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

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.
10/08/2012	1.0	Major	Significantly changed 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

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

CSOM DateTime
CSOM GUID
CSOM Int32
CSOM Object
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 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".

[MS-CSOMSPT] Microsoft Corporation, "SharePoint Client-Side Object Model 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

1.2.2 Informative References

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

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

[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

1.3 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.

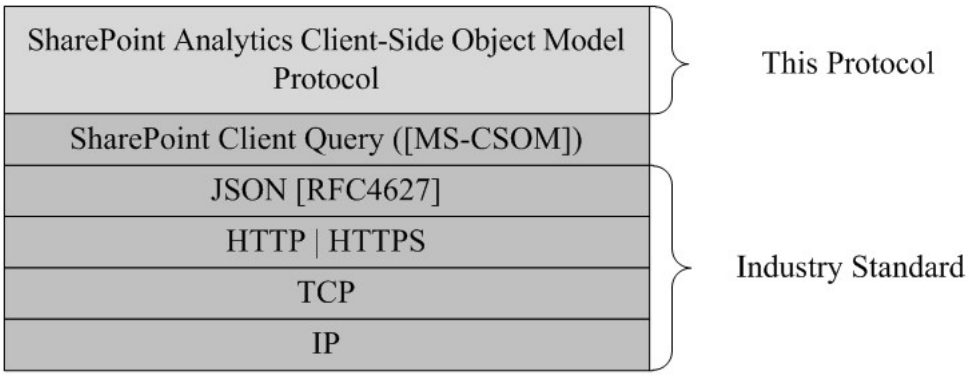

Figure 1: This protocol in relation to other protocols

1.5 Prerequisites/Preconditions

This protocol assumes that authentication 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 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, as specified in [MS-CSOM].

2.2 Message Syntax

None.

3 Protocol Details

3.1 Server Details

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.

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 that occur for items stored on the protocol server, such as how many times a document stored on the server was viewed. These events can be standard (well-known) events or generic user-definable events.

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.SharePoint.Client.Search.Analytics.AnalyticsItemData

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

ShortName: Microsoft.SharePoint.Client.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 LastProcessingTime

Type: **CSOM DateTime**

Accessibility: Read Only

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

3.1.5.1.1.1.2 TotalHits

Type: **CSOM Int32**

Accessibility: Read Only

The total number of occurrences of the event for the item.

3.1.5.1.1.1.3 TotalUniqueUsers

Type: CSOM Int32

Accessibility: Read Only

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

3.1.5.1.1.2 ObjectPath Properties

None.

3.1.5.1.2 Methods

3.1.5.1.2.1 Scalar Methods

3.1.5.1.2.1.1 GetHitCountForDay

Return Type: CSOM Int32

Retrieve the total number of occurrences of the event for the item, for the specified day.

Parameters:

day: The day for which to retrieve the total numbers of occurrences of the event for the item.

Type: CSOM DateTime

3.1.5.1.2.1.2 GetHitCountForMonth

Return Type: CSOM Int32

Retrieve the total number of occurrences of the event for the item, for the specified month.

Parameters:

month: First day for the month for which to retrieve the total number of occurrences of the event for the item.

Type: CSOM DateTime

3.1.5.1.2.1.3 GetUniqueUsersCountForDay

Return Type: CSOM Int32

Retrieve the total number of unique users that triggered the event for the item, during the specified day.

Parameters:

day: The day for which to retrieve the total number of unique users that triggered the event for the item.

Type: CSOM DateTime

3.1.5.1.2.1.4 GetUniqueUsersCountForMonth

Return Type: CSOM Int32

Retrieve the total number of unique users that triggered the event for the item, during the specified month.

Parameters:

month: First day for the month for which to retrieve the total number of unique users that triggered the event for the item.

Type: CSOM DateTime

3.1.5.1.2.2 ObjectPath Methods

None.

3.1.5.2 Microsoft.SharePoint.Client.Search.Analytics.UsageAnalytics

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

ShortName: Microsoft.SharePoint.Client.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 DeleteCustomEventUsageData

Return Type: None

Triggers the deletion of historical usage data for the specified custom analytics event.

Parameters:

appEventTypeId: The event type identifier of the custom analytics event for which historical data is to be deleted.

Type: **CSOM GUID**

3.1.5.2.2.1.2 DeleteStandardEventUsageData

Return Type: None

Triggers the deletion of historical usage data for the specified analytics event.

Parameters:

eventType: The event type identifier of the analytics event for which historical data is to be deleted.

Type: CSOM Int32

3.1.5.2.2.2 ObjectPath Methods

3.1.5.2.2.2.1 CSOM Constructor

Constructs a **Microsoft.SharePoint.Client.Search.Analytics.UsageAnalytics CSOM Object**.

Parameters:

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

Type: Microsoft.SharePoint.Client.Site

The **Microsoft.SharePoint.Client.Site** type is specified in [MS-CSOMSPT] section 3.2.5.119. It MUST NOT be NULL.

3.1.5.2.2.2.2 GetAnalyticsItemData

Return Type: Microsoft.SharePoint.Client.Search.Analytics.AnalyticsItemData

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

Parameters:

eventType: The type of event.

Type: CSOM Int32

listItem: Specifies a list item.

Type: Microsoft.SharePoint.Client.ListItem

The **Microsoft.SharePoint.Client.ListItem** type is specified in [MS-CSOMSPT] section 3.2.5.87.

3.1.5.2.2.2.3 GetAnalyticsItemDataForApplicationEventType

Return Type: Microsoft.SharePoint.Client.Search.Analytics.AnalyticsItemData

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

Parameters:

appEventType: The type of custom event.

Type: CSOM GUID

listItem: Specifies a list item.

Type: Microsoft.SharePoint.Client.ListItem

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 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

This section identifies changes that were made to the [MS-SPACSOM] protocol document between the September 2012 and October 2012 releases. Changes are classified as New, Major, Minor, Editorial, or No change.

The revision class **New** means that a new document is being released.

The revision class **Major** means that the technical content in the document was significantly revised. Major changes affect protocol interoperability or implementation. Examples of major changes are:

- A document revision that incorporates changes to interoperability requirements or functionality.
- An extensive rewrite, addition, or deletion of major portions of content.
- The removal of a document from the documentation set.
- Changes made for template compliance.

The revision class **Minor** means that the meaning of the technical content was clarified. Minor changes do not affect protocol interoperability or implementation. Examples of minor changes are updates to clarify ambiguity at the sentence, paragraph, or table level.

The revision class **Editorial** means that the language and formatting in the technical content was changed. Editorial changes apply to grammatical, formatting, and style issues.

The revision class **No change** means that no new technical or language changes were introduced. The technical content of the document is identical to the last released version, but minor editorial and formatting changes, as well as updates to the header and footer information, and to the revision summary, may have been made.

Major and minor changes can be described further using the following change types:

- New content added.
- Content updated.
- Content removed.
- New product behavior note added.
- Product behavior note updated.
- Product behavior note removed.
- New protocol syntax added.
- Protocol syntax updated.
- Protocol syntax removed.
- New content added due to protocol revision.
- Content updated due to protocol revision.
- Content removed due to protocol revision.
- New protocol syntax added due to protocol revision.

- Protocol syntax updated due to protocol revision.
- Protocol syntax removed due to protocol revision.
- New content added for template compliance.
- Content updated for template compliance.
- Content removed for template compliance.
- Obsolete document removed.

Editorial changes are always classified with the change type **Editorially updated.**

Some important terms used in the change type descriptions are defined as follows:

- **Protocol syntax** refers to data elements (such as packets, structures, enumerations, and methods) as well as interfaces.
- **Protocol revision** refers to changes made to a protocol that affect the bits that are sent over the wire.

The changes made to this document are listed in the following table. For more information, please contact protocol@microsoft.com.

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
1 Introduction	Updated all preliminary information in the document.	Y	Content updated.

8 Index