[MS-OCGCWEB]:
Persistent Chat Web Protocol

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Revision Summary

Date	Revision History	Revision Class	Comments
11/06/2012	0.1	New	Released new document.
04/30/2014	1.0	Major	Significantly changed the technical content.
07/31/2014	1.1	Minor	Clarified the meaning of the technical content.

Table of Contents

1 Introduction

The Persistent Chat Web Protocol provides a mechanism that allows the client of a persistent chat system to start an external chat room management **web application (2)**.

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 [RFC2119]. Sections 1.5 and 1.9 are also normative but does not contain those terms. All other sections and examples in this specification are informative.

1.1 Glossary

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

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

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

in-band provisioning
Session Initiation Protocol (SIP)
Uniform Resource Identifier (URI)
Uniform Resource Locator (URL)
web application

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 Specification documents 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.

[ISO-3166] International Organization for Standardization, "Codes for the Representation of Names of Countries and Their Subdivisions", ISO 3166, http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=24591

Note There is a charge to download the specification.

[ISO-639] International Organization for Standardization, "Codes for the Representation of Names of Languages", ISO 639, http://www.loc.gov/standards/iso639-2/

[MS-SIPREGE] Microsoft Corporation, "Session Initiation Protocol (SIP) Registration Extensions".

[MS-XCCOSIP] Microsoft Corporation, "Extensible Chat Control Over Session Initiation Protocol (SIP)".

[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

[RFC3986] Berners-Lee, T., Fielding, R., and Masinter, L., "Uniform Resource Identifier (URI): Generic Syntax", STD 66, RFC 3986, January 2005, http://www.ietf.org/rfc/rfc3986.txt

1.2.2 Informative References

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

[MS-OCSPROT] Microsoft Corporation, "Lync and Lync Server Protocols Overview".

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

1.3 Overview

This protocol defines **Uniform Resource Locator (URL)** formats that allow a client of a persistent chat system based on Extensible Chat Control over Session Initiation Protocol (XCCOS) (defined by [MS-XCCOSIP]) to start an external room management web application (2). The client can receive the URLs either from a persistent chat server as described in [MS-XCCOSIP] section 2.2.2.1.10 or from a Session Initiation Protocol (SIP) server as part of the server **in-band provisioning** data described in [MS-SIPREGE] section 2.2.2.5.11.

1.4 Relationship to Other Protocols

This protocol uses URL formats as described in [RFC3986].

1.5 Prerequisites/Preconditions

This protocol assumes that both clients and the server support **Session Initiation Protocol (SIP)**, XCCOS protocol ([MS-XCCOSIP]), and that they implement the SIP registration extensions as described in [MS-SIPREGE].

1.6 Applicability Statement

This protocol is applicable when a persistent chat system client is using an external web application (2) for chat room management.

1.7 Versioning and Capability Negotiation

None.

1.8 Vendor-Extensible Fields

None.

1.9 Standards Assignments

None.

2 Messages

2.1 Transport

No new transports are required. The client starts an external web application (2) in an instance of a web browser using the URL defined by this protocol.

2.2 Message Syntax

2.2.1 Create a Room

The room creation URL specifies the location of the chat room management web application (2). This URL is constructed by concatenating the base room management application URL configured for the persistent chat system with a single parameter:

clientlang (string): A <language>-<REGION> pair defining the client language. The <language> is a lowercase [ISO-639] language code. The <REGION> is an uppercase [ISO-3166] country/region identifier. This parameter is used by the room management application to choose the same language for the user interface as the chat client.

Example:

```
http://example.com/RM/?clientlang=en-US
```

2.2.2 View or Edit a Room

Depending on user permissions a user of the persistent chat system can either view or edit specific chat room properties. To do that the client MUST point the room management application to that specific room. The room management URL is constructed by concatenating the base room management application URL configured for the persistent chat system with two parameters:

clientlang (string): A <language>-<REGION> pair defining the client language. The <language> is a lowercase [ISO-639] language code. The <REGION> is an uppercase [ISO-3166] country/region identifier. This parameter is used by the application to choose the same language for the user interface.

id (string): A **GUID** of a room in the persistent chat system that uniquely identifies the chat room in the system. The GUID is extracted from the room **URI** returned by XCCOS searches, invitations or associated room retrieval as specified in [MS-XCCOSIP] sections 3.1.9 - 3.1.11.

Example:

A client receives an XCCOS invitation to join the room with the following URI:

```
ma-chan://example.com/61E092C7-89BB-4DC4-A3F5-8C23FA940FAB
```

The client extracts the room GUID from the room URI and makes the following URL to view or modify the room:

```
http://example.com/RM/?clientlang=en-US&id=61E092C7-89BB-4DC4-A3F5-8C23FA940FAB
```

3 Protocol Details

3.1 Client Details

3.1.1 Abstract Data Model

If chat room management is implemented in an external web application (2) a client obtains the base URL of that application. To create a new room the client creates a URL by appending *clientlang* parameter to the base URL. To view or edit an existing room the client creates a URL by appending *clientlang* and *id* parameters to the base URL. If the base URL cannot be obtained the client MUST disable room management functionality.

3.1.2 Timers

None.

3.1.3 Initialization

The client obtains the base room management application URL from two sources. First room management URLs can be present in the in-band provisioning settings supplied by the Session Initiation Protocol (SIP) server upon the client sign-in as described in [MS-OCSPROT] section 2.5.5. If the client is signed on inside the enterprise network it MUST use the **PersistentChatWebManagerUriInt** setting; if the client is signed on externally it MUST use the **PersistentChatWebManagerUriExt** setting as specified in [MS-SIPREGE] section 2.2.2.5.11.

The persistent chat server can override that base URL with another URL which the client receives when it establishes an XCCOS dialog ([MS-XCCOSIP]) with the server. In this case the client MUST use the **roomManagementUrl** parameter from the reply to the XCCOS **getserverinfo** command as specified in [MS-XCCOSIP] section 3.1.4.5.

If the base URL cannot be obtained the client MUST disable room management functionality.

3.1.4 Higher-Layer Triggered Events

None.

3.1.5 Message Processing Events and Sequencing Rules

To start the room management web application (2) the client MUST construct a web application (2) URL for the specific action.

To create a new chat room, the client MUST add the *clientlang* parameter to the base URL as specified in section 2.2.1.

To view or edit a specific chat room, the client MUST add the *clientlang* parameter and the *id* parameter to the base URL as specified in section 2.2.2.

If the base URL configured for the system already contains some parameters the client appends the task-specific parameters as specified by this protocol to the existing parameter list.

3.1.6 Timer Events

None.

3.1.7 Other Local Events

None.

4 Protocol Examples

In the following example the client constructs a URL for creating a new room by appending the language parameter `en-US` to the base URL `http://example.com/rm/`:

```
http://example.com/rm/?clientlang=en-US
```

In the following example the client constructs a URL for editing an existing room by appending the language parameter `de-DE` and the room GUID `61E092C7-89BB-4DC4-A3F5-8C23FA940FAB` to the base URL `http://example.com/rm/`:

```
http://example.com/rm/?clientlang=de-DE&id=61E092C7-89BB-4DC4-A3F5-8C23FA940FAB
```

In the following example the client constructs a URL for creating a new room by appending the language parameter `en-US` to the base URL that already has a parameter `http://example.com/rm/?extensionparam=value`:

```
http://example.com/rm/?extensionparam=value&clientlang=en-US
```

5 Security

5.1 Security Considerations for Implementers

This protocol relies on the security of the used URL scheme. The scheme choice is left to implementers but it is strongly recommended to use **HTTPS** protocol rather than **HTTP**. User authorization mechanism is defined by the room management web application (2).

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 Lync 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-OCGCWEB] protocol document between the April 2014 and July 2014 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.
- The removal of a document from the documentation set.

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 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 changes were introduced. Minor editorial and formatting changes may have been made, but the technical content of the document is identical to the last released version.

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.

- 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 dochelp@microsoft.com.

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
3.1.3 Initialization	Added reference for client sign-in.	N	Content updated.

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