[MS-OXOJRNL]: Journal Object Protocol Specification

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Microsoft Corporation	April 4, 2008	0.1	Initial Availability.
Microsoft Corporation	April 25, 2008	0.2	Revised and updated property names and other technical content.
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Microsoft Corporation	September 3, 2008	1.02	Updated references.
Microsoft Corporation	December 3, 2008	1.03	Revised and edited technical content.

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1 Introduction

This document specifies the Journal Object protocol, which defines properties of an object that models an entry in a journal or log.

1.1 Glossary

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

Attachment object
Coordinated Universal Time (UTC)
EntryID
Folder object
GUID
handle
Message object
property
property ID
recipient
remote operation (ROP)
Rich Text Format (RTF)
special folder
store

The following terms are specific to this document:

Journal object: A **Message object** that represents an entry in a journal or log and that adheres to the **property** specifications in 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

[MS-OXCFOLD] Microsoft Corporation, "Folder Object Protocol Specification", June 2008.

[MS-OXCMSG] Microsoft Corporation, "Message and Attachment Object Protocol Specification", June 2008.

[MS-OXCPRPT] Microsoft Corporation, "Property and Stream Object Protocol Specification", June 2008.

[MS-OXGLOS] Microsoft Corporation, "Exchange Server Protocols Master Glossary", June 2008.

[MS-OXOSFLD] Microsoft Corporation, "Special Folders Protocol Specification", June 2008.

[MS-OXPROPS] Microsoft Corporation, "Exchange Server Protocols Master Property List Specification", June 2008.

[MS-OXRTFCP] Microsoft Corporation, "Rich Text Format (RTF) Compression Protocol Specification", June 2008.

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

1.2.2 Informative References

None.

1.3 Protocol Overview

The Journal Object protocol allows the representation of journal entries in a messaging **store**. The Journal Object protocol extends the Message and Attachment Object protocol in that it defines new properties and adds restrictions to the properties that are defined in [MS-OXCMSG].

A **Journal object** represents a journal entry. A Journal object is characterized by the name of the activity, the duration, and any contacts or businesses that are associated with the activity, and is stored in a **Folder object**. This document specifies the properties that are unique to Journal objects and how such Journal objects are created, stored, and manipulated.

1.4 Relationship to Other Protocols

The Journal Object protocol has the same dependencies as the Message and Attachment Object protocol, which it extends. For details about the Message and Attachment Object protocol, see [MS-OXCMSG].

1.5 Prerequisites/Preconditions

The Journal Object protocol has the same prerequisites and preconditions as the Message and Attachment Object protocol. For details about the Message and Attachment Object protocol, see [MS-OXCMSG].

1.6 Applicability Statement

None.

1.7 Versioning and Capability Negotiation

None.

1.8 Vendor-Extensible Fields

This protocol provides no vendor extensibility beyond what is already specified in [MS-OXCMSG].

1.9 Standards Assignments

None.

2 Messages

2.1 Transport

The Journal Object protocol uses the protocols specified in [MS-OXCPRPT] and [MS-OXCMSG] as its primary transport mechanism.

2.2 Message Syntax

A **Journal object** can be created and modified by clients and servers. Except where noted, this section defines constraints under which both clients and servers operate.

Clients operate on Journal objects by using the Message and Attachment Object protocol [MS-OXCMSG]. How a server operates on Journal objects is implementation-dependent. The results of any such operations are exposed to clients in a manner that is consistent with this specification.

Unless otherwise specified, a Journal object adheres to all **property** constraints specified in [MS-OXPROPS] and [MS-OXCMSG]. A Journal object MAY <1> <2> also contain other properties that are defined in [MS-OXPROPS], but these properties have no impact on the Journal Object protocol.

2.2.1 Journal Object Properties

2.2.1.1 PidLidLogType

Type: **PtypString**

Briefly describes the activity that is being recorded.

2.2.1.2 PidLidLogTypeDesc

Type: **PtypString**

Describes the activity that is being recorded.

2.2.1.3 PidLidLogStart

Type: **PtypTime**, in **Coordinated Universal Time (UTC)**

The time at which the activity began; MUST be equal to **PidLidCommonStart**.

2.2.1.4 PidLidLogEnd

Type: **PtypTime**, in **UTC**

The time at which the activity ended; MUST be equal to **PidLidCommonEnd**, and therefore greater than or equal to **PidLidLogStart**.

2.2.1.5 PidLidLogDuration

Type: **PtypInteger32**, signed

The duration in minutes of the activity; MUST be the difference between **PidLidLogEnd** and **PidLidLogStart**.

2.2.1.6 PidLidLogFlags

Type: **PtypInteger32**

A bit field that contains metadata about the **Journal object**; MUST be either zero or the following value.

Value	Meaning
0x40000000	This Journal object has a journal-associated attachment (section 2.2.2.5).

2.2.1.7 PidLidLogDocumentPrinted

Type: **PtypBoolean**

Indicates whether the document was printed during journaling.

2.2.1.8 PidLidLogDocumentSaved

Type: **PtypBoolean**

Indicates whether the document was saved during journaling.

2.2.1.9 PidLidLogDocumentRouted

Type: **PtypBoolean**

Indicates whether the document was sent to a routing **recipient** during journaling.

2.2.1.10 PidLidLogDocumentPosted

Type: **PtypBoolean**

Indicates whether the document was sent by e-mail or posted to a server folder during journaling.

2.2.2 Additional Property Constraints

This document specifies additional constraints on the following properties beyond what is specified in [MS-OXCMSG].

2.2.2.1 PidTagMessageClass

Type: **PtypString8**, case-insensitive

Specifies the type of the message item; MUST be "IPM.Activity" or begin with "IPM.Activity", in addition to meeting the criteria specified in [MS-OXCMSG].

2.2.2.2 Best Body Properties

The main text of the **Journal object**; MUST be stored in **PidTagRtfCompressed**, as specified in [MS-OXRTFCP].

2.2.2.3 PidTagIconIndex

Type: **PtypInteger32**

Specifies which icon is to be used by a user interface when displaying a group of **Journal objects**; MUST be one of the values listed in the following table.

Value	Meaning
0x00000601	Conversation
0x00000612	Document
0x00000602	E-mail Message
0x00000609	Fax
0x0000060C	Letter
0x00000613	Meeting
0x00000614	Meeting cancellation
0x00000603	Meeting request
0x00000604	Meeting response
0x00000610	Microsoft Office Access
0x0000060E	Microsoft Office Excel
0x0000060F	Microsoft Office PowerPoint
0x0000060D	Microsoft Office Word
0x00000608	Note

0x0000060A	Phone call
0x00000615	Remote session
0x0000060B	Task
0x00000606	Task request
0x00000607	Task response
0x00000003	Other

2.2.2.4 Recipients

A **Journal object** MUST NOT have **recipients**.

2.2.2.5 Journal-Associated Attachments

A journal-associated attachment links a **Journal object** with another object, such as a document. A journal-associated attachment follows the specifications for structured storage **Attachment objects** in [MS-OXCMSG], except that certain properties on the Attachment object MUST be set as listed in the following table.

Property	Value
PidTagAttachmentLinkId	0x00000004
PidTagAttachMethod	0x00000006
PidTagRenderingPosition	0xFFFFFFFF
PidTagAttachmentFlags	0x00000000
PidTagAttachmentHidden	0x00
PidTagAccess	0x00000002

The contents of the structured storage are written to **PidTagAttachDataBinary**. The structured storage contains eight streams, the names and contents of which are detailed in the following table.

Name	Contents
IOlePres000	A metafile that contains the icon to be used when rendering the attachment.
\3MailStream*	Binary contents: 04 00 00 00 00 00 00 00 00 00 00 00
MailMsgAttFld	The **EntryID** of the folder of the linked **Message object**.
MailMsgAttMdb	The EntryID of the **store** of the linked Message object.
MailMsgAttMsg	The EntryID of the linked Message object; required only if **MailMsgAttSrchKey** is empty.
MailMsgAttSrchFld	The object EntryID of the Sent Items **special folder** [MS-OXOSFLD] of the linked Message object.
MailMsgAttSrchKey	**PidTagSearchKey** of the linked Message object; required only if **MailMsgAttMsg** is empty.
MailMsgAttSubject	**PidTagSubject** of the linked Message object.

* The \3 in \3MailStream represents the byte 0x03.

A Journal object MUST NOT have more than one journal-associated attachment.

3 Protocol Details

General protocol details, as specified in [MS-OXPROPS] and [MS-OXCMSG], apply to **Journal objects**.

3.1 Common Details

The client and server roles are to create and operate on electronic journal entries, and otherwise operate in their roles, as specified in [MS-OXCMSG].

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 specification does not mandate that implementations adhere to this model as long as the external behavior of the implementation is consistent with the behavior described in this specification.

3.1.1.1 Journal Objects

A **Journal object** extends the **Message object**, as defined in [MS-OXCMSG].

3.1.1.2 Journal Object Folders

A **Journal object** is created in the Journal **special folder**, as defined in [MS-OXOSFLD], unless the end user or user agent explicitly specifies another **Folder object**.

3.1.2 Timers

None.

3.1.3 Initialization

None.

3.1.4 Higher-Layer Triggered Events

3.1.4.1 Creation of a Journal Object

To create a **Journal object**, the server or client creates a **Message object**, as specified in [MS-OXCMSG], sets properties in accordance with the requirements in section 2 and [MS-OXCPRPT], and saves the resulting Message object, as specified in [MS-OXCMSG].

3.1.4.2 Modification of a Journal Object

When modifying a **Journal object**, the client or server creates a **Message object** as specified in [MS-OXCMSG], modifies any of the properties in accordance with the requirements in

section 2 and [MS-OXCPRPT], and saves the Message object as specified in [MS-OXCMSG].

3.1.4.3 Deletion of a Journal Object

Journal objects have no special semantics related to deletion beyond what is defined in [MS-OXCFOLD].

3.1.5 Message Processing Events and Sequencing Rules

None.

3.1.6 Timer Events

None.

3.1.7 Other Local Events

None.

4 Protocol Examples

4.1 Journal Object for a Telephone Call Example

Joe creates a **Journal object** for a telephone call, records the start and end times, puts notes in the body, and links a contact and company with it. The following is a description of what a client might do to accomplish Joe's intentions and the responses a server might return. For information about **remote operations (ROPs)**, see [MS-OXCPRPT] and [MS-OXCMSG].

Before manipulating Journal objects, the client has to ask the server to perform a mapping from **named properties** to **property IDs**, by using **RopGetPropertyIDsFromNames**.

Property	Property set GUID	NameID
PidLidCommonStart	{00062008-0000-0000-C000-000000000046}	0x8516
PidLidCommonEnd	{00062008-0000-0000-C000-000000000046}	0x8517
PidLidCompanies	{00062008-0000-0000-C000-000000000046}	0x8539
PidLidContacts	{00062008-0000-0000-C000-000000000046}	0x853A
PidLidContactLinkName	{00062008-0000-0000-C000-000000000046}	0x8586
PidLidContactLinkEntry	{00062008-0000-0000-C000-000000000046}	0x8585
PidLidContactLinkSearchKey	{00062008-0000-0000-C000-000000000046}	0x8584

PidLidLogTypeDesc	{0006200A-0000-0000-C000-000000000046}	0x8712
PidLidLogType	{0006200A-0000-0000-C000-000000000046}	0x8700
PidLidLogStart	{0006200A-0000-0000-C000-000000000046}	0x8706
PidLidLogEnd	{0006200A-0000-0000-C000-000000000046}	0x8708
PidLidLogDuration	{0006200A-0000-0000-C000-000000000046}	0x8707
PidLidLogFlags	{0006200A-0000-0000-C000-000000000046}	0x870C
PidLidLogDocumentPrinted	{0006200A-0000-0000-C000-000000000046}	0x870E
PidLidLogDocumentSaved	{0006200A-0000-0000-C000-000000000046}	0x870F
PidLidLogDocumentRouted	{0006200A-0000-0000-C000-000000000046}	0x8710
PidLidLogDocumentPosted	{0006200A-0000-0000-C000-000000000046}	0x8711

The server might respond with the following identifiers, which will be used in the example that follows. (The actual identifiers are at the discretion of the server.)

Property	Property ID
PidLidCommonStart	0x81bd
PidLidCommonEnd	0x81bc
PidLidCcompanies	0x800c
PidLidContacts	0x8019
PidLidContactLinkName	0x802b
PidLidContactLinkEntry	0x82f6
PidLidContactLinkSearchKey	0x82f7
PidLidLogTypeDesc	0x8230
PidLidLogType	0x801a
PidLidLogStart	0x8233
PidLidLogEnd	0x8234
PidLidLogDuration	0x8235
PidLidLogFlags	0x8236
PidLidLogDocumentPrinted	0x8238
PidLidLogDocumentSaved	0x8239
PidLidLogDocumentRouted	0x823a
PidLidLogDocumentPosted	0x823b

To create a Journal object, the client uses **RopCreateMessage**. The server returns a success code and a **handle** to a **Message object**.

After Joe has input his content for the Journal object, the client uses **RopSetProperties** to transmit his data to the server.

Property	Property ID	Data type	Value
PidLidCommonStart	0x81bd	0x0040 (**PtypTime**)	2008/02/20 23:02:00.000
PidLidCommonEnd	0x81bc	0x0040 (**PtypTime**)	2008/02/20 23:12:00.000
PidLidCompanies	0x800c	0x101f (**PtypMultipleString**)	[1 entry] "Contoso Pharmaceuticals"
PidLidContacts	0x8019	0x101f (**PtypMultipleString**)	[1 entry] "Adam Barr"
PidLidContactLinkName	0x802b	0x001f (**PtypString**)	"Adam Barr"
PidLidContactLinkEntry	0x82f6	0x0102 (**PtypBinary**)	See Note 1.
PidLidContactLinkSearchKey	0x82f7	0x0102 (**PtypBinary**)	See Note 2.
PidLidLogTypeDesc	0x8230	0x001f (**PtypString**)	"Phone call"
PidLidLogType	0x801a	0x001f (**PtypString**)	"Phone call"
PidLidLogStart	0x8233	0x0040 (**PtypTime**)	2008/02/20 23:02:00.000
PidLidLogEnd	0x8234	0x0040 (**PtypTime**)	2008/02/20 23:12:00.000
PidLidLogDuration	0x8235	0x0003 (**PtypInteger32**)	0x0000000A
PidLidLogFlags	0x8236	0x0003 (**PtypInteger32**)	0x00000000
PidLidLogDocumentPrinted	0x8238	0x000b (**PtypBoolean**)	0x00
PidLidLogDocumentSaved	0x8239	0x000b (**PtypBoolean**)	0x00
PidLidLogDocumentRouted	0x823a	0x000b (**PtypBoolean**)	0x00
PidLidLogDocumentPosted	0x823b	0x000b (**PtypBoolean**)	0x00
PidTagRtfCompressed	0x1009	0x0102 (**PtypBinary**)	See Note 3, below.
PidTagIconIndex	0x1080	0x0003	0x0000060A

		(**PtypInteger32**)	

Note 1: **PidLidContactLinkEntry** contains a representation of the contact link, as specified in [MS-OXCMSG].

Note 2: **PidLidContactLinkSearchKey** contains a representation of the contact link, as specified in [MS-OXCMSG].

Note 3: **PidTagRtfCompressed** contains the compressed **Rich Text Format (RTF)** representation of the body, as specified in [MS-OXRTFCP].

When Joe is ready to save his changes, the client uses **RopSaveChangesMessage** to commit the properties on the server, and then **RopRelease** to release the Journal object.

The values of some properties will change during the execution of **RopSaveChangesMessage**, but the properties specified in this document will not change.

5 Security

5.1 Security Considerations for Implementers

There are no special security considerations specific to the Journal Object protocol. General security considerations pertaining to the underlying transport apply, as specified in [MS-OXCMSG] and [MS-OXCPRPT].

5.2 Index of Security Parameters

None.

6 Appendix A: Office/Exchange Behavior

The information in this specification is applicable to the following versions of Office/Exchange:

- Office 2003 with Service Pack 3 applied
- Exchange 2003 with Service Pack 2 applied
- Office 2007 with Service Pack 1 applied
- Exchange 2007 with Service Pack 1 applied

Exceptions, if any, are noted below. Unless otherwise specified, any statement of optional behavior in this specification prescribed using the terms SHOULD or SHOULD NOT implies Office/Exchange behavior in accordance with the SHOULD or SHOULD NOT prescription. Unless otherwise specified, the term MAY implies Office/Exchange does not follow the prescription.

<1> Outlook 2003 SP3 and Outlook 2007 SP1 sometimes set the following properties regardless of user input; their values have no meaning in the context of this protocol:

PidLidAgingDontAgeMe, **PidLidCurrentVersion, PidLidCurrentVersionName**, **PidLidPrivate**, **PidLidSideEffect**, **PidTagAlternateRecipientAllowed**, **PidTagClientSubmitTime**, **PidTagDeleteAfterSubmit**, **PidTagImportance**, **PidTagMessageDeliveryTime**, **PidTagPriority**, **PidTagReadReceiptRequested**, **PidTagSensitivity**, **PidLidReminderDelta**, **PidLidReminderSet**, **PidLidReminderNextTime**, **PidLidTaskMode**

<2> Outlook 2007 SP1 sometimes sets the following properties, regardless of user input; their values have no meaning in the context of this protocol:

PidLidPercentComplete, **PidLidTaskActualEffort**, **PidLidTaskComplete**, **PidLidTaskAssigner**, **PidLidTaskAcceptanceState**, **PidLidTaskEstimatedEffort**, **PidLidTaskFFixOffline**, **PidLidTaskFRecurring**, **PidLidTaskNoCompute**, **PidLidTaskOrdinal**, **PidLidTaskOwnership**, **PidLidTaskRole**, **PidLidTaskState**, **PidLidTaskStatus**, **PidLidTaskVersion**, **PidLidTeamTask**, **PidLidValidFlagStringProof**

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