e-bc2a-4b06-8630-53cb522f5892:list:1be845cc-d658-45f3-b0d7-e23d2138f639"

},10,{

"IsNull":false

},12,{

"IsNull":false

},14,{

"IsNull":false

},15,{

"_ObjectType_":"Microsoft.Office.Server.Search.Analytics.AnalyticsItemData","EventType":1,"LastProcessingTime":"\/Date(2011,10,3,17,19,31,747)\/","SiteId":"\/Guid(5f68a87e-bfaf-419b-b4c4-9df03aca8985)\/","TotalHits":123,"TotalUniqueUsers":5

}

]

# 5 Security

## 5.1 Security Considerations for Implementers

None.

## 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® SharePoint® Server 15 Technical 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.

# 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