

[MS-OXOFLAG]: Informational Flagging Protocol Specification

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Revision Summary

Date	Revision History	Revision Class	Comments
04/04/2008	0.1		Initial Availability.
04/25/2008	0.2		Revised and updated property names and other technical content.
06/27/2008	1.0		Initial Release.
08/06/2008	1.01		Revised and edited technical content.
09/03/2008	1.02		Revised and edited technical content.
12/03/2008	1.03		Revised and edited technical content.
04/10/2009	2.0		Updated technical content and applicable product releases.
07/15/2009	3.0	Major	Revised and edited for technical content.
11/04/2009	4.0.0	Major	Updated and revised the technical content.
02/10/2010	5.0.0	Major	Updated and revised the technical content.
05/05/2010	5.0.1	Editorial	Revised and edited the technical content.
08/04/2010	5.1	Minor	Clarified the meaning of the technical content.
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08/05/2011	5.2	No change	No changes to the meaning, language, or formatting of the technical content.
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01/20/2012	6.0	Major	Significantly changed the technical content.
04/27/2012	6.1	Minor	Clarified the meaning of the technical content.

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1 Introduction

Flagging is a way for **Message objects** to be marked for follow up. As part of the Informational Flagging protocol, flagging related properties are set on the Message object. The values of these properties can then be used to identify flagged messages.

This document specifies:

- Properties that, when set, can be used by a client or server to identify Message objects as being flagged.
- How flag-related properties can be used to track the progress and completion of an associated work item.
- A method by which the sender of a message can specify the flag-related properties of the object delivered to the **recipient(s)** independently of the flag-related properties of the copy of the object saved in the sender's **mailbox**.

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 [\[MS-GLOS\]](#):

Coordinated Universal Time (UTC)
handle
Unicode

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

Appointment object
basic flag
color flag
Contact object
Draft Message object
E-mail object
Journal object
mailbox
meeting-related object
Message object
named property
Note object
property name
property tag
property type
recipient
reminder
reminder properties
remote operation (ROP)
ROP request
ROP response buffer
Task object
time flag

The following terms are specific to this document:

complete flag: A flag on a messaging object that indicates that the associated work item has been completed.

consolidated to-do list: A list of all tasks and flagged Message objects that are in a user's mailbox.

primary flag storage location: The typical location that is used to store flagging properties, as opposed to the secondary flag storage location.

recipient flag: A collection of property values indicating that a draft Message object is marked such that it will appear as flagged with a basic flag to recipients.

recipient reminder: A collection of property values indicating that a Draft Message object is marked such that it will have an active reminder for the recipients of the Message Object.

secondary flag storage location: A binary property that is used to encode a second set of flagging properties, which do not affect the flagged state of a Message object.

sender flag: A collection of property values that indicate that a Draft Message object has been marked such that the copy of the Message object that is saved in the sender's mailbox after the message is sent will appear flagged to the sender.

sender reminder: A collection of property values that indicate that a Draft Message object has been marked such that the copy of the Message object that is saved in the sender's mailbox after the message is sent will have an active reminder.

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-OXCDATA] Microsoft Corporation, "[Data Structures](#)".

[MS-OXCMSG] Microsoft Corporation, "[Message and Attachment Object Protocol Specification](#)".

[MS-OXCPRPT] Microsoft Corporation, "[Property and Stream Object Protocol Specification](#)".

[MS-OXOCAL] Microsoft Corporation, "[Appointment and Meeting Object Protocol Specification](#)".

[MS-OXOJRN] Microsoft Corporation, "[Journal Object Protocol Specification](#)".

[MS-OXOMSG] Microsoft Corporation, "[E-Mail Object Protocol Specification](#)".

[MS-OXONOTE] Microsoft Corporation, "[Note Object Protocol Specification](#)".

[MS-OXORMDR] Microsoft Corporation, "[Reminder Settings Protocol Specification](#)".

[MS-OXOTASK] Microsoft Corporation, "[Task-Related Objects Protocol Specification](#)".

[MS-OXPROPS] Microsoft Corporation, "[Exchange Server Protocols Master Property List](#)".

[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-OXCROPS] Microsoft Corporation, "[Remote Operations \(ROP\) List and Encoding Protocol Specification](#)".

[MS-OXGLOS] Microsoft Corporation, "[Exchange Server Protocols Master Glossary](#)".

1.3 Overview

The Informational Flagging protocol specifies a set of properties that a messaging system can use to identify Message objects as not flagged, basic flagged, color flagged, time flagged, or completed. Objects that are flagged can also have additional associated information such as flag color, start date, or due date to help users further organize their flagged objects; for example, users can assign start and due dates to their flagged objects to prioritize their work, or they can assign a flag color to group related objects.

This protocol specifies a method for a **Draft Message object** to be marked with a **recipient flag**, such that recipients will see the Message object as flagged with a basic flag upon receipt. This protocol also specifies a method for a Draft Message object to be marked with a **sender flag**, which is a time flag that is displayed on the copy of the Message object saved in the sender's mailbox and is not exposed to the messagerecipients.

1.4 Relationship to Other Protocols

This specification relies on an understanding of how to work with Message object properties, **Task object** properties, and message submission. For more information, see [\[MS-OXCMSG\]](#), [\[MS-OXOTASK\]](#), and [\[MS-OXOMSG\]](#). Sender flags are closely related to **sender reminders**, which are described in [\[MS-OXORMDR\]](#).

1.5 Prerequisites/Preconditions

This specification assumes that the messaging client has previously logged on to the server and has acquired a **handle** to the Message object on which it intends to operate.

1.6 Applicability Statement

This specification can be used to specify flags for the Message objects. This protocol is intended to be a complement, and not a substitute, for full task management, which is described in [\[MS-OXOTASK\]](#).

1.7 Versioning and Capability Negotiation

None.

1.8 Vendor-Extensible Fields

None.

1.9 Standards Assignments

None.

2 Messages

2.1 Transport

The Informational Flagging protocol extends the protocol specified in [\[MS-OXCMMSG\]](#) and uses the protocol specified in [\[MS-OXCPRPT\]](#) as an underlying transport.

2.2 Message Syntax

Unless otherwise noted below, the client includes the properties specified in the documentation for the specific type of Message object that is to have its flag state changed.

When a value is specified as not present, the property MUST NOT exist on the Message object, and it MUST be deleted if it exists. Setting a property value to 0 or a zero-length string does not delete the value of the property from the Message object.

2.2.1 Properties Specific to the Informational Flagging Protocol

2.2.1.1 PidTagFlagStatus Property

Type: **PtypInteger32** ([\[MS-OXCDATA\]](#) section 2.11.1)

The **PidTagFlagStatus** property ([\[MS-OXPROPS\]](#) section 2.770) specifies the flag state of the Message object. This property is present on the Message object only if the object has been flagged and is not present otherwise. It MUST NOT exist on a **meeting-related object**, and it SHOULD NOT [<1>](#) exist on a Task object. When acting on other Message objects, this property is set to one of the following values.

Numeric value	Name	Meaning
0x00000001	followupComplete	The object is flagged as complete.
0x00000002	followupFlagged	The object is flagged for follow-up.

2.2.1.2 PidTagFollowupIcon Property

Type: **PtypInteger32** ([\[MS-OXCDATA\]](#) section 2.11.1)

The **PidTagFollowupIcon** property ([\[MS-OXPROPS\]](#) section 2.775) specifies the color of the flag that is set on the Message object. This property MUST NOT exist unless the value of the **PidTagFlagStatus** property (section [2.2.1.1](#)) is set to "**followupFlagged**", or the Message object is a meeting-related object. This property SHOULD NOT [<2>](#) exist on a Task object. When acting on other Message objects, set this property to one of the following values. If this property is not present on an object, the flag has no color.

Numeric value	Meaning
0x00000001	Purple flag
0x00000002	Orange flag
0x00000003	Green flag
0x00000004	Yellow flag

Numeric value	Meaning
0x00000005	Blue flag
0x00000006	Red flag

2.2.1.3 PidTagFlagCompleteTime Property

Type: **PtypTime** ([MS-OXCDATA] section 2.11.1)

The **PidTagFlagCompleteTime** property ([MS-OXPROPS] section 2.769) specifies the date and time in **Coordinated Universal Time (UTC)** that the Message object was flagged as completed. The time's smallest resolution MUST be minutes, and the value MUST be a multiple of 600,000,000. This property is present on the Message object only if the object's **PidTagFlagStatus** property (section 2.2.1.1) is set to 0x00000001. This property MUST NOT exist on a meeting-related object; it SHOULD NOT <3> exist on a Task object.

2.2.1.4 PidTagReplyRequested Property

Type: **PtypBoolean** ([MS-OXCDATA] section 2.11.1)

The **PidTagReplyRequested** property ([MS-OXOMSG] section 2.2.1.42) indicates whether a reply is requested by the message's sender. This property SHOULD NOT be changed on a meeting-related object because this property has a specialized meaning for meeting-related objects, as specified in [MS-OXOCAL]. This property SHOULD NOT <4> exist on a Task object. For a Message object that is neither a meeting-related object or a Task object, this property SHOULD be set to 0x01, indicating that a reply is requested, if the object is flagged and set to 0x00, indicating that a reply is not requested, if the object is not flagged. <5>

The server does not set the **PidTagReplyRequested** property.

2.2.1.5 PidTagResponseRequested Property

Type: **PtypBoolean** ([MS-OXCDATA] section 2.11.1)

The **PidTagResponseRequested** property ([MS-OXOMSG] section 2.2.1.43) has identical values and semantics to the **PidTagReplyRequested** property ([MS-OXOMSG] section 2.2.1.42) in terms of this protocol and therefore, the client updates these values in an identical manner.

The server does not set the **PidTagResponseRequested** property.

2.2.1.6 PidTagToDoItemFlags Property

Type: **PtypInteger32** ([MS-OXCDATA] section 2.11.1)

The **PidTagToDoItemFlags** property ([MS-OXPROPS] section 2.1115) contains bits that specify whether a **time flag** or a recipient flag is set on a Message object. <6> The possible bit values are as follows. All bits not specified in the table are reserved. They MUST be ignored, but SHOULD be preserved if they are set.

Bit	Bit name	Meaning
0x00000001	todoTimeFlagged	A time flag is set.
0x00000008	todoRecipientFlagged	A recipient flag is set. This bit SHOULD be set only on a Draft

Bit	Bit name	Meaning
		Message object.

2.2.1.7 PidTagSwappedToDoData Property

Type: **PtypBinary** ([[MS-OXCDATA](#)] section 2.11.1)

The **PidTagSwappedToDoData** property ([[MS-OXPROPS](#)] section 2.1103) acts as the **secondary flag storage location** if sender flags or sender reminders are supported. [<7>](#) This secondary storage location can be used by the client to maintain a second set of the flagging-related property values that do not affect the flag state of the Message object.

Properties for a sender flag or a sender reminder can be stored in the **PidTagSwappedToDoData** property without exposing the sender flag or sender reminder information to the recipients of the message. Similarly, properties for a recipient flag or a **recipient reminder** can be stored in the **PidTagSwappedToDoData** property for informational purposes on a previously sent message. For details about **reminders**, see [[MS-OXORMDR](#)].

The **PidTagSwappedToDoData** property contains the following fields.

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
ulVersion																															
dwFlags																															
dwToDoItem																															
wszFlagTo																															
...																															
...																															
...																															
...																															
...																															
...																															
(wszFlagTo cont'd for 120 rows)																															
rtmStartDate																															

rtmDueDate
rtmReminder
fReminderSet

ulVersion (4 bytes): An integer that specifies the version of the **PidTagSwappedToDoData** property. This protocol specifies only version 0x00000001. The contents of the **PidTagSwappedToDoData** property MUST be ignored if the version number is not 0x00000001.

dwFlags (4 bytes): A set of bits that indicate the validity of the six member fields that correspond to properties. The bits specified in the following table are combined by using a bitwise OR operation.

Bit	Meaning
0x00000001	The dwToDoItem field contains valid data.
0x00000008	The rtmStartDate field contains valid data.
0x00000010	The rtmDueDate field contains valid data.
0x00000020	The wszFlagTo field contains valid data.
0x00000040	The fReminderSet field contains valid data.
0x00000080	The rtmReminder field contains valid data.

dwToDoItem (4 bytes): An integer that corresponds to the **PidTagToDoItemFlags** property (section [2.2.1.6](#)).

wszFlagTo (512 bytes): A string of **Unicode** characters that corresponds to the **PidLidFlagRequest** property (section [2.2.1.9](#)).

rtmStartDate (4 bytes): An integer that corresponds to the **PidLidTaskStartDate** property ([\[MS-OXOTASK\]](#) section 2.2.2.2.4).

rtmDueDate (4 bytes): An integer that corresponds to the **PidLidTaskDueDate** property ([\[MS-OXOTASK\]](#) section 2.2.2.2.5).

rtmReminder (4 bytes): An integer that corresponds to the **PidLidReminderTime** ([\[MS-OXORMDR\]](#) section 2.2.1.4), **PidLidReminderSignalTime** ([\[MS-OXORMDR\]](#) section 2.2.1.2), and **PidTagReplyTime** (section [2.2.3.1](#)) properties.

When the contents of the **primary flag storage location** and secondary flag storage location are swapped, the contents of the **rtmReminder** field are written to the **PidLidReminderTime**, **PidLidReminderSignalTime**, and **PidTagReplyTime** properties, and the data in the **PidLidReminderTime** property is written to the **rtmReminder** field. For details about **reminder properties**, see [\[MS-OXORMDR\]](#) section 2.2.1.

fReminderSet (4 bytes): A Boolean value that corresponds to the **PidLidReminderSet** property ([\[MS-OXORMDR\]](#) section 2.2.1.1).

The value in the **rtmStartDate**, **rtmDueDate**, and **rtmReminder** fields is stored as a 4-byte integer that is expressed as the number of minutes since 00:00:00 on January 1, 1601 in **UTC**. The client sets the field to the value 0x5AE980E0 to indicate no date and time.

2.2.1.8 PidTagSwappedToDoStore Property

Type: **PtypBinary** ([MS-OXCDATA] section 2.11.1)

The **PidTagSwappedToDoStore** property ([MS-OXPROPS] section 2.1104) specifies a binary value that is used to determine the need for post-transmit processing of an e-mail message, as specified in section 3.1.4.3. If the **PidTagSwappedToDoData** property (section 2.2.1.7) is set on a Draft Message object, then the **PidTagSwappedToDoStore** property is set to the value of the **PidTagStoreEntryId** property ([MS-OXCMSG] section 2.2.1.44) of the **E-mail object**; otherwise, the **PidTagSwappedToDoStore** property is not set.

2.2.1.9 PidLidFlagRequest Property

Type: **PtypString** ([MS-OXCDATA] section 2.11.1)

The **PidLidFlagRequest** property ([MS-OXPROPS] section 2.136) specifies user-supplied text to be associated with the flag that is set on the Message object. If the user does not supply a value, this property is set to "Follow up". This property SHOULD NOT exist on a meeting-related object.

The client ignores the **PidLidFlagRequest** property if the **PidLidFlagString** property (section 2.2.1.10) is set to a nonzero value. The server always uses the **PidLidFlagRequest** property.

2.2.1.10 PidLidFlagString Property

Type: **PtypInteger32** ([MS-OXCDATA] section 2.11.1)

The **PidLidFlagString** property ([MS-OXPROPS] section 2.137) contains an integer that identifies a predefined text string to be associated with the flag. This property MUST NOT exist on meeting-related objects and is optional on other Message objects. Setting this property is optional for the client. The server does not read or set this property. If this property is either not present on the object or set to 0x00000000, the client associates the value of the **PidLidFlagRequest** property (section 2.2.1.9) with the flag; otherwise, the client uses the text identified by this property.

The predefined text strings and their associated integer identifiers are specified in the following tables. All strings can be translated into the user's language, if appropriate.

The predefined text strings for **Contact objects** are as follows.

Value	English string
0x0000006E	"Follow up"
0x0000006F	"Call"
0x00000070	"Arrange Meeting"
0x00000071	"Send E-mail"
0x00000072	"Send Letter"

The predefined text strings for all other Message objects are as follows.

Value	English string
0x00000001	"Call"
0x00000002	"Do not Forward"
0x00000003	"Follow up"
0x00000004	"For Your Information"
0x00000005	"Forward"
0x00000006	"No Response Necessary"
0x00000007	"Read"
0x00000008	"Reply"
0x00000009	"Reply to All"
0x0000000A	"Review"

2.2.1.11 PidLidValidFlagStringProof Property

Type: **PtypTime** ([\[MS-OXCDATA\]](#) section 2.11.1)

The **PidLidValidFlagStringProof** property ([\[MS-OXPROPS\]](#) section 2.350) MUST NOT exist on meeting-related objects. On objects that are not sendable (received mail and objects that are not mail), this property is optional. If present, this property is set equal to the **PidTagMessageDeliveryTime** property ([\[MS-OXOMSG\]](#) section 2.2.3.9) when modifying the **PidLidFlagRequest** property (section [2.2.1.9](#)). Setting this property is optional for the client. The server does not read or set this property.

This property can be used to validate whether the **PidLidFlagRequest** property was set by an agent with knowledge of the value of the **PidTagMessageDeliveryTime** property. Since the value of the **PidTagMessageDeliveryTime** property cannot be predicted by the sender, if the value of the **PidLidValidFlagStringProof** property is equal to the value of the **PidTagMessageDeliveryTime** property, it is reasonably certain that the value of the **PidLidFlagRequest** property did not originate from the sender of the message. A client can decide how to present the value of the **PidLidFlagRequest** property to the end user based on the result of this comparison in accordance with the specific security policy of the client.

If the client ignores the **PidLidFlagRequest** property due to the value of the **PidLidFlagString** property (section [2.2.1.10](#)), the client also ignores the **PidLidValidFlagStringProof** property.

2.2.1.12 PidLidToDoTitle Property

Type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1)

The **PidLidToDoTitle** property ([\[MS-OXPROPS\]](#) section 2.347) specifies user-supplied text to identify the Message object in a **consolidated to-do list**. The **PidLidToDoTitle** property MUST NOT be set on a Task object. To indicate an empty property, the **PidLidToDoTitle** property SHOULD NOT be set to the zero-length string and instead SHOULD be deleted.

If this property does not exist on an object, a client SHOULD [<8>](#) substitute the value of the **PidTagNormalizedSubject** property ([\[MS-OXCMSG\]](#) section 2.2.1.10) when displaying this property in the consolidated to-do list.

On a Draft Message object, if the client implements sender flags, this property SHOULD be set to the value of the **PidLidFlagRequest** property (section [2.2.1.9](#)).

2.2.1.13 PidLidToDoOrdinalDate Property

Type: **PtypTime** ([\[MS-OXCDATA\]](#) section 2.11.1)

The **PidLidToDoOrdinalDate** property ([\[MS-OXPROPS\]](#) section 2.345) specifies the time that an object is flagged. When an object is flagged, this property SHOULD [<9>](#) be set to the current time in UTC.

This property SHOULD be used to determine the order of objects in a consolidated to-do list. If the client allows a user to reorder tasks within the consolidated to-do list via dragging or other mechanisms, the client can use any suitable algorithm to determine the new value of this property such that the task appears in the correct place when this property is used as a sorting field. When this property is used to sort objects and two or more of the objects have the same value for this property, the objects with the matching values will tie for placement in the list. In this case, the **PidLidToDoSubOrdinal** property (section [2.2.1.14](#)) is used to break the tie.

2.2.1.14 PidLidToDoSubOrdinal Property

Type: **PtypString** ([\[MS-OXCDATA\]](#) section 2.11.1)

The **PidLidToDoSubOrdinal** property ([\[MS-OXPROPS\]](#) section 2.346) specifies a string that is used to break a tie for placement within a sorted list of Message objects. When the **PidLidToDoOrdinalDate** property (section [2.2.1.13](#)) is used to sort objects and two or more of the objects have the same value for this property, the objects with the matching values tie for placement in the list. In this case, the **PidLidToDoSubOrdinal** property ([\[MS-OXPROPS\]](#) section 2.346) is used to break the tie. If used, this property MUST be sorted lexicographically.

The component characters of the string consist of only the numerals 0 through 9. This property SHOULD be initially set to "555555". The length of this property MUST NOT exceed 254 characters (excluding the terminating NULL character).

2.2.2 Properties Shared with the Task-Related Object Protocol

The following properties are shared by this specification and Task-Related Object Protocol Specification [\[MS-OXOTASK\]](#):

- **PidLidTaskStartDate** ([\[MS-OXOTASK\]](#) section 2.2.2.2.4)
- **PidLidTaskDueDate** ([\[MS-OXOTASK\]](#) section 2.2.2.2.5)
- **PidLidTaskDateCompleted** ([\[MS-OXOTASK\]](#) section 2.2.2.2.9)
- **PidLidTaskComplete** ([\[MS-OXOTASK\]](#) section 2.2.2.2.20)
- **PidLidTaskStatus** ([\[MS-OXOTASK\]](#) section 2.2.2.2.2)
- **PidLidPercentComplete** (section [2.2.2.3](#))
- **PidLidCommonStart** ([\[MS-OXCMSG\]](#) section 2.2.1.18)
- **PidLidCommonEnd** ([\[MS-OXCMSG\]](#) section 2.2.1.19)

Unless noted below, their semantics and accepted values are identical to those specified in [\[MS-OXOTASK\]](#).

2.2.2.1 PidLidTaskStatus Property

Type: **PtypInteger32** ([\[MS-OXCDATA\]](#) section 2.11.1)

For a time-flagged Message object, the value of the **PidLidTaskStatus** property ([\[MS-OXOTASK\]](#) section 2.2.2.2.2) is set to 0x00000002 if the task is completed and SHOULD be set to 0x00000000 otherwise.

The server does not set this property.

2.2.2.2 PidLidTaskComplete Property

Type: **PtypBoolean** ([\[MS-OXCDATA\]](#) section 2.11.1)

The **PidLidTaskComplete** property ([\[MS-OXOTASK\]](#) section 2.2.2.2.20) is set to 0x01 if the Message object is flagged as completed; this property is set to 0x00 otherwise.

The server does not set this property.

2.2.2.3 PidLidPercentComplete Property

Type: **PtypFloating64** ([\[MS-OXCDATA\]](#) section 2.11.1)

For a time flagged Message object, the value of the **PidLidPercentComplete** property ([\[MS-OXPROPS\]](#) section 2.202) is set to 1.0 if the object is flagged completed, and SHOULD be set to 0.0 otherwise.

The server does not set this property.

2.2.3 Properties Shared with the Reminder Settings Protocol

The following properties are shared by the Reminder Settings Protocol Specification, as specified in [\[MS-OXORMDR\]](#):

- **PidLidReminderSet** ([\[MS-OXORMDR\]](#) section 2.2.1.1)
- **PidLidReminderTime** ([\[MS-OXORMDR\]](#) section 2.2.1.4)
- **PidLidReminderSignalTime** ([\[MS-OXORMDR\]](#) section 2.2.1.2)
- **PidTagReplyTime** (section [2.2.3.1](#))

Unless noted below, their semantics and accepted values are identical to those specified in [\[MS-OXORMDR\]](#).

2.2.3.1 PidTagReplyTime Property

Type: **PtypTime** ([\[MS-OXCDATA\]](#) section 2.11.1)

On a Draft Message object, if the sender desires to set a deadline for the recipient(s), the **PidTagReplyTime** property ([\[MS-OXPROPS\]](#) section 2.987) is set to the desired deadline in UTC. The client SHOULD delete this property when clearing the flag from the Message object.

The server does not set the **PidTagReplyTime** property.

3 Protocol Details

3.1 Client and Server Details

Message objects can be flagged by clients and servers. Except where noted below, this section defines constraints to which clients and servers adhere when flagging Message objects.

Clients operate on Message objects by using the protocol specified in [\[MS-OXCMMSG\]](#). How a server operates on Message objects is implementation dependent, but the results of any such operations MUST be exposed to clients in a manner that is consistent with this specification.

[\[MS-OXPROPS\]](#) specifies the definitions of each property, including the **property name**, **property tag**, and **property type**.

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 their external behavior is consistent with that described in this document.

A Message object is always considered to be in one of these states with respect to this specification.

- Basic flagged
- Color flagged
- Time flagged
- Flagged as complete
- Unflagged

Otherwise, the abstract data model of the Informational Flagging protocol does not differ significantly from the abstract data model of the Message object to which this protocol is being applied.

3.1.2 Timers

None.

3.1.3 Initialization

None.

3.1.4 Higher-Layer Triggered Events

3.1.4.1 Flagging a Message Object

Message objects, other than **Appointment objects** [\[MS-OXOCAL\]](#), **Journal objects** [\[MS-OXOJRNLI\]](#), and **Note objects** [\[MS-OXONOTE\]](#), can be flagged. Appointment objects, Journal objects, and Note objects SHOULD NOT [<10>](#) be flagged.

3.1.4.1.1 Setting a Color Flag

The following properties are set to these values on any Message object when flagging a message with a **color flag**.<11>

Property	Value
PidTagFollowupIcon (section 2.2.1.2)	Not present for no color; otherwise set as specified in section 2.2.1.2 .

For all Message objects that are not meeting-related objects, the following properties SHOULD also be set.

Property	Value
PidLidFlagRequest (section 2.2.1.9)	SHOULD be a nonzero length string. "Follow up" SHOULD be used as the default if one is not specified explicitly by the user.
PidLidFlagString (section 2.2.1.10)	For more details, see section 2.2.1.10 .
PidLidValidFlagStringProof (section 2.2.1.11)	Equal to PidTagMessageDeliveryTime ([MS-OXOMSG] section 2.2.3.9) of the Message object.

For all Message objects that are not meeting-related objects or Task objects,<12> the following properties SHOULD be set.

Property	Value
PidTagFlagStatus (section 2.2.1.1)	followupFlagged (0x00000002).
PidTagFlagCompleteTime (section 2.2.1.3)	Not present.
PidTagReplyRequested ([MS-OXOMSG] section 2.2.1.42)	0x01
PidTagResponseRequested ([MS-OXOMSG] section 2.2.1.43)	0x01

3.1.4.1.2 Setting a Basic Flag

A **basic flag** is identical to the color flag specified in section [3.1.4.1](#) except that the **PidTagFollowupIcon** property (section [2.2.1.2](#)) is not set.<13> Meeting-related objects cannot have a basic flag.

3.1.4.1.3 Setting a Time Flag

The following properties SHOULD<14> be set to these values on any Message object when flagging a message with a time flag.

Property	Value
PidTagFollowupIcon (section 2.2.1.2)	0x00000006
PidTagToDoItemFlags (section 2.2.1.6)	todoTimeFlagged (0x00000001) bit set to 1.
PidLidToDoOrdinalDate (section 2.2.1.13)	Equal to the current time in UTC if the PidLidToDoOrdinalDate property does not already exist.

Property	Value
PidLidToDoSubOrdinal (section 2.2.1.14)	"5555555" if the PidLidToDoSubOrdinal property does not already exist.
PidLidTaskStartDate ([MS-OXOTASK] section 2.2.2.2.4)	User specified.
PidLidTaskDueDate ([MS-OXOTASK] section 2.2.2.2.5)	User specified.
PidLidCommonStart ([MS-OXCMSG] section 2.2.1.18)	See [MS-OXOTASK].
PidLidCommonEnd ([MS-OXCMSG] section 2.2.1.19)	See [MS-OXOTASK].
PidLidTaskDateCompleted ([MS-OXOTASK] section 2.2.2.2.9)	Not present.
PidLidTaskComplete ([MS-OXOTASK] section 2.2.2.2.20)	0x00
PidLidTaskStatus ([MS-OXOTASK] section 2.2.2.2.2)	0x00000000
PidLidPercentComplete (section 2.2.2.3)	0.0

Note that even if the user specifies "no date" for the start and due dates, the flag is still considered a time flag if the **todoTimeFlagged** (0x00000001) bit in the **PidTagToDoItemFlags** property is set to 1.

For all Message objects that are not Task objects, the following properties SHOULD also be set.

Property	Value
PidLidToDoTitle (section 2.2.1.12)	Equal to PidTagNormalizedSubject ([MS-OXCMSG] section 2.2.1.10) if the PidLidToDoTitle property does not already exist.

For all Message objects that are not meeting-related objects, the following properties SHOULD also be set.

Property	Value
PidLidFlagRequest (section 2.2.1.9)	SHOULD be a non-zero length string. "Follow up" SHOULD be used as the default if one is not specified explicitly by the user. Only set if the PidLidFlagRequest property does not already exist.
PidLidFlagString (section 2.2.1.10)	See section 2.2.1.10 . Only set if the PidLidFlagString property does not already exist.
PidLidValidFlagStringProof (section 2.2.1.11)	Equal to PidTagMessageDeliveryTime ([MS-OXOMSG] section 2.2.3.9) of the Message object. Only set if the PidLidValidFlagStringProof property does not already exist.

For all Message objects that are not meeting-related objects or Task objects, the following properties SHOULD also be set.

Property	Value
PidTagFlagStatus (section 2.2.1.1)	followupFlagged (0x00000002).
PidTagFlagCompleteTime (section 2.2.1.3)	Not present.
PidTagReplyRequested ([MS-OXOMSG] section 2.2.1.42)	0x01
PidTagResponseRequested ([MS-OXOMSG] section 2.2.1.43)	0x01

3.1.4.1.4 Setting a Complete Flag

To set a **complete flag**, the following properties on any Message object SHOULD [<15>](#) be set to the values indicated in the following table when marking a flagged Message object complete.

Property	Value
PidTagFollowupIcon (section 2.2.1.2)	Not present.
PidTagToDoItemFlags (section 2.2.1.6)	todoTimeFlagged (0x00000001) bit set to 1.
PidLidToDoOrdinalDate (section 2.2.1.13)	Equal to the current time in UTC if PidLidToDoOrdinalDate does not already exist.
PidLidToDoSubOrdinal (section 2.2.1.14)	"5555555" if the PidLidToDoSubOrdinal property does not already exist.
PidLidTaskDateCompleted ([MS-OXOTASK] section 2.2.2.2.9)	Equal to the current date.
PidLidTaskComplete ([MS-OXOTASK] section 2.2.2.2.20)	0x01
PidLidTaskStatus ([MS-OXOTASK] section 2.2.2.2.2)	0x00000002
PidLidPercentComplete (section 2.2.2.3)	1.0

For all Message objects that are not Task objects, the following properties SHOULD also be set.

Property	Value
PidLidToDoTitle (section 2.2.1.12)	Equal to PidTagNormalizedSubject ([MS-OXCMSG] section 2.2.1.10) if the PidLidToDoTitle property does not already exist.

For all Message objects that are not meeting-related objects, [<16>](#) the following properties SHOULD be set with the following values:

Property	Value
PidLidFlagRequest (section 2.2.1.9)	SHOULD be a non-zero length string. "Follow up" SHOULD be used as the default if one is not explicitly specified by the user. Set only if the PidLidFlagRequest property does not already exist.
PidLidFlagString (section 2.2.1.10)	See section 2.2.1.10 . Only set if the PidLidFlagString property does not already exist.

Property	Value
PidLidValidFlagStringProof (section 2.2.1.11)	Equal to PidTagMessageDeliveryTime ([MS-OXOMSG] section 2.2.3.9) of the Message object. Only set if the PidLidValidFlagStringProof property does not already exist.

For all Message objects that are not meeting-related objects or Task objects, the following properties SHOULD also be set.

Property	Value
PidTagFlagStatus (section 2.2.1.1)	followupComplete (0x00000001).
PidTagFlagCompleteTime (section 2.2.1.3)	Current time in UTC.
PidTagReplyRequested ([MS-OXOMSG] section 2.2.1.42)	0x00.
PidTagResponseRequested ([MS-OXOMSG] section 2.2.1.43)	0x00.

3.1.4.1.5 Setting a Recipient Flag

Recipient flags are set on Draft Message objects and are basic flags when they arrive in the recipient's mailbox. A message flagged for its recipients has the following properties set.

Property	Value
PidTagFlagStatus (section 2.2.1.1)	Set to followupFlagged (0x00000002).
PidTagReplyRequested ([MS-OXOMSG] section 2.2.1.42)	SHOULD be set to 0x01.
PidTagResponseRequested ([MS-OXOMSG] section 2.2.1.43)	SHOULD be set to 0x01.
PidLidFlagRequest (section 2.2.1.9)	SHOULD be a nonzero length string. "Follow up" SHOULD be used as the default if none is explicitly specified by the user.
PidLidFlagString (section 2.2.1.10)	See section 2.2.1.10 .
PidLidTaskStatus (section 2.2.2.1)	SHOULD be set to 0x00000000.< 17 >
PidLidPercentComplete (section 2.2.2.3)	SHOULD be set to 0.0.< 18 >
PidLidTaskComplete ([MS-OXOTASK] section 2.2.2.2.20)	SHOULD be set to 0x00.< 19 >

If the client supports sender flags, then the **PidTagSwappedToDoStore** property (section [2.2.1.8](#)) is set to trigger the post-transmit processing specified in section [3.1.4.3](#).

3.1.4.1.6 Setting a Sender Flag

On a Draft Message object, a client can set both sender flag properties and recipient flag properties.<[20](#)> The recipient flag properties are set in the primary flag storage location, as specified in section [3.1.4.1.5](#); the sender flag properties are set in the secondary flag storage location in the **PidTagSwappedToDoData** property (section [2.2.1.7](#)), and the **PidTagSwappedToDoStore** property (section [2.2.1.8](#)) is set, to trigger the post-transmit processing, as specified in section [3.1.4.3](#).

3.1.4.2 Clearing a Flag on a Message Object

3.1.4.2.1 Clearing a Flag on a Meeting-Related Object

Clearing a flag on a meeting-related object is identical to clearing a flag on a message except that the following properties MUST NOT be deleted or altered: **PidTagFlagStatus** (section [2.2.1.1](#)), **PidTagFlagCompleteTime** (section [2.2.1.3](#)), **PidTagReplyRequested** ([[MS-OXOMSG](#)] section 2.2.1.42), **PidTagResponseRequested** ([[MS-OXOMSG](#)] section 2.2.1.43), **PidLidFlagRequest** (section [2.2.1.9](#)), **PidLidFlagString** (section [2.2.1.10](#)), and **PidLidValidFlagStringProof** (section [2.2.1.11](#)).

3.1.4.2.2 Clearing a Flag on a Task Object

Flagging a task is a shortcut for the user to change the values of **PidLidTaskStartDate** ([[MS-OXOTASK](#)] section 2.2.2.2.4) and **PidLidTaskDueDate** ([[MS-OXOTASK](#)] section 2.2.2.2.5). A client can, in this way, always view an uncompleted task as having a time flag. Because of this, clearing a flag on a task can be viewed as equivalent to deleting the Task object.

3.1.4.2.3 Clearing a Flag on Other Message Objects

To clear a flag from a Message object, the properties specified in section [2.2](#) SHOULD be deleted with the following exceptions. These properties are set to the following values.

Property	Value
PidTagToDoItemFlags (section 2.2.1.6)	Set the todoTimeFlagged (0x00000001) bit to 0.

The following properties can be set to the following values instead of being deleted from the object.

Property	Value
PidLidTaskComplete ([MS-OXOTASK] section 2.2.2.2.20)	0x00
PidLidTaskStatus ([MS-OXOTASK] section 2.2.2.2.2)	0x00000000
PidLidPercentComplete (section 2.2.2.3)	0.0
PidTagReplyRequested ([MS-OXOMSG] section 2.2.1.42)	0x00
PidTagResponseRequested ([MS-OXOMSG] section 2.2.1.43)	0x00
PidLidFlagRequest (section 2.2.1.9)	Zero-length string
PidLidFlagString (section 2.2.1.10)	0x00000000
PidLidToDoOrdinalDate (section 2.2.1.13)	4501/01/01 00:00:00.000
PidLidToDoSubOrdinal (section 2.2.1.14)	Zero-length string

3.1.4.3 Post-Transmit Processing of a Flagged Message

Once a message that has a value set for the **PidTagSwappedToDoStore** property (section [2.2.1.8](#)) has been sent, a client that supports sender flags or sender reminders takes the following actions.[<21>](#)

If the value of the **PidTagSwappedToDoStore** property matches the value of the **PidTagStoreEntryId** property ([\[MS-OXCMMSG\]](#) section 2.2.1.44) of the Message object, it swaps the contents of the **PidTagSwappedToDoData** property (section [2.2.1.7](#)) and the primary flag storage location as shown by the mapping in section [2.2.1.7](#) with the exception that, if the **PidTagToDoItemFlags** property (section [2.2.1.6](#)) contains the value `todoRecipientFlagged`, signifying that the message was flagged for recipients as described in section [2.2.1.6](#), then the **dwToDoItem** member of the **PidTagSwappedToDoData** property is set to `todoTimeFlagged`. After the operation, the previous contents of the primary flag storage location are now in the secondary flag storage location and vice versa. In addition, the value of the **PidLidValidFlagStringProof** property (section [2.2.1.11](#)) is set equal to the value of **PidTagMessageDeliveryTime** ([\[MS-OXOMSG\]](#) section 2.2.3.9).

If the value of the **PidTagSwappedToDoStore** property does not match the value of the **PidTagStoreEntryId** property, the client clears the **PidTagSwappedToDoData** property.

In both cases, the **PidTagSwappedToDoStore** property is deleted.

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

All examples in this section assume that the user who is flagging the object resides in the Pacific Standard Time Zone (UTC - 8). The following are descriptions of what a client does to accomplish the scenarios and the responses that a server returns.

Before flagging any Message objects, the client needs to ask the server to perform a mapping from **named properties** to property identifiers, using the **RopGetPropertyIDsFromNames ROP** ([MS-OXCROPS] section 2.2.8.1).

Property	Property set GUID	Name or ID
PidLidFlagRequest (section 2.2.1.9)	{00062008-0000-0000-C000-000000000046}	0x8530
PidLidFlagString (section 2.2.1.10)	{00062008-0000-0000-C000-000000000046}	0x85C0
PidLidValidFlagStringProof (section 2.2.1.11)	{00062008-0000-0000-C000-000000000046}	0x85BF
PidLidToDoTitle (section 2.2.1.12)	{00062008-0000-0000-C000-000000000046}	0x85A4
PidLidToDoOrdinalDate (section 2.2.1.13)	{00062008-0000-0000-C000-000000000046}	0x85A0
PidLidToDoSubOrdinal (section 2.2.1.14)	{00062008-0000-0000-C000-000000000046}	0x85A1
PidLidTaskStartDate ([MS-OXOTASK] section 2.2.2.2.4)	{00062003-0000-0000-C000-000000000046}	0x8104
PidLidTaskDueDate ([MS-OXOTASK] section 2.2.2.2.5)	{00062003-0000-0000-C000-000000000046}	0x8105
PidLidCommonStart ([MS-OXCMSG] section 2.2.1.18)	{00062008-0000-0000-C000-000000000046}	0x8516
PidLidCommonEnd ([MS-OXCMSG] section 2.2.1.19)	{00062008-0000-0000-C000-000000000046}	0x8517
PidLidTaskDateCompleted ([MS-OXOTASK] section 2.2.2.2.9)	{00062003-0000-0000-C000-000000000046}	0x810F
PidLidTaskComplete ([MS-OXOTASK] section 2.2.2.2.20)	{00062003-0000-0000-C000-000000000046}	0x811C
PidLidTaskStatus ([MS-OXOTASK] section 2.2.2.2.2)	{00062003-0000-0000-C000-000000000046}	0x8101
PidLidPercentComplete (section 2.2.2.3)	{00062003-0000-0000-C000-000000000046}	0x8102
PidLidReminderSet ([MS-OXORMDR] section 2.2.1.1)	{00062008-0000-0000-C000-000000000046}	0x8503
PidLidReminderDelta ([MS-OXORMDR] section 2.2.1.3)	{00062008-0000-0000-C000-000000000046}	0x8501

Property	Property set GUID	Name or ID
PidLidReminderTime ([MS-OXORMDR] section 2.2.1.4)	{00062008-0000-0000-C000-000000000046}	0x8502
PidLidReminderSignalTime ([MS-OXORMDR] section 2.2.1.2)	{00062008-0000-0000-C000-000000000046}	0x8560

The server responds with the following identifiers, which will be used in the examples that follow (the actual identifiers are at the discretion of the server).

Property	Property Identifier
PidLidFlagRequest	0x802A
PidLidFlagString	0x83C0
PidLidValidFlagStringProof	0x83CA
PidLidToDoTitle	0x8018
PidLidToDoOrdinalDate	0x830D
PidLidToDoSubOrdinal	0x830E
PidLidTaskStartDate	0x8143
PidLidTaskDueDate	0x8144
PidLidCommonStart	0x81BC
PidLidCommonEnd	0x81BB
PidLidTaskDateCompleted	0x8149
PidLidTaskComplete	0x8148
PidLidTaskStatus	0x8145
PidLidPercentComplete	0x8146
PidLidReminderSet	0x8004
PidLidReminderDelta	0x81FF
PidLidReminderTime	0x8005
PidLidReminderSignalTime	0x8006

4.1 Color-Flagged Object

Ryan Gregg has a message in his Inbox related to the "Woodgrove Bank" account, which he has associated in his mind to the orange flag. He uses the default request string designated by the client, which is "Follow up". [<22>](#)

The client sends a **RopOpenMessage ROP request** ([\[MS-OXCROPS\]](#) section 2.2.6.1) and waits for the server to respond. The server response contains a handle to the Message object.

The client sends a **RopGetPropertiesSpecific** ROP request ([MS-OXCROPS] section 2.2.8.3) to retrieve some properties of the Message object.

Property	Property ID	Property type
PidTagMessageDeliveryTime ([MS-OXOMSG] section 2.2.3.9)	0x0E06	0x0040 (PtypTime)

The client receives a **ROP response buffer** from the server with the requested values.

Property	Property ID	Property type	Value
PidTagMessageDeliveryTime	0x0E06	0x0040 (PtypTime)	2008/02/11 22:41:24.765

The client then sends a **RopSetProperties** ROP request ([MS-OXCROPS] section 2.2.8.6) to set the flagging properties.

Property	Property ID	Property type	Value
PidTagFlagStatus (section 2.2.1.1)	0x1090	0x0003 (PtypInteger32)	0x00000002
PidTagFollowupIcon (section 2.2.1.2)	0x1095	0x0003 (PtypInteger32)	0x00000002
PidTagReplyRequested ([MS-OXOMSG] section 2.2.1.42)	0x0C17	0x000B (PtypBoolean)	0x01
PidTagResponseRequested ([MS-OXOMSG] section 2.2.1.43)	0x0063	0x000B (PtypBoolean)	0x01
PidLidFlagRequest (section 2.2.1.9)	0x802A	0x001F (PtypString)	Follow up
PidLidFlagString (section 2.2.1.10)	0x83C0	0x0003 (PtypInteger32)	0x00000003
PidLidValidFlagStringProof (section 2.2.1.11)	0x83CA	0x0040 (PtypTime)	2008/02/11 22:41:24.765

Finally, the client then sends a **RopSaveChangesMessage** ROP request ([MS-OXCROPS] section 2.2.6.3) to persist the object on the server, and a **RopRelease** ROP request ([MS-OXCROPS] section 2.2.15.3) to release the object.

The above properties are all that is strictly necessary to color flag an object. Clients can set the other properties discussed in section 2.2.1.7 to appropriate values, <23> if desired.

4.2 Time Flagged Object

Kendall Keil has a message in his Inbox with the subject "Contoso Project" and he wants to be sure to remember to follow up on that message starting on 2008/02/11, and needs to be done by 2008/02/12. He uses the default request string designated by the client, which is "Follow up". He flags the item on 2008/02/11 22:16:28.177 (UTC).

As before, the client first retrieves a handle to the Message object using **RopOpenMessage** ([MS-OXCROPS] section 2.2.6.1).

Besides a handle, the following relevant data is returned from the response to the **RopOpenMessage** ROP request ([\[MS-OXCROPS\]](#) section 2.2.6.1).

Property	Property ID	Property type	Value
PidTagNormalizedSubject ([MS-OXCMSG] section 2.2.1.10)	0x0E1D	0x001F (PtypString)	Contoso Project

The client sends a **RopGetPropertiesSpecific** ROP request ([\[MS-OXCROPS\]](#) section 2.2.8.3) to retrieve the state of the Message object.

Property	Property ID	Property type
PidTagMessageDeliveryTime ([MS-OXOMSG] section 2.2.3.9)	0x0E06	0x0040 (PtypTime)

The client receives a ROP response buffer from the server with the requested values.

Property	Property ID	Property type	Value
PidTagMessageDeliveryTime	0x0E06	0x0040 (PtypTime)	2008/02/11 22:41:24.765

The client then sends a **RopSetProperties** ROP request ([\[MS-OXCROPS\]](#) section 2.2.8.6) to set the flagging properties.

Property	Property ID	Property type	Value
PidTagFlagStatus (section 2.2.1.1)	0x1090	0x0003 (PtypInteger32)	0x00000002
PidTagFollowupIcon (section 2.2.1.2)	0x1095	0x0003 (PtypInteger32)	0x00000006
PidTagReplyRequested ([MS-OXOMSG] section 2.2.1.42)	0x0C17	0x000B (PtypBoolean)	0x01
PidTagResponseRequested ([MS-OXOMSG] section 2.2.1.43)	0x0063	0x000B (PtypBoolean)	0x01
PidTagToDoItemFlags (section 2.2.1.6)	0x0E2B	0x0003 (PtypInteger32)	0x00000001
PidLidFlagRequest (section 2.2.1.9)	0x802A	0x001F (PtypString)	Follow up
PidLidFlagString (section 2.2.1.10)	0x83C0	0x0003 (PtypInteger32)	0x00000003
PidLidValidFlagStringProof (section 2.2.1.11)	0x83CA	0x0040 (PtypTime)	2008/02/11 22:41:24.765
PidLidToDoTitle (section 2.2.1.12)	0x8018	0x001F (PtypString)	Contoso Project
PidLidToDoOrdinalDate (section 2.2.1.13)	0x830D	0x0040 (PtypTime)	2008/02/11 22:16:28.177
PidLidToDoSubOrdinal (section 2.2.1.14)	0x830E	0x001F (PtypString)	5555555

Property	Property ID	Property type	Value
PidLidTaskStartDate ([MS-OXOTASK] section 2.2.2.2.4)	0x8143	0x0040 (PtypTime)	2008/02/11 00:00:00.000
PidLidTaskDueDate ([MS-OXOTASK] section 2.2.2.2.5)	0x8144	0x0040 (PtypTime)	2008/02/12 00:00:00.000
PidLidCommonStart ([MS-OXCMSG] section 2.2.1.18)	0x81BC	0x0040 (PtypTime)	2008/02/11 08:00:00.000
PidLidCommonEnd ([MS-OXCMSG] section 2.2.1.19)	0x81BB	0x0040 (PtypTime)	2008/02/12 08:00:00.000

Finally, the client then sends a **RopSaveChangesMessage** ROP request ([\[MS-OXCROPS\]](#) section 2.2.6.3) to persist the object on the server, and a **RopRelease** ROP request ([\[MS-OXCROPS\]](#) section 2.2.15.3) to release the object.

4.3 Completed Object

Kendall Keil is now finished with the work item associated with the message in the previous example. As before, the client first retrieves a handle to the Message object using **RopOpenMessage** ([\[MS-OXCROPS\]](#) section 2.2.6.1).

The client sends a **RopSetProperties** ROP request ([\[MS-OXCROPS\]](#) section 2.2.8.6) to set the flagging properties.

Property	Property ID	Property ID	Value
PidTagFlagStatus (section 2.2.1.1)	0x1090	0x0003 (PtypInteger32)	0x00000001
PidTagFlagCompleteTime (section 2.2.1.3)	0x1091	0x0040 (PtypTime)	2008/02/11 22:23:00.000
PidTagReplyRequested ([MS-OXOMSG] section 2.2.1.42)	0x0C17	0x000B (PtypBoolean)	0x00
PidTagResponseRequested ([MS-OXOMSG] section 2.2.1.43)	0x0063	0x000B (PtypBoolean)	0x00
PidLidTaskDateCompleted ([MS-OXOTASK] section 2.2.2.2.9)	0x8149	0x0040 (PtypTime)	2008/02/11 08:00:00.000
PidLidTaskComplete ([MS-OXOTASK] section 2.2.2.2.20)	0x8148	0x000B (PtypBoolean)	0x01
PidLidTaskStatus ([MS-OXOTASK] section 2.2.2.2.2)	0x8145	0x0003 (PtypInteger32)	0x00000002
PidLidPercentComplete (section 2.2.2.3)	0x8146	0x0005 (PtypFloating64)	1.0
PidLidReminderSet ([MS-OXORMDR] section 2.2.1.1)	0x8004	0x000B (PtypBoolean)	0x00

The application sends a **RopDeletePropertiesNoReplicate** ROP request ([MS-OXCROPS] section 2.2.8.9).

Property	Property ID	Property ID
PidTagFollowupIcon (section 2.2.1.2)	0x1095	0x0003 (PtypInteger32)

Finally, the client sends a **RopSaveChangesMessage** ROP request ([MS-OXCROPS] section 2.2.6.3) to persist the object on the server, and a **RopRelease** ROP request ([MS-OXCROPS] section 2.2.15.3) to release the object.

4.4 Flagging a Draft Message Object for the Sender and Recipient

Randy Byrne is planning to send a contract to a customer on March 7, 2008. He wants his co-worker, Marina Dukhon, to review the contract before he sends it out. He sends a message to Marina with a sender flag that has a due date of 2008/03/07 with a request string of "Forward", and a recipient flag to Marina with a reminder on March 6, 2008 at 4:00 P.M. local time and a request string of "Review".

As before, the client first retrieves a handle to the Message object using the **RopOpenMessage** ROP ([MS-OXCROPS] section 2.2.6.1).

The client sends a **RopSetProperties** ROP request ([MS-OXCROPS] section 2.2.8.6) to set the flagging properties.

Property	Property ID	Property type	Value
PidTagFlagStatus (section 2.2.1.1)	0x1090	0x0003 (PtypInteger32)	0x00000002
PidTagReplyRequested ([MS-OXOMSG] section 2.2.1.42)	0x0C17	0x000B (PtypBoolean)	0x01
PidTagResponseRequested ([MS-OXOMSG] section 2.2.1.43)	0x0063	0x000B (PtypBoolean)	0x01
PidTagReplyTime (section 2.2.3.1)	0x0030	0x0040 (PtypTime)	2008/03/07 00:00:00.000
PidTagToDoItemFlags (section 2.2.1.6)	0x0E2B	0x0003 (PtypInteger32)	0x00000008
PidTagSwappedToDoData (section 2.2.1.7)	0x0E2D	0x0102 (PtypBinary)	See below
PidTagSwappedToDoStore (section 2.2.1.8)	0xE2C	0x0102 (PtypBinary)	See below
PidLidFlagRequest (section 2.2.1.9)	0x802A	0x001F (PtypString)	Review
PidLidFlagString (section 2.2.1.10)	0x83C0	0x0003 (PtypInteger32)	0x0000000A
PidLidToDoTitle (section 2.2.1.12)	0x8018	0x001F (PtypString)	Review
PidLidTaskStatus ([MS-OXOTASK] section 2.2.2.2.2)	0x8147	0x0003 (PtypInteger32)	0x00000000

Property	Property ID	Property type	Value
PidLidPercentComplete (section 2.2.2.3)	0x8146	0x0005 (PtypFloating64)	0.0
PidLidTaskComplete ([MS-OXOTASK] section 2.2.2.2.20)	0x8148	0x000B (PtypBoolean)	0x00
PidLidReminderSet ([MS-OXORMDR] section 2.2.1.1)	0x8004	0x000B (PtypBoolean)	0x01
PidLidReminderDelta ([MS-OXORMDR] section 2.2.1.3)	0x81FF	0x0003 (PtypInteger32)	0x00000000
PidLidReminderTime ([MS-OXORMDR] section 2.2.1.4)	0x8005	0x0040 (PtypTime)	2008/03/07 00:00:00.000
PidLidReminderSignalTime ([MS-OXORMDR] section 2.2.1.2)	0x8006	0x0040 (PtypTime)	2008/03/07 00:00:00.000

The value of the **PidTagSwappedToDoStore** property is set to the value of the **PidTagStoreEntryId** property ([\[MS-OXCMMSG\]](#) section 2.2.1.44) of the Message object.

The value of the **PidTagSwappedToDoData** property is:

```

000: 01 00 00 00 79 00 00 00 01 00 00 00 46 00 6F 00
010: 72 00 77 00 61 00 72 00 64 00 00 00 00 00 00 00
020: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
030: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
040: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
050: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
060: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
070: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
080: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
090: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0A0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0B0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0C0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0D0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0E0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0F0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
100: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
110: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
120: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
130: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
140: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
150: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
160: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
170: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
180: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
190: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
1A0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
1B0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
1C0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
1D0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
1E0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
1F0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
200: 00 00 00 00 00 00 00 00 00 00 00 00 00 E0 80 E9 5A

```

210: 60 C0 C3 0C 00 00 00 00 00 00 00 00

This corresponds to the following values.

Member	Value
ulVersion	0x00000001
dwFlags	0x00000079
dwToDoItem	0x00000001
wszFlagTo	Forward
rtmStartDate	0x5AE980E0 (None)
rtmDueDate	0x0CC3C060 (2008/03/07 00:00:00.000)
rtmReminder	0x00000000
fReminderSet	0x00000000

Finally, the client then sends a **RopSubmitMessage** ([MS-OXCROPS] section 2.2.7.1) request to send the message to the intended recipients, and a **RopRelease** ([MS-OXCROPS] section 2.2.15.3) request to release the object.

When the above message is sent and is found by the client in Randy's mailbox at March 3, 2008 21:03:29.438, the value of **PidTagSwappedToDoStore** on the Message object is compared to the value of **PidTagStoreEntryId** of the Message object and, if they are equal, the contents of the primary and secondary flag storage locations are swapped. The client retrieves a handle to the object by sending a **RopOpenMessage** request, and gets the relevant flagging properties by sending a **RopGetPropertiesSpecific** ROP request ([MS-OXCROPS] section 2.2.8.3). The values of the properties returned would be identical to the values set above, except for the following, which is changed by the server during Message delivery.

Property	Property ID	Property type	Value
PidTagMessageDeliveryTime ([MS-OXOMSG] section 2.2.3.9)	0x0E06	0x0040 (PtypTime)	2008/03/03 21:03:00.000

The client sends a **RopSetProperties** request to perform the swap.

Property	Property ID	Property type	Value
PidTagFlagStatus	0x1090	0x0003 (PtypInteger32)	0x00000002
PidTagFollowupIcon (section 2.2.1.2)	0x1095	0x0003 (PtypInteger32)	0x00000006
PidTagReplyRequested	0x0C17	0x000B (PtypBoolean)	0x01
PidTagResponseRequested	0x0063	0x000B	0x01

Property	Property ID	Property type	Value
		(PtypBoolean)	
PidTagToDoItemFlags	0x0E2B	0x0003 (PtypInteger32)	0x00000001
PidTagSwappedToDoData	0x0E2D	0x0102 (PtypBinary)	See below.
PidLidFlagRequest	0x802A	0x001F (PtypString)	Forward
PidLidFlagString	0x83C0	0x0003 (PtypInteger32)	0x00000000
PidLidValidFlagStringProof (section 2.2.1.11)	0x83CA	0x0040 (PtypTime)	2008/03/03 21:03:00.000
PidLidToDoTitle	0x8018	0x001F (PtypString)	Contoso Project
PidLidToDoOrdinalDate (section 2.2.1.13)	0x830D	0x0040 (PtypTime)	2008/03/03 21:03:29.438
PidLidToDoSubOrdinal (section 2.2.1.14)	0x830E	0x001F (PtypString)	5555555
PidLidTaskDueDate ([MS-OXOTASK] section 2.2.2.2.5)	0x8144	0x0040 (PtypTime)	2008/03/07 00:00:00.000
PidLidCommonEnd ([MS-OXCMSG] section 2.2.1.19)	0x81BB	0x0040 (PtypTime)	2008/03/07 08:00:00.000
PidLidTaskComplete	0x8148	0x000B (PtypBoolean)	0x00
PidLidTaskStatus	0x8145	0x0003 (PtypInteger32)	0x00000000
PidLidPercentComplete	0x8146	0x0005 (PtypFloating64)	0.0
PidLidReminderSet	0x8004	0x000B (PtypBoolean)	0x00

The value of the **PidTagSwappedToDoData** property is:

```

000: 01 00 00 00 F9 00 00 00 01 00 00 00 52 00 65 00
010: 76 00 69 00 65 00 77 00 00 00 00 00 00 00 00 00
020: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
030: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
040: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
050: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
060: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
070: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
080: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
090: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0A0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0B0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0C0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

```



```

0D0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0E0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0F0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
100: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
110: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
120: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
130: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
140: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
150: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
160: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
170: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
180: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
190: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
1A0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
1B0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
1C0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
1D0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
1E0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
1F0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
200: 00 00 00 00 00 00 00 00 00 00 00 00 E0 80 E9 5A
210: E0 80 E9 5A 60 C0 C3 0C 01 00 00 00

```

This corresponds to the following values.

Member	Value
ulVersion	0x00000001
dwFlags	0x000000F9
dwToDoItem	0x00000001
wszFlagTo	Review
rtmStartDate	0x5AE980E0 (None)
rtmDueDate	0x5AE980E0 (None)
rtmReminder	0x0CC3C060 (2008/03/07 00:00:00.000)
fReminderSet	0x00000001

The application sends a **RopDeletePropertiesNoReplicate** ROP request ([\[MS-OXCROPS\]](#) section 2.2.8.9).

Property	Property ID	Property type
PidTagSwappedToDoStore	0xE2C	0x0102 (PtypBinary)
PidLidTaskStartDate ([MS-OXOTASK] section 2.2.2.2.4)	0x8143	0x0040 (PtypTime)
PidLidCommonStart ([MS-OXCMSG] section 2.2.1.18)	0x81BC	0x0040 (PtypTime)
PidLidTaskDateCompleted ([MS-OXOTASK] section 2.2.2.2.9)	0x8149	0x0040 (PtypTime)
PidLidReminderTime	0x8005	0x0040 (PtypTime)
PidLidReminderSignalTime	0x8006	0x0040 (PtypTime)

Property	Property ID	Property type
PidTagReplyTime	0x0030	0x0040 (PtypTime)

Finally, the client sends a **RopSaveChangesMessage** ROP request ([\[MS-OXCROPS\]](#) section 2.2.6.3) to persist the object on the server, and a **RopRelease** ROP request to release the object.

5 Security

5.1 Security Considerations for Implementers

There are no security considerations specific to the Informational Flagging protocol. General security considerations pertaining to the underlying transport apply, as described in [\[MS-OXCMMSG\]](#) and [\[MS-OXOMSG\]](#).

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® Exchange Server 2003
- Microsoft® Exchange Server 2007
- Microsoft® Exchange Server 2010
- Microsoft® Exchange Server 15 Technical Preview
- Microsoft® Office Outlook® 2003
- Microsoft® Office Outlook® 2007
- Microsoft® Outlook® 2010
- Microsoft® Outlook® 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.

[<1> Section 2.2.1.1:](#) Office Outlook 2003 does provide a way for the user to set the value of the **PidTagFlagStatus** property (section [2.2.1.1](#)) on a Task object.

[<2> Section 2.2.1.2:](#) Office Outlook 2003 does provide a way for the user to set the value of the **PidTagFollowupIcon** property (section [2.2.1.2](#)) on a Task object.

[<3> Section 2.2.1.3:](#) Office Outlook 2003 does provide a way for the user to set the value of the **PidTagFlagCompleteTime** property (section [2.2.1.3](#)) on a Task object.

[<4> Section 2.2.1.4:](#) Office Outlook 2003 does provide a way for the user to set the value of the **PidTagReplyRequested** ([\[MS-OXOMSG\]](#) section 2.2.1.42) and **PidTagResponseRequested** ([\[MS-OXOMSG\]](#) section 2.2.1.43) properties on a Task object.

[<5> Section 2.2.1.4:](#) In Office Outlook 2007, when swapping the contents of the primary flag storage location and secondary flag storage location, the **PidTagReplyRequested** ([\[MS-OXOMSG\]](#) section 2.2.1.42) and **PidTagResponseRequested** ([\[MS-OXOMSG\]](#) section 2.2.1.43) properties do not get updated to the correct value according to the new flagging state of the primary flag storage location.

[<6> Section 2.2.1.6:](#) Office Outlook 2003 and Exchange 2003 do not read or write the **PidTagToDoItemFlags** property (section [2.2.1.6](#)).

[<7> Section 2.2.1.7:](#) Sender flags are not supported in Office Outlook 2003 and Exchange 2003.

[<8> Section 2.2.1.12:](#) Office Outlook 2007 substitutes the concatenated values of **PidTagSubjectPrefix** ([\[MS-OXCMMSG\]](#) section 2.2.1.9) and **PidTagNormalizedSubject** ([\[MS-](#)

[OXCMSG](#) section 2.2.1.10) when displaying a Message object without a value in the **PidLidToDoTitle** property.

<9> [Section 2.2.1.13](#): Office Outlook 2003 and Exchange 2003 do not read or write the **PidLidToDoOrdinalDate** property.

<10> [Section 3.1.4.1](#): The default Outlook user interface does not permit users to flag Appointment objects, Journal objects, or Note objects, but it is possible to manipulate the UI in nonstandard ways in order to set flag-related properties on such objects. Flagging Appointment objects, Journal objects, or Note objects will result in undefined behavior.

<11> [Section 3.1.4.1.1](#): Users can apply color flags only in Office Outlook 2003 or Exchange 2003.

<12> [Section 3.1.4.1.1](#): Office Outlook 2003 writes these properties on Task objects as well.

<13> [Section 3.1.4.1.2](#): Except for receiving a recipient flag, (see section [3.1.4.1.5](#)), basic flags can be set only in Office Outlook 2003.

<14> [Section 3.1.4.1.3](#): Users cannot apply time flags in Office Outlook 2003 or Exchange 2003.

<15> [Section 3.1.4.1.4](#): In addition to the exceptions as noted for individual properties, Office Outlook 2003 and Exchange 2003 do not set the following properties when marking a Message object complete: **PidTagToDoItemFlags** (section [2.2.1.6](#)), **PidLidToDoTitle** (section [2.2.1.12](#)), **PidLidToDoOrdinalDate** (section [2.2.1.13](#)), **PidLidToDoSubOrdinal** (section [2.2.1.14](#)), **PidLidTaskDateCompleted** ([\[MS-OXOTASK\]](#) section 2.2.2.2.9), **PidLidTaskComplete** ([\[MS-OXOTASK\]](#) section 2.2.2.2.20), **PidLidTaskStatus** ([\[MS-OXOTASK\]](#) section 2.2.2.2.2), and **PidLidPercentComplete** (section [2.2.2.3](#)). Note that since Office Outlook 2003 and Exchange 2003 also do not set the **PidTagFlagStatus** property (section [2.2.1.1](#)) for meeting-related objects, those objects cannot be flagged complete in Office Outlook 2003 and Exchange 2003.

<16> [Section 3.1.4.1.4](#): Office Outlook 2003 does not support time flags. The **PidTagFlagStatus** property (section [2.2.1.1](#)) cannot be set on a meeting-related object; therefore, Office Outlook 2003 does not support marking a meeting-related object as complete.

<17> [Section 3.1.4.1.5](#): Office Outlook 2003 does not set the **PidLidTaskStatus** property (section [2.2.2.1](#)).

<18> [Section 3.1.4.1.5](#): Office Outlook 2003 does not set the **PidLidPercentComplete** property (section [2.2.2.3](#)).

<19> [Section 3.1.4.1.5](#): Office Outlook 2003 does not set the **PidLidTaskComplete** property (section [2.2.2.2](#)).

<20> [Section 3.1.4.1.6](#): Sender flags are not supported in Office Outlook 2003. Only recipient flags can be set in Office Outlook 2003.

<21> [Section 3.1.4.3](#): Office Outlook 2003 and Exchange 2003 do not support sender flags, and thus do not support this portion of the protocol.

<22> [Section 4.1](#): This example applies only to Office Outlook 2003 and Exchange 2003.

<23> [Section 4.1](#): Because time flags were introduced in Office Outlook 2007, and color flags are supported in Office Outlook 2003 and discontinued in Office Outlook 2007, this color flagging example shows what properties are set by Office Outlook 2003. By following this example, some properties could end up unsynchronized with each other (i.e. applying a color flag on an object that was previously flagged complete by Office Outlook 2007 following this example would not reset the value of the **PidLidTaskComplete** property ([\[MS-OXOTASK\]](#) section 2.2.2.2.20)). Other clients that

only support color flags can choose to go further than this example, and set or reset all of the other properties to the appropriate values.

Preliminary

7 Change Tracking

This section identifies changes that were made to the [MS-OXOFLAG] protocol document between the January 2012 and April 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
2.2.1.4 PidTagReplyRequested Property	Removed product behavior note about Exchange Server not setting the PidTagReplyRequested or PidTagResponseRequested properties. Added this detail to the PidTagReplyRequested Property section.	N	Product behavior note removed.
2.2.1.6 PidTagToDoItemFlags Property	Removed product behavior note about the todoTimeFlagged bit.	N	Product behavior note removed.
2.2.1.7 PidTagSwappedToDoData Property	Specified that the content of the PidTagSwappedToDoData property is to be ignored if the version number is not 0x00000001.	N	Content updated.
2.2.1.9 PidLidFlagRequest Property	Removed product behavior note specifying that the server does not support user-supplied text.	N	Product behavior note removed.
2.2.1.9 PidLidFlagRequest Property	Removed product behavior note specifying that the server does understand the PidLidFlagString property or the PidLidValidFlagStringProof property.	N	Product behavior note removed.
2.2.1.9 PidLidFlagRequest Property	Specified that if the user does not supply a value, the PidLidFlagRequest property is set to "Follow up".	N	Content updated.

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
2.2.1.10 PidLidFlagString Property	Moved detail about the server not reading or setting the PidLidFlagString property to the PidLidFlagString Property section.	N	Product behavior note removed.
2.2.1.10 PidLidFlagString Property	Removed product behavior note about setting the PidLidFlagString property on meeting-related objects resulting in undefined behavior.	N	Product behavior note removed.
2.2.1.10 PidLidFlagString Property	Specified that the PidLidFlagString property MUST NOT exist on meeting-related objects.	N	Content updated.
2.2.1.10 PidLidFlagString Property	Specified that the PidLidFlagString property is optional on objects that are not meeting-related objects.	N	Product behavior note removed.
2.2.1.11 PidLidValidFlagStringProof Property	Specified that the PidLidValidFlagStringProof property MUST not exist on meeting-related objects.	N	Content updated.
2.2.1.11 PidLidValidFlagStringProof Property	Removed product behavior note about setting the PidLidValidFlagStringProof property on meeting-related objects resulting in undefined behavior.	N	Product behavior note removed.
2.2.1.11 PidLidValidFlagStringProof Property	Moved details about the server not reading or setting the PidLidValidFlagStringProof property to the PidLidValidFlagStringProof Property section.	N	Product behavior note removed.
2.2.1.11 PidLidValidFlagStringProof Property	Specified that the PidLidValidFlagStringProof property is optional on objects that are not meeting-related objects.	N	Content updated.
2.2.2.1 PidLidTaskStatus Property	Specified that the server does not set the PidLidTaskStatus property.	N	Content updated.
2.2.2.2 PidLidTaskComplete Property	Specified that the server does not set the PidLidTaskComplete property.	N	Content updated.
2.2.2.3 PidLidPercentComplete Property	Specified that the server does not set the PidLidPercentComplete property.	N	Content updated.
2.2.3.1 PidTagReplyTime Property	Removed product behavior note specifying that the server does not set the PidTagReplyTime property and incorporated this detail into the body of the document.	N	Product behavior note removed.
3.1.4.1.1 Setting a Color Flag	Removed product behavior note specifying that the server does not set the PidLidFlagString property.	N	Product behavior note removed.

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
3.1.4.1.1 Setting a Color Flag	Removed product behavior note specifying that the server does not set the PidLidValidFlagStringProof property.	N	Product behavior note removed.
3.1.4.1.1 Setting a Color Flag	Removed product behavior note specifying that the server does not set the PidTagReplyRequested property.	N	Product behavior note removed.
3.1.4.1.1 Setting a Color Flag	Removed product behavior note specifying that the server does not set the PidTagResponseRequested property.	N	Product behavior note removed.
3.1.4.1.3 Setting a Time Flag	Removed product behavior note specifying that the server does not set the PidLidFlagString property.	N	Product behavior note removed.
3.1.4.1.3 Setting a Time Flag	Removed product behavior note specifying that the server does not set the PidLidValidFlagStringProof property.	N	Product behavior note removed.
3.1.4.1.3 Setting a Time Flag	Removed product behavior note specifying that the server does not set the PidTagReplyRequested property.	N	Product behavior note removed.
3.1.4.1.3 Setting a Time Flag	Removed product behavior note specifying that the server does not set the PidTagResponseRequested property.	N	Product behavior note removed.
3.1.4.1.4 Setting a Complete Flag	Removed product behavior note about Exchange 2003, Exchange 2007, and Exchange 2010 not setting the PidLidFlagString property.	N	Product behavior note removed.
3.1.4.1.4 Setting a Complete Flag	Removed product behavior note about Exchange 2003, Exchange 2007, and Exchange 2010 not setting the PidLidValidFlagStringProof property.	N	Product behavior note removed.
3.1.4.1.4 Setting a Complete Flag	Removed product behavior note about Exchange 2003, Exchange 2007, and Exchange 2010 not setting the PidTagReplyRequested property.	N	Product behavior note removed.
3.1.4.1.4 Setting a Complete Flag	Removed product behavior note about Exchange 2003, Exchange 2007, and Exchange 2010 not setting the PidTagResponseRequested property.	N	Product behavior note removed.
3.1.4.1.5	Removed product behavior note about	N	Product

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
Setting a Recipient Flag	Exchange 2003, Exchange 2007, and Exchange 2010 not setting the PidTagResponseRequested property.		behavior note removed.
3.1.4.1.5 Setting a Recipient Flag	Removed product behavior note about Exchange 2003, Exchange 2007, and Exchange 2010 not setting the PidTagReplyRequested property.	N	Product behavior note removed.
3.1.4.1.5 Setting a Recipient Flag	Removed product behavior note about Exchange 2003, Exchange 2007, and Exchange 2010 not setting the PidLidFlagString property.	N	Product behavior note removed.
3.1.4.1.5 Setting a Recipient Flag	Removed Exchange 2003, Exchange 2007, and Exchange 2010 from product behavior note about the PidLidTaskStatus property and added server details into the PidLidTaskStatus Property section.	N	Product behavior note updated.
3.1.4.1.5 Setting a Recipient Flag	Removed Exchange 2003, Exchange 2007, and Exchange 2010 from product behavior note about the PidLidPercentComplete property and added server details into the PidLidPercentComplete Property section.	N	Product behavior note updated.
3.1.4.1.5 Setting a Recipient Flag	Removed Exchange 2003, Exchange 2007, and Exchange 2010 from product behavior note about the PidLidTaskComplete property and incorporated server details into the PidLidTaskComplete Property section.	N	Product behavior note updated.
3.1.4.2.3 Clearing a Flag on Other Message Objects	Removed product behavior note concerning Exchange 2003, Exchange 2007, and Exchange 2010 not setting the PidTagReplyRequested property.	N	Product behavior note removed.
3.1.4.2.3 Clearing a Flag on Other Message Objects	Removed product behavior note concerning Exchange 2003, Exchange 2007, and Exchange 2010 not setting the PidTagResponseRequested property.	N	Product behavior note removed.
3.1.4.2.3 Clearing a Flag on Other Message Objects	Removed product behavior note concerning Exchange 2003, Exchange 2007, and Exchange 2010 not setting the PidLidFlagString property.	N	Product behavior note removed.
3.1.4.2.3 Clearing a Flag on Other Message Objects	Removed product behavior note concerning Exchange 2003, Exchange 2007, and Exchange 2010 not setting the PidLidToDoOrdinalDate property.	N	Product behavior note removed.
3.1.4.2.3 Clearing a Flag on Other Message Objects	Removed product behavior note concerning Exchange 2003, Exchange 2007, and Exchange 2010 not setting the PidLidToDoSubOrdinal property.	N	Product behavior note removed.

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
3.1.4.2.3 Clearing a Flag on Other Message Objects	Removed product behavior note concerning Exchange 2007 and Exchange 2010 deleting the PidLidTaskComplete property.	N	Product behavior note removed.
3.1.4.2.3 Clearing a Flag on Other Message Objects	Removed product behavior note concerning Exchange 2007 and Exchange 2010 deleting the PidLidTaskStatus property.	N	Product behavior note removed.
3.1.4.2.3 Clearing a Flag on Other Message Objects	Removed product behavior note concerning Exchange 2007 and Exchange 2010 deleting the PidLidPercentComplete property.	N	Product behavior note removed.
3.1.4.2.3 Clearing a Flag on Other Message Objects	Removed product behavior note concerning Exchange 2007 and Exchange 2010 deleting the PidLidFlagRequest property.	N	Product behavior note removed.
3.1.4.3 Post-Transmit Processing of a Flagged Message	Removed Exchange 2007 and Exchange 2010 from the product behavior note about sender flags.	N	Product behavior note updated.

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