

[MS-OXWSTASK]:

Tasks Web Service Protocol

Intellectual Property Rights Notice for Open Specifications Documentation

- **Technical Documentation.** Microsoft publishes Open Specifications documentation for protocols, file formats, languages, standards as well as overviews of the interaction among each of these technologies.
- **Copyrights.** This documentation is covered by Microsoft copyrights. Regardless of any other terms that are contained in the terms of use for the Microsoft website that hosts this documentation, you may make copies of it in order to develop implementations of the technologies described in the Open Specifications and may distribute portions of it in your implementations using these technologies or your documentation as necessary to properly document the implementation. You may also distribute in your implementation, with or without modification, any schema, IDL's, or code samples that are included in the documentation. This permission also applies to any documents that are referenced in the Open Specifications.
- **No Trade Secrets.** Microsoft does not claim any trade secret rights in this documentation.
- **Patents.** Microsoft has patents that may cover your implementations of the technologies described in the Open Specifications. Neither this notice nor Microsoft's delivery of the documentation grants any licenses under those or any other Microsoft patents. However, a given Open Specification may be covered by Microsoft [Open Specification Promise](#) or the [Community Promise](#). If you would prefer a written license, or if the technologies described in the Open Specifications are not covered by the Open Specifications Promise or Community Promise, as applicable, patent licenses are available by contacting iplg@microsoft.com.
- **Trademarks.** The names of companies and products contained in this documentation may be covered by trademarks or similar intellectual property rights. This notice does not grant any licenses under those rights. For a list of Microsoft trademarks, visit www.microsoft.com/trademarks.
- **Fictitious Names.** The example companies, organizations, products, domain names, e-mail addresses, logos, people, places, and events depicted in this documentation are fictitious. No association with any real company, organization, product, domain name, email address, logo, person, place, or event is intended or should be inferred.

Reservation of Rights. All other rights are reserved, and this notice does not grant any rights other than specifically described above, whether by implication, estoppel, or otherwise.

Tools. The Open Specifications do not require the use of Microsoft programming tools or programming environments in order for you to develop an implementation. If you have access to Microsoft programming tools and environments you are free to take advantage of them. Certain Open Specifications are intended for use in conjunction with publicly available standard specifications and network programming art, and assumes that the reader either is familiar with the aforementioned material or has immediate access to it.

Revision Summary

Date	Revision History	Revision Class	Comments
7/15/2009	1.0	Major	Initial Availability.
11/4/2009	1.1.0	Minor	Updated the technical content.
2/10/2010	1.1.0	None	Version 1.1.0 release
5/5/2010	1.1.1	Editorial	Revised and edited the technical content.
8/4/2010	1.2	Minor	Clarified the meaning of the technical content.
11/3/2010	2.0	Major	Significantly changed the technical content.
3/18/2011	2.1	Minor	Clarified the meaning of the technical content.
8/5/2011	3.0	Major	Significantly changed the technical content.
10/7/2011	3.0	No Change	No changes to the meaning, language, or formatting of the technical content.
1/20/2012	4.0	Major	Significantly changed the technical content.
4/27/2012	4.0	No Change	No changes to the meaning, language, or formatting of the technical content.
7/16/2012	4.0	No Change	No changes to the meaning, language, or formatting of the technical content.
10/8/2012	4.1	Minor	Clarified the meaning of the technical content.
2/11/2013	4.1	No Change	No changes to the meaning, language, or formatting of the technical content.
7/26/2013	4.1	No Change	No changes to the meaning, language, or formatting of the technical content.
11/18/2013	4.2	Minor	Clarified the meaning of the technical content.
2/10/2014	4.2	No Change	No changes to the meaning, language, or formatting of the technical content.
4/30/2014	5.0	Major	Significantly changed the technical content.
7/31/2014	5.1	Minor	Clarified the meaning of the technical content.
10/30/2014	5.2	Minor	Clarified the meaning of the technical content.
5/26/2015	6.0	Major	Significantly changed the technical content.
9/14/2015	6.0	No Change	No changes to the meaning, language, or formatting of the technical content.

Table of Contents

1	Introduction	5
1.1	Glossary	5
1.2	References	6
1.2.1	Normative References	6
1.2.2	Informative References	7
1.3	Overview	7
1.4	Relationship to Other Protocols	7
1.5	Prerequisites/Preconditions	8
1.6	Applicability Statement	8
1.7	Versioning and Capability Negotiation	8
1.8	Vendor-Extensible Fields	9
1.9	Standards Assignments.....	9
2	Messages.....	10
2.1	Transport	10
2.2	Common Message Syntax	10
2.2.1	Namespaces	10
2.2.2	Messages.....	10
2.2.3	Elements	10
2.2.4	Complex Types.....	11
2.2.4.1	t:DailyRegeneratingPatternType Complex Type.....	11
2.2.4.2	t:MonthlyRegeneratingPatternType Complex Type.....	11
2.2.4.3	t:RegeneratingPatternBaseType Complex Type	12
2.2.4.4	t:TaskRecurrenceType Complex Type	12
2.2.4.5	t:TasksFolderType Complex Type	12
2.2.4.6	t:TaskType Complex Type	13
2.2.4.7	t:WeeklyRegeneratingPatternType Complex Type.....	16
2.2.4.8	t:YearlyRegeneratingPatternType Complex Type	16
2.2.5	Simple Types	16
2.2.5.1	t:TaskDelegateStateType Simple Type.....	17
2.2.5.2	t:TaskStatusType Simple Type.....	17
2.2.6	Attributes	18
2.2.7	Groups	18
2.2.7.1	TaskRecurrencePatternTypes Group	18
2.2.8	Attribute Groups.....	20
2.2.9	Common Data Structures	20
3	Protocol Details	21
3.1	ExchangeServicePortType Server Details.....	21
3.1.1	Abstract Data Model.....	21
3.1.2	Timers	21
3.1.3	Initialization.....	21
3.1.4	Message Processing Events and Sequencing Rules	21
3.1.4.1	CopyItem Operation	21
3.1.4.1.1	Messages	22
3.1.4.1.2	Elements	22
3.1.4.1.3	Complex Types	22
3.1.4.1.4	Simple Types	22
3.1.4.1.5	Attributes	22
3.1.4.1.6	Groups	22
3.1.4.1.7	Attribute Groups.....	23
3.1.4.2	CreateItem Operation.....	23
3.1.4.2.1	Messages	23
3.1.4.2.2	Elements.....	23
3.1.4.2.3	Complex Types	23

3.1.4.2.4	Simple Types	24
3.1.4.2.5	Attributes	24
3.1.4.2.6	Groups	24
3.1.4.2.7	Attribute Groups	24
3.1.4.3	DeleteItem Operation	24
3.1.4.3.1	Messages	25
3.1.4.3.2	Elements	25
3.1.4.3.3	Complex Types	25
3.1.4.3.4	Simple Types	25
3.1.4.3.4.1	t:AffectedTaskOccurrencesType Simple Type	25
3.1.4.3.5	Attributes	26
3.1.4.3.6	Groups	26
3.1.4.3.7	Attribute Groups	26
3.1.4.4	GetItem Operation	26
3.1.4.4.1	Messages	27
3.1.4.4.2	Elements	27
3.1.4.4.3	Complex Types	27
3.1.4.4.4	Simple Types	27
3.1.4.4.5	Attributes	27
3.1.4.4.6	Groups	27
3.1.4.4.7	Attribute Groups	27
3.1.4.5	MoveItem Operation	27
3.1.4.5.1	Messages	28
3.1.4.5.2	Elements	28
3.1.4.5.3	Complex Types	28
3.1.4.5.4	Simple Types	28
3.1.4.5.5	Attributes	28
3.1.4.5.6	Groups	28
3.1.4.5.7	Attribute Groups	28
3.1.4.6	UpdateItem Operation	29
3.1.4.6.1	Messages	29
3.1.4.6.2	Elements	29
3.1.4.6.3	Complex Types	29
3.1.4.6.4	Simple Types	29
3.1.4.6.5	Attributes	29
3.1.4.6.6	Groups	30
3.1.4.6.7	Attribute Groups	30
3.1.5	Timer Events	30
3.1.6	Other Local Events	30
4	Protocol Examples	31
5	Security	32
5.1	Security Considerations for Implementers	32
5.2	Index of Security Parameters	32
6	Appendix A: Full WSDL	33
7	Appendix B: Full XML Schema	37
7.1	Messages Schema	37
7.2	Types Schema	37
8	Appendix C: Product Behavior	40
9	Change Tracking	41
10	Index	42

1 Introduction

The Tasks Web Service Protocol enables clients to create, update, move, copy, and delete task items on a server. The protocol also enables clients to get the properties of an existing task item.

Sections 1.8, 2, and 3 of this specification are normative and can contain the terms MAY, SHOULD, MUST, MUST NOT, and SHOULD NOT as defined in [\[RFC2119\]](#). Sections 1.5 and 1.9 are also normative but do not contain those terms. All other sections and examples in this specification are informative.

1.1 Glossary

The following terms are specific to this document:

delegate: A user or resource that has permissions to act on behalf of another user or resource.

endpoint: A communication port that is exposed by an application server for a specific shared service and to which messages can be addressed.

Hypertext Transfer Protocol (HTTP): An application-level protocol for distributed, collaborative, hypermedia information systems (text, graphic images, sound, video, and other multimedia files) on the World Wide Web.

Hypertext Transfer Protocol Secure (HTTPS): An extension of HTTP that securely encrypts and decrypts web page requests. In some older protocols, "Hypertext Transfer Protocol over Secure Sockets Layer" is still used (Secure Sockets Layer has been deprecated). For more information, see [\[SSL3\]](#) and [\[RFC5246\]](#).

Inbox folder: A special folder that is the default location for Message objects received by a user or resource.

mailbox: A **message store** that contains email, calendar items, and other Message objects for a single recipient.

message store: A unit of containment for a single hierarchy of Folder objects, such as a mailbox or public folders.

Sent Items folder: A special folder that is the default location for storing copies of Message objects after they are submitted or sent.

SOAP: A lightweight protocol for exchanging structured information in a decentralized, distributed environment. **SOAP** uses **XML** technologies to define an extensible messaging framework, which provides a message construct that can be exchanged over a variety of underlying protocols. The framework has been designed to be independent of any particular programming model and other implementation-specific semantics. SOAP 1.2 supersedes SOAP 1.1. See [\[SOAP1.2-1/2003\]](#).

SOAP message: An **XML** document consisting of a mandatory SOAP envelope, an optional SOAP header, and a mandatory SOAP body. See [\[SOAP1.2-1/2007\]](#) section 5 for more information.

Tasks folder: A Folder object that contains Task objects.

Uniform Resource Locator (URL): A string of characters in a standardized format that identifies a document or resource on the World Wide Web. The format is as specified in [\[RFC1738\]](#).

web server: A server computer that hosts websites and responds to requests from applications.

Web Services Description Language (WSDL): An XML format for describing network services as a set of endpoints that operate on messages that contain either document-oriented or

procedure-oriented information. The operations and messages are described abstractly and are bound to a concrete network protocol and message format in order to define an endpoint. Related concrete endpoints are combined into abstract endpoints, which describe a network service. WSDL is extensible, which allows the description of endpoints and their messages regardless of the message formats or network protocols that are used.

WSDL message: An abstract, typed definition of the data that is communicated during a **WSDL operation** [[WSDL](#)]. Also, an element that describes the data being exchanged between web service providers and clients.

WSDL operation: A single action or function of a web service. The execution of a WSDL operation typically requires the exchange of messages between the service requestor and the service provider.

WSDL port type: A named set of logically-related, abstract **Web Services Description Language (WSDL)** operations and messages.

XML: The Extensible Markup Language, as described in [[XML1.0](#)].

XML namespace: A collection of names that is used to identify elements, types, and attributes in XML documents identified in a URI reference [[RFC3986](#)]. A combination of XML namespace and local name allows XML documents to use elements, types, and attributes that have the same names but come from different sources. For more information, see [[XMLNS-2ED](#)].

XML schema: A description of a type of XML document that is typically expressed in terms of constraints on the structure and content of documents of that type, in addition to the basic syntax constraints that are imposed by **XML** itself. An XML schema provides a view of a document type at a relatively high level of abstraction.

MAY, SHOULD, MUST, SHOULD NOT, MUST NOT: These terms (in all caps) are used as defined in [[RFC2119](#)]. All statements of optional behavior use either MAY, SHOULD, or SHOULD NOT.

1.2 References

Links to a document in the Microsoft Open Specifications library point to the correct section in the most recently published version of the referenced document. However, because individual documents in the library are not updated at the same time, the section numbers in the documents may not match. You can confirm the correct section numbering by checking the [Errata](#).

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.

[MS-OXWSCDATA] Microsoft Corporation, "[Common Web Service Data Types](#)".

[MS-OXWSCORE] Microsoft Corporation, "[Core Items Web Service Protocol](#)".

[MS-OXWSFOLD] Microsoft Corporation, "[Folders and Folder Permissions Web Service Protocol](#)".

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

[RFC2616] Fielding, R., Gettys, J., Mogul, J., et al., "Hypertext Transfer Protocol -- HTTP/1.1", RFC 2616, June 1999, <http://www.rfc-editor.org/rfc/rfc2616.txt>

[RFC2818] Rescorla, E., "HTTP Over TLS", RFC 2818, May 2000, <http://www.rfc-editor.org/rfc/rfc2818.txt>

[SOAP1.1] Box, D., Ehnebuske, D., Kakivaya, G., et al., "Simple Object Access Protocol (SOAP) 1.1", May 2000, <http://www.w3.org/TR/2000/NOTE-SOAP-20000508/>

[WSDL] Christensen, E., Curbera, F., Meredith, G., and Weerawarana, S., "Web Services Description Language (WSDL) 1.1", W3C Note, March 2001, <http://www.w3.org/TR/2001/NOTE-wsdl-20010315>

[XMLNS] Bray, T., Hollander, D., Layman, A., et al., Eds., "Namespaces in XML 1.0 (Third Edition)", W3C Recommendation, December 2009, <http://www.w3.org/TR/2009/REC-xml-names-20091208/>

[XMLSCHEMA1] Thompson, H., Beech, D., Maloney, M., and Mendelsohn, N., Eds., "XML Schema Part 1: Structures", W3C Recommendation, May 2001, <http://www.w3.org/TR/2001/REC-xmlschema-1-20010502/>

[XMLSCHEMA2] Biron, P.V., Ed. and Malhotra, A., Ed., "XML Schema Part 2: Datatypes", W3C Recommendation, May 2001, <http://www.w3.org/TR/2001/REC-xmlschema-2-20010502/>

1.2.2 Informative References

[MS-OXDCLI] Microsoft Corporation, "[Autodiscover Publishing and Lookup Protocol](#)".

[MS-OXPROTO] Microsoft Corporation, "[Exchange Server Protocols System Overview](#)".

[MS-OXWSADISC] Microsoft Corporation, "[Autodiscover Publishing and Lookup SOAP-Based Web Service Protocol](#)".

[MS-OXWSSRCH] Microsoft Corporation, "[Mailbox Search Web Service Protocol](#)".

1.3 Overview

The Tasks Web Service Protocol provides clients with the ability to create, update, and delete task items on the server. Clients create task items by using the **CreateItem** operation, as described in [\[MS-OXWSCORE\]](#) section 3.1.4.2, or get properties of an existing task item by using the **GetItem** operation, as described in [\[MS-OXWSCORE\]](#) section 3.1.4.4. Clients can update, delete, or copy tasks on the server by using the **UpdateItem** operation ([\[MS-OXWSCORE\]](#) section **Error! Hyperlink reference not valid.**), the **DeleteItem** operation ([\[MS-OXWSCORE\]](#) section **Error! Hyperlink reference not valid.**), and the **CopyItem** operation ([\[MS-OXWSCORE\]](#) section **Error! Hyperlink reference not valid.**), respectively. Clients can move task items on the server by using the **MoveItem** operation, as described in [\[MS-OXWSCORE\]](#) section 3.1.4.7

1.4 Relationship to Other Protocols

A client that implements this protocol can use the Autodiscover Publishing and Lookup SOAP-Based Web Service Protocol, as described in [\[MS-OXWSADISC\]](#), or the Autodiscover Publishing and Lookup Protocol, as described in [\[MS-OXDCLI\]](#), to identify the target **endpoint** to use for each operation.

This protocol uses the SOAP Protocol, as described in [\[SOAP1.1\]](#), to specify the structure information exchanged between the client and server. This protocol uses the **XML** Protocol, as described in [\[XMLSCHEMA1\]](#) and [\[XMLSCHEMA2\]](#), to describe the message content sent to and from the server.

The Tasks Web Service Protocol uses **SOAP** over **HTTP**, as described in [\[RFC2616\]](#), and SOAP over **HTTPS**, as described in [\[RFC2818\]](#), as shown in the following layering diagram.

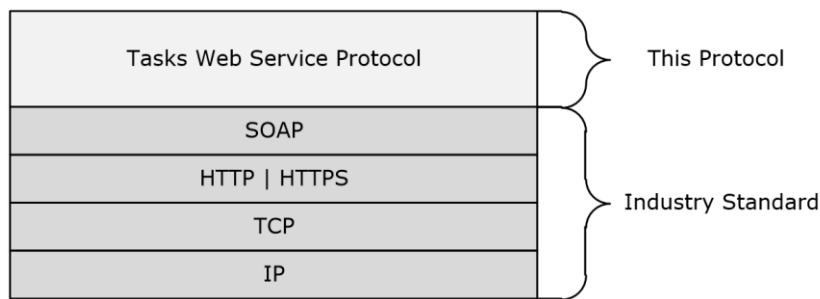


Figure 1: This protocol in relation to other protocols.

When requests are made by using the Core Items Web Service Protocol [\[MS-OXWSCORE\]](#), the task information that is returned by the Tasks Web Service Protocol will be used if the targets of the requests are task items.

This protocol can use the Task item identifier returned by the Mailbox Search Web Service Protocol, as described in [\[MS-OXWSSRCH\]](#), to manipulate the Task item.

For conceptual background information and overviews of the relationships and interactions between this and other protocols, see [\[MS-OXPROTO\]](#).

1.5 Prerequisites/Preconditions

The endpoint **URL** that is returned by either the Autodiscover Publishing Lookup SOAP-Based Web Service Protocol, as described in [\[MS-OXWSADISC\]](#), or the Autodiscover Publishing and Lookup Protocol, as described in [\[MS-OXDSCLI\]](#), is required to form the HTTP request to the **web server** that hosts this protocol. The operations that this protocol defines cannot be accessed unless the correct endpoint is identified in the HTTP Web requests that target this protocol.

To access this protocol, all callers are authenticated. This protocol relies on the web server that hosts the application to perform authentication.

1.6 Applicability Statement

The protocol specified in this document is applicable to environments that create, delete, and update task items.

1.7 Versioning and Capability Negotiation

This document covers versioning issues in the following areas:

- **Supported Transports:** This protocol uses multiple transports with SOAP 1.1, as specified in section [2.1](#).
- **Protocol Versions:** This protocol has only one **WSDL port type** version. The **WSDL** version of the request is identified by using the **t:RequestServerVersion** element, as described in [\[MS-OXWSCDATA\]](#) section 2.2.3.11, and the version of the server responding to the request is identified by using the **t:ServerVersionInfo** element, as described in [\[MS-OXWSCDATA\]](#) section 2.2.3.12.
- **Security and Authentication Methods:** This protocol relies on the Web server that is hosting it to perform authentication.
- **Localization:** This protocol includes text strings in various messages. Localization considerations for such strings are specified in sections [2.2](#) and [3.1.4](#).

- **Capability Negotiation:** This protocol does not support version negotiation.

1.8 Vendor-Extensible Fields

None.

1.9 Standards Assignments

None.

2 Messages

In the following sections, the schema definition might differ from the processing rules imposed by the protocol. The WSDL in this specification provides a base description of the protocol. The schema in this specification provides a base description of the message syntax. The text that specifies the WSDL and schema might specify restrictions that reflect actual protocol behavior. For example, the schema definition might allow for an element to be **empty**, **null**, or **not present** but the behavior of the protocol as specified restricts the same elements to being **non-empty**, **not null**, or **present**.

2.1 Transport

The SOAP version supported is SOAP 1.1. For details, see [\[SOAP1.1\]](#).

This protocol relies on the web server that hosts the application to perform authentication. The protocol SHOULD use secure communications by means of HTTPS, as specified in [\[RFC2818\]](#). The protocol server SHOULD additionally support SOAP over HTTP, as specified in [\[RFC2616\]](#), as a transport means.

2.2 Common Message Syntax

This section contains common definitions that are used by this protocol. The syntax of the definitions uses **XML schema** as defined in [\[XMLSCHEMA1\]](#) and [\[XMLSCHEMA2\]](#), and WSDL as defined in [\[WSDL\]](#).

2.2.1 Namespaces

This specification defines and references various **XML namespaces** by using the mechanisms that are specified in [\[XMLNS\]](#). Although this specification associates a specific XML namespace prefix for each XML namespace that is used, the choice of any particular XML namespace prefix is implementation-specific and not significant for interoperability.

Prefix	Namespace URI	Reference
soap	http://schemas.xmlsoap.org/wsdl/soap/	[SOAP1.1]
tns	http://schemas.microsoft.com/exchange/services/2006/messages	
s	http://www.w3.org/2001/XMLSchema	[XMLSCHEMA1]
(none)	http://schemas.microsoft.com/exchange/services/2006/messages	
wsdl	http://schemas.xmlsoap.org/wsdl/	[WSDL]
t	http://schemas.microsoft.com/exchange/services/2006/types	

2.2.2 Messages

This specification does not define any common **WSDL message** definitions.

2.2.3 Elements

This specification does not define any common XML schema element definitions.

2.2.4 Complex Types

The following table summarizes the set of common XML schema complex type definitions defined by this specification. XML schema complex type definitions that are specific to a particular operation are described with the operation.

Complex type name	Description
DailyRegeneratingPatternType	Specifies the interval, in days, at which a task is regenerated.
MonthlyRegeneratingPatternType	Specifies the interval, in months, at which a task is regenerated.
RegeneratingPatternBaseType	Specifies the base type for all regenerating patterns.
TaskRecurrenceType	Specifies the recurrence pattern for tasks.
TasksFolderType	Specifies a Tasks folder that is contained in a mailbox .
TaskType	Specifies a task in the message store .
WeeklyRegeneratingPatternType	Specifies the interval, in weeks, at which a task is regenerated.
YearlyRegeneratingPatternType	Specifies the interval, in years, at which a task is regenerated.

2.2.4.1 t:DailyRegeneratingPatternType Complex Type

The **DailyRegeneratingPatternType** complex type specifies the interval, in days, at which a task is regenerated. The **DailyRegeneratingPatternType** complex type extends the **RegeneratingPatternBaseType** complex type, as specified in section [2.2.4.3](#).

```
<xs:complexType name="DailyRegeneratingPatternType">
  <xs:complexContent>
    <xs:extension
      base="t:RegeneratingPatternBaseType"
    />
  </xs:complexContent>
</xs:complexType>
```

2.2.4.2 t:MonthlyRegeneratingPatternType Complex Type

The **MonthlyRegeneratingPatternType** complex type specifies the interval, in months, at which a task is regenerated. The **MonthlyRegeneratingPatternType** complex type extends the **RegeneratingPatternBaseType** complex type, as specified in section [2.2.4.3](#).

```
<xs:complexType name="MonthlyRegeneratingPatternType">
  <xs:complexContent>
    <xs:extension
      base="t:RegeneratingPatternBaseType"
    />
  </xs:complexContent>
</xs:complexType>
```

2.2.4.3 t:RegeneratingPatternBaseType Complex Type

The **RegeneratingPatternBaseType** complex type specifies the base type for all regenerating patterns. The **RegeneratingPatternBaseType** complex type extends the **IntervalRecurrencePatternBaseType** complex type, as specified in [\[MS-OXWSCDATA\]](#) section 2.2.4.42.

```
<xs:complexType name="RegeneratingPatternBaseType"
  abstract="true"
  >
  <xs:complexContent>
    <xs:extension
      base="t:IntervalRecurrencePatternBaseType"
      />
    </xs:complexContent>
  </xs:complexType>
```

2.2.4.4 t:TaskRecurrenceType Complex Type

The **TaskRecurrenceType** complex type specifies the recurrence pattern for tasks.

```
<xs:complexType name="TaskRecurrenceType">
  <xs:sequence>
    <xs:group
      ref="t:TaskRecurrencePatternTypes"
      />
    <xs:group
      ref="t:RecurrenceRangeTypes"
      />
  </xs:sequence>
</xs:complexType>
```

The following table lists and describes the groups of the **TaskRecurrenceType** complex type.

Reference name	Description
t:TaskRecurrencePatternTypes (section 2.2.7.1)	Specifies recurrence information for recurring tasks.
t:RecurrenceRangeTypes ([MS-OXWSCDATA] section 2.2.7.2)	Specifies recurrence patterns with numbered recurrences, nonending recurrence patterns, and recurrence patterns with a set start date and end date.

2.2.4.5 t:TasksFolderType Complex Type

The **TasksFolderType** complex type specifies a Tasks folder that is contained in a mailbox. The **TasksFolderType** complex type extends the **FolderType** complex type, as specified in [\[MS-OXWSFOLD\]](#) section 2.2.4.12.

```
<xs:complexType name="TasksFolderType">
  <xs:complexContent>
    <xs:extension
      base="t:FolderType"
      />
    </xs:complexContent>
  </xs:complexType>
```

2.2.4.6 t:TaskType Complex Type

The **TaskType** complex type specifies a task in the message store. The **TaskType** complex type extends the **ItemType** complex type, as specified in [\[MS-OXWSCORE\]](#) section 2.2.4.24.

```
<xs:complexType name="TaskType">
  <xs:complexContent>
    <xs:extension
      base="t:ItemType"
    >
      <xs:sequence>
        <xs:element name="ActualWork"
          type="xs:int"
          minOccurs="0"
        />
        <xs:element name="AssignedTime"
          type="xs:dateTime"
          minOccurs="0"
        />
        <xs:element name="BillingInformation"
          type="xs:string"
          minOccurs="0"
        />
        <xs:element name="ChangeCount"
          type="xs:int"
          minOccurs="0"
        />
        <xs:element name="Companies"
          type="t:ArrayOfStringsType"
          minOccurs="0"
        />
        <xs:element name="CompleteDate"
          type="xs:dateTime"
          minOccurs="0"
        />
        <xs:element name="Contacts"
          type="t:ArrayOfStringsType"
          minOccurs="0"
        />
        <xs:element name="DelegationState"
          type="t:TaskDelegateStateType"
          minOccurs="0"
        />
        <xs:element name="Delegator"
          type="xs:string"
          minOccurs="0"
        />
        <xs:element name="DueDate"
          type="xs:dateTime"
          minOccurs="0"
        />
        <xs:element name="IsAssignmentEditable"
          type="xs:int"
          minOccurs="0"
        />
        <xs:element name="IsComplete"
          type="xs:boolean"
          minOccurs="0"
        />
        <xs:element name="IsRecurring"
          type="xs:boolean"
          minOccurs="0"
        />
        <xs:element name="IsTeamTask"

```

```

        type="xs:boolean"
        minOccurs="0"
      />
      <xs:element name="Mileage"
        type="xs:string"
        minOccurs="0"
      />
      <xs:element name="Owner"
        type="xs:string"
        minOccurs="0"
      />
      <xs:element name="PercentComplete"
        type="xs:double"
        minOccurs="0"
      />
      <xs:element name="Recurrence"
        type="t:TaskRecurrenceType"
        minOccurs="0"
      />
      <xs:element name="StartDate"
        type="xs:dateTime"
        minOccurs="0"
      />
      <xs:element name="Status"
        type="t:TaskStatusType"
        minOccurs="0"
      />
      <xs:element name="StatusDescription"
        type="xs:string"
        minOccurs="0"
      />
      <xs:element name="TotalWork"
        type="xs:int"
        minOccurs="0"
      />
    </xs:sequence>
  </xs:extension>
</xs:complexContent>
</xs:complexType>

```

The following table lists and describes the child elements of the **TaskType** complex type.

Element name	Type	Description
ActualWork	xs:int [XMLSCHEMA2] section 3.3.17	Specifies an integer value that specifies the actual amount of time that is spent on a task.
AssignedTime	xs:dateTime [XMLSCHEMA2] section 3.2.7	Specifies an instance of the DateTime structure that contains the time when a task is assigned to a contact. This element is read-only for the client.
BillingInformation	xs:string [XMLSCHEMA2] section 3.2.1	Specifies a string value that contains billing information for a task.
ChangeCount	xs:int	Specifies an integer value that specifies the number of times the task has changed since it was created. This element is read-only for the client.
Companies	t:ArrayOfStringsType ([MS-OXWSCDATA] section 2.2.4.13)	Specifies an instance of an array of type string that represents a collection of companies that are associated with a task.
CompleteDate	xs:dateTime	Specifies an instance of the DateTime structure

Element name	Type	Description
		that represents the date on which a task is completed.
Contacts	t:ArrayOfStringsType	Specifies an instance of an array of type string that contains a list of contacts that are associated with a task.
DelegationState	t:TaskDelegateStateType (section 2.2.5.1)	Specifies one of the valid TaskDelegateStateType simple type enumeration values that represent the status of a delegated task.
Delegator	xs:string	Specifies a string value that contains the name of the delegator who assigned a task. This element is read-only for the client.
DueDate	xs:dateTime	Specifies an instance of the DateTime structure that represents the date when a task is due.
IsAssignmentEditable	xs:int	Specifies an integer value that represents whether the assignment of the task is editable. This element is read-only for the client.
IsComplete	xs:boolean [XMLSCHEMA2] section 3.2.2	Specifies a Boolean value that indicates whether a task has been completed. This element is read-only for the client.
IsRecurring	xs:boolean	Specifies a Boolean value that indicates whether a task is part of a recurring task. This element is read-only for the client.
IsTeamTask	xs:boolean	Specifies a Boolean value that indicates whether a task is owned by a team. This element is read-only for the client.
Mileage	xs:string	Specifies a string value that represents the mileage for a task.
Owner	xs:string	Specifies a string value that represents the owner of a task. Once the task item is created, this property is read-only for the client. <1>
PercentComplete	xs:double [XMLSCHEMA2] section 3.2.5	Specifies a double value from 0 through 100 that describes the completion status of a task.
Recurrence	t:TaskRecurrenceType section 2.2.4.4	Specifies an instance of the TaskRecurrenceType complex type that contains recurrence information for a recurring task.
StartDate	xs:dateTime	Specifies an instance of the DateTime structure that represents the start date of a task.
Status	t:TaskStatusType (section 2.2.5.2)	Specifies one of the valid TaskStatusType simple type enumeration values that represent the status of a task.
StatusDescription	xs:string	Specifies a string value that contains an explanation of the status of a task. This element is read-only for the client.
TotalWork	xs:int	Specifies an integer value that represents the total amount of work that is associated with a

Element name	Type	Description
		task.

Setting **CompleteDate** has the same effect as setting **PercentComplete** to **100** or **Status** to **Completed**. In a request that sets at least two of these properties, the last processed property will determine the value that is set for these elements. For example, if **PercentComplete** is **100**, **CompleteDate** is **January 1, 2007**, and **Status** is **NotStarted**, and the properties are streamed in that order, the effect will be to set the **Status** of the task to **NotStarted**, the **CompleteDate** to **null**, and **PercentComplete** to **0**.

2.2.4.7 t:WeeklyRegeneratingPatternType Complex Type

The **WeeklyRegeneratingPatternType** complex type specifies the interval, in weeks, at which a task is regenerated. The **WeeklyRegeneratingPatternType** complex type extends the **RegeneratingPatternBaseType** complex type, as specified in section [2.2.4.3](#).

```
<xs:complexType name="WeeklyRegeneratingPatternType">
  <xs:complexContent>
    <xs:extension
      base="t:RegeneratingPatternBaseType"
    />
  </xs:complexContent>
</xs:complexType>
```

2.2.4.8 t:YearlyRegeneratingPatternType Complex Type

The **YearlyRegeneratingPatternType** complex type specifies the interval, in years, at which a task is regenerated. The **YearlyRegeneratingPatternType** complex type extends the **RegeneratingPatternBaseType** complex type, as specified in section [2.2.4.3](#).

```
<xs:complexType name="YearlyRegeneratingPatternType">
  <xs:complexContent>
    <xs:extension
      base="t:RegeneratingPatternBaseType"
    />
  </xs:complexContent>
</xs:complexType>
```

2.2.5 Simple Types

The following table summarizes the set of common XML schema simple type definitions defined by this specification. XML schema simple type definitions that are specific to a particular operation are described with the operation.

Simple type name	Description
TaskDelegateStateType	Specifies the status types of a delegated task. This enumeration is never set.
TaskStatusType	Specifies the status types of a task item.

2.2.5.1 t:TaskDelegateStateType Simple Type

The **TaskDelegateStateType** simple type specifies the status types of a delegated task. The values for this simple type are never set.

```
<xs:simpleType name="TaskDelegateStateType">
  <xs:restriction
    base="xs:string"
  >
    <xs:enumeration
      value="Accepted"
    />
    <xs:enumeration
      value="Declined"
    />
    <xs:enumeration
      value="Max"
    />
    <xs:enumeration
      value="NoMatch"
    />
    <xs:enumeration
      value="Owned"
    />
    <xs:enumeration
      value="OwnNew"
    />
  </xs:restriction>
</xs:simpleType>
```

The following table lists the values that are defined by the **TaskDelegateStateType** simple type.

Value name	Meaning
Accepted	Specifies that the task has been accepted. This value cannot be in the simple type.
Declined	Specifies that the task has been declined.
Max	Not used.
NoMatch	Not used.
Owned	Specifies that this is a new task request that has been sent, but the delegate has not yet responded to the request.
OwnNew	Specifies that this is not a delegated task or that the task request has been created but not sent. This value is also used for a task request message, whether it's in the owner's Sent Items folder or the delegate's Inbox folder .

2.2.5.2 t:TaskStatusType Simple Type

The **TaskStatusType** simple type specifies the status of a task item.

```
<xs:simpleType name="TaskStatusType">
  <xs:restriction
    base="xs:string"
  >
    <xs:enumeration
```

```

        value="Completed"
      />
    <xs:enumeration
      value="Deferred"
    />
    <xs:enumeration
      value="InProgress"
    />
    <xs:enumeration
      value="NotStarted"
    />
    <xs:enumeration
      value="WaitingOnOthers"
    />
  </xs:restriction>
</xs:simpleType>

```

The following table lists the values that are defined by the **TaskStatusType** simple type.

Value name	Meaning
Completed	Specifies that the task is completed.
Deferred	Specifies that the task is deferred.
InProgress	Specifies that the task is in progress.
NotStarted	Specifies that the task is not started.
WaitingOnOthers	Specifies that the task is waiting on other tasks.

2.2.6 Attributes

This specification does not define any common XML schema attribute definitions.

2.2.7 Groups

The following table summarizes the set of common XML schema group definitions defined by this specification. XML schema group definitions that are specific to a particular operation are described with the operation.

Group name	Description
TaskRecurrencePatternTypes	Specifies recurrence information for recurring tasks.

2.2.7.1 TaskRecurrencePatternTypes Group

The **TaskRecurrencePatternTypes** group specifies recurrence information for recurring tasks.

```

<xs:group name="TaskRecurrencePatternTypes">
  <xs:sequence>
    <xs:choice>
      <xs:element name="RelativeYearlyRecurrence"
        type="t:RelativeYearlyRecurrencePatternType"

```

```

    />
    <xs:element name="AbsoluteYearlyRecurrence"
      type="t:AbsoluteYearlyRecurrencePatternType"
    />
    <xs:element name="RelativeMonthlyRecurrence"
      type="t:RelativeMonthlyRecurrencePatternType"
    />
    <xs:element name="AbsoluteMonthlyRecurrence"
      type="t:AbsoluteMonthlyRecurrencePatternType"
    />
    <xs:element name="WeeklyRecurrence"
      type="t:WeeklyRecurrencePatternType"
    />
    <xs:element name="DailyRecurrence"
      type="t:DailyRecurrencePatternType"
    />
    <xs:element name="DailyRegeneration"
      type="t:DailyRegeneratingPatternType"
    />
    <xs:element name="WeeklyRegeneration"
      type="t:WeeklyRegeneratingPatternType"
    />
    <xs:element name="MonthlyRegeneration"
      type="t:MonthlyRegeneratingPatternType"
    />
    <xs:element name="YearlyRegeneration"
      type="t:YearlyRegeneratingPatternType"
    />
  </xs:choice>
</xs:sequence>
</xs:group>

```

The following table lists and describes the child elements of the **TaskRecurrencePatternTypes** group.

Element name	Type	Description
RelativeYearlyRecurrence	t:RelativeYearlyRecurrencePatternType ([MS-OXWSCDATA] section 2.2.4.63)	Specifies a relative yearly recurrence pattern for a recurring task.
AbsoluteYearlyRecurrence	t:AbsoluteYearlyRecurrencePatternType ([MS-OXWSCDATA] section 2.2.4.2)	Specifies a yearly recurrence pattern for a recurring task.
RelativeMonthlyRecurrence	t:RelativeMonthlyRecurrencePatternType ([MS-OXWSCDATA] section 2.2.4.62)	Specifies a relative monthly recurrence pattern for a recurring task.
AbsoluteMonthlyRecurrence	t:AbsoluteMonthlyRecurrencePatternType ([MS-OXWSCDATA] section 2.2.4.1)	Specifies a monthly recurrence pattern for a recurring task.
WeeklyRecurrence	t:WeeklyRecurrencePatternType ([MS-OXWSCDATA] section 2.2.4.77)	Specifies the weekly interval at which and the days on which a task recurs.
DailyRecurrence	t:DailyRecurrencePatternType ([MS-OXWSCDATA] section 2.2.4.24)	Specifies the interval, in days, at which a task recurs.

Element name	Type	Description
DailyRegeneration	t:DailyRegeneratingPatternType (section 2.2.4.1)	Specifies how many days after the completion of the current task the next occurrence will happen.
WeeklyRegeneration	t:WeeklyRegeneratingPatternType (section 2.2.4.7)	Specifies how many weeks after the completion of the current task the next occurrence will happen.
MonthlyRegeneration	t:MonthlyRegeneratingPatternType (section 2.2.4.2)	Specifies how many months after the completion of the current task the next occurrence will happen.
YearlyRegeneration	t:YearlyRegeneratingPatternType (section 2.2.4.8)	Specifies how many years after the completion of the current task the next occurrence will happen.

2.2.8 Attribute Groups

This specification does not define any common XML schema attribute group definitions.

2.2.9 Common Data Structures

This specification does not define any common XML schema data structures.

3 Protocol Details

The client side of this protocol is simply a pass-through. That is, no additional timers or other state is required on the client side of this protocol. Calls made by the higher-layer protocol or application are passed directly to the transport, and the results returned by the transport are passed directly back to the higher-layer protocol or application.

3.1 ExchangeServicePortType Server Details

The Tasks Web Service Protocol defines a single port type with six operations. The operations enable client implementations to get, create, delete, update, move, and copy tasks on the server.

3.1.1 Abstract Data Model

None.

3.1.2 Timers

None.

3.1.3 Initialization

None.

3.1.4 Message Processing Events and Sequencing Rules

The following table summarizes the **WSDL operations** as defined by this specification.

Operation name	Description
CopyItem	Copies task items on the server.
CreateItem	Creates task items on the server.
DeleteItem	Deletes task items on the server.
GetItem	Gets task items on the server.
MoveItem	Moves task items on the server.
UpdateItem	Updates task items on the server.

3.1.4.1 CopyItem Operation

This protocol uses the **CopyItem** operation, as specified in [\[MS-OXWSCORE\]](#) section 3.1.4.1, to copy task items.

The following is the WSDL port type specification for the **CopyItem** operation.

```
<wsdl:operation name="CopyItem">
  <wsdl:input message="tns:CopyItemSoapIn" />
  <wsdl:output message="tns:CopyItemSoapOut" />
</wsdl:operation>
```

The following is the WSDL binding specification for the **CopyItem** operation.

```

<wsdl:operation name="CopyItem">
  <soap:operation
    soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/CopyItem"/>
  <wsdl:input>
    <soap:header message="tns:CopyItemSoapIn" part="Impersonation" use="literal"/>
    <soap:header message="tns:CopyItemSoapIn" part="MailboxCulture" use="literal"/>
    <soap:header message="tns:CopyItemSoapIn" part="RequestVersion" use="literal"/>
    <soap:body parts="request" use="literal"/>
  </wsdl:input>
  <wsdl:output>
    <soap:body parts="CopyItemResult" use="literal"/>
    <soap:header message="tns:CopyItemSoapOut" part="ServerVersion" use="literal"/>
  </wsdl:output>
</wsdl:operation>

```

Message format	Description
%5BMS-OXWSCORE%5D.pdf tns:CopyItemSoapIn ([MS-OXWSCORE] section 3.1.4.1.1.1)	Specifies the SOAP message that defines the task item to be copied. The CopyItem operation (as specified in [MS-OXWSCORE] section 3.1.4.1.1.1) that specifies the XML request MUST contain the t:TargetFolderIdType complex type (as specified in [MS-OXWSFOLD] section 2.2.4.16) and the t:ItemIdType complex type (as specified in [MS-OXWSCORE] section 2.2.4.25). All other type elements in t:NonEmptyArrayOfBaseItemIdsType element MUST NOT be included.
tns:CopyItemSoapOut ([MS-OXWSCORE] section 3.1.4.1.1.2)	Specifies the SOAP message that is returned by the server in response.

3.1.4.1.1 Messages

None.

3.1.4.1.2 Elements

None.

3.1.4.1.3 Complex Types

None.

3.1.4.1.4 Simple Types

None.

3.1.4.1.5 Attributes

None.

3.1.4.1.6 Groups

None.

3.1.4.1.7 Attribute Groups

None.

3.1.4.2 CreateItem Operation

This protocol uses the **CreateItem** operation, as specified in [\[MS-OXWSCORE\]](#) section 3.1.4.2, to create task items.

The following is the WSDL port type specification for the **CreateItem** operation.

```
<wsdl:operation name="CreateItem">
  <wsdl:input message="tns:CreateItemSoapIn" />
  <wsdl:output message="tns:CreateItemSoapOut" />
</wsdl:operation>
```

The following is the WSDL binding specification for the **CreateItem** operation.

```
<wsdl:operation name="CreateItem">
  <soap:operation
    soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/CreateItem"/>
  <wsdl:input>
    <soap:header message="tns:CreateItemSoapIn" part="Impersonation" use="literal"/>
    <soap:header message="tns:CreateItemSoapIn" part="MailboxCulture" use="literal"/>
    <soap:header message="tns:CreateItemSoapIn" part="RequestVersion" use="literal"/>
    <soap:header message="tns:CreateItemSoapIn" part="TimeZoneContext" use="literal"/>
    <soap:body parts="request" use="literal"/>
  </wsdl:input>
  <wsdl:output>
    <soap:body parts="CreateItemResult" use="literal"/>
    <soap:header message="tns:CreateItemSoapOut" part="ServerVersion" use="literal"/>
  </wsdl:output>
</wsdl:operation>
```

Message format	Description
tns:CreateItemSoapIn ([MS-OXWSCORE] section 3.1.4.2.1.1)	Specifies the SOAP message that defines the task item to be created. The t:NonEmptyArrayOfAllItemsType complex type (as specified in [MS-OXWSCDATA] section 2.2.4.48) of the CreateItem operation (as specified in [MS-OXWSCORE] section 3.1.4.2) that specifies the XML request MUST contain one or more t:TaskType complex types(as specified in section 2.2.4.6). All other elements MUST be empty.
tns:CreateItemSoapOut ([MS-OXWSCORE] section 3.1.4.2.1.2)	Specifies the SOAP message that is returned by the server in response.

3.1.4.2.1 Messages

None.

3.1.4.2.2 Elements

None.

3.1.4.2.3 Complex Types

None.

3.1.4.2.4 Simple Types

None.

3.1.4.2.5 Attributes

None.

3.1.4.2.6 Groups

None.

3.1.4.2.7 Attribute Groups

None.

3.1.4.3 DeleteItem Operation

This protocol uses the **DeleteItem** operation, as specified in [\[MS-OXWSCORE\]](#) section 3.1.4.3, to delete task items.

The following is the WSDL port type specification for the **DeleteItem** operation.

```
<wsdl:operation name="DeleteItem">
  <wsdl:input message="tns:DeleteItemSoapIn" />
  <wsdl:output message="tns:DeleteItemSoapOut" />
</wsdl:operation>
```

The following is the WSDL binding specification for the **DeleteItem** operation.

```
<wsdl:operation name="DeleteItem">
  <soap:operation
    soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/DeleteItem"/>
  <wsdl:input>
    <soap:header message="tns:DeleteItemSoapIn" part="Impersonation" use="literal"/>
    <soap:header message="tns:DeleteItemSoapIn" part="MailboxCulture" use="literal"/>
    <soap:header message="tns:DeleteItemSoapIn" part="RequestVersion" use="literal"/>
    <soap:body parts="request" use="literal"/>
  </wsdl:input>
  <wsdl:output>
    <soap:body parts="DeleteItemResult" use="literal"/>
    <soap:header message="tns:DeleteItemSoapOut" part="ServerVersion" use="literal"/>
  </wsdl:output>
</wsdl:operation>
```

Message format	Description
tns:DeleteItemSoapIn ([MS-OXWSCORE] section 3.1.4.3.1.1)	Specifies the SOAP message that defines the task item to be deleted. The t:NonEmptyArrayOfBaseItemIdsType complex type (as specified in [MS-OXWSCORE] section 2.2.4.31) of the DeleteItem operation (as specified in [MS-OXWSCORE] section 3.1.4.3) that specifies the XML request MUST contain one or more t:ItemIdType complex type elements (as specified in [MS-OXWSCORE] section 2.2.4.25). All other elements MUST be empty.
tns:DeleteItemSoapOut ([MS-OXWSCORE] section 3.1.4.3.1.2)	Specifies the SOAP message that is returned by the server in response.

Message format	Description
3.1.4.3.1.2)	

3.1.4.3.1 Messages

None.

3.1.4.3.2 Elements

None.

3.1.4.3.3 Complex Types

None.

3.1.4.3.4 Simple Types

The following table lists and describes the XML schema simple type definitions that are specific to the **DeleteItem** operation.

Simple type name	Description
AffectedTaskOccurrencesType	Specifies whether an occurrence of a task or a master task with all recurring tasks associated with the master task is deleted.

3.1.4.3.4.1 t:AffectedTaskOccurrencesType Simple Type

The **AffectedTaskOccurrencesType** simple type specifies whether an occurrence of a task or a master task with all recurring tasks associated with the master task is deleted.

```
<xs:simpleType name="AffectedTaskOccurrencesType">
  <xs:restriction
    base="xs:string"
  >
    <xs:enumeration
      value="AllOccurrences"
    />
    <xs:enumeration
      value="SpecifiedOccurrenceOnly"
    />
  </xs:restriction>
</xs:simpleType>
```

The following table lists and describes the values that are defined by the **AffectedTaskOccurrencesType** simple type.

Value name	Description
AllOccurrences	Specifies that a DeleteItem operation request, as specified in [MS-OXWSCORE] section 3.1.4.3, deletes the master task and all recurring tasks that are associated with the master task.

Value name	Description
SpecifiedOccurrenceOnly	Specifies that a DeleteItem operation request, as specified in [MS-OXWSCORE] section 3.1.4.3, deletes only the current occurrence of a task.

3.1.4.3.5 Attributes

None.

3.1.4.3.6 Groups

None.

3.1.4.3.7 Attribute Groups

None.

3.1.4.4 GetItem Operation

This protocol uses the **GetItem** operation, as specified in [MS-OXWSCORE] section 3.1.4.4, to get task items.

The following is the WSDL port type specification for the **GetItem** operation.

```
<wsdl:operation name="GetItem">
  <wsdl:input message="tns:GetItemSoapIn" />
  <wsdl:output message="tns:GetItemSoapOut" />
</wsdl:operation>
```

The following is the WSDL binding specification for the **GetItem** operation.

```
<wsdl:operation name="GetItem">
  <soap:operation
  soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/GetItem"/>
  <wsdl:input>
    <soap:header message="tns:GetItemSoapIn" part="Impersonation" use="literal"/>
    <soap:header message="tns:GetItemSoapIn" part="MailboxCulture" use="literal"/>
    <soap:header message="tns:GetItemSoapIn" part="RequestVersion" use="literal"/>
    <soap:header message="tns:GetItemSoapIn" part="TimeZoneContext" use="literal"/>
    <soap:body parts="request" use="literal"/>
  </wsdl:input>
  <wsdl:output>
    <soap:body parts="GetItemResult" use="literal"/>
    <soap:header message="tns:GetItemSoapOut" part="ServerVersion" use="literal"/>
  </wsdl:output>
</wsdl:operation>
```

Message format	Description
tns:GetItemSoapIn ([MS-OXWSCORE] section 3.1.4.4.1.1)	Specifies the SOAP message that defines the task item to be retrieved. The t:NonEmptyArrayOfBaseItemIdsType complex type (as specified in [MS-OXWSCORE] section 2.2.4.31) of the GetItem operation (as specified in [MS-OXWSCORE] section 3.1.4.4) that specifies the XML request MUST contain the t:ItemResponseShapeType complex type element (as specified in [MS-OXWSCDATA] section 2.2.4.44) and the t:ItemIdType complex type element (as specified in [MS-OXWSCORE] section 2.2.4.25).

Message format	Description
tns:GetItemSoapOut ([MS-OXWSCORE] section 3.1.4.4.1.2)	Specifies the SOAP message that is returned by the server in response. The server returns a t:ItemResponseShapeType complex type element, as specified in [MS-OXWSCDATA] section 2.2.4.44, that contains properties associated with the task item.

3.1.4.4.1 Messages

None.

3.1.4.4.2 Elements

None.

3.1.4.4.3 Complex Types

None.

3.1.4.4.4 Simple Types

None.

3.1.4.4.5 Attributes

None.

3.1.4.4.6 Groups

None.

3.1.4.4.7 Attribute Groups

None.

3.1.4.5 MoveItem Operation

This protocol uses the **MoveItem** operation, as specified in [\[MS-OXWSCORE\]](#) section 3.1.4.7, to move task item elements.

The following is the WSDL port type specification for the **MoveItem** operation.

```
<wsdl:operation name="MoveItem">
  <wsdl:input message="tns:MoveItemSoapIn" />
  <wsdl:output message="tns:MoveItemSoapOut" />
</wsdl:operation>
```

The following is the WSDL binding specification for the **MoveItem** operation.

```
<wsdl:operation name="MoveItem">
  <soap:operation
    soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/MoveItem"/>
  <wsdl:input>
    <soap:header message="tns:MoveItemSoapIn" part="Impersonation" use="literal"/>
    <soap:header message="tns:MoveItemSoapIn" part="MailboxCulture" use="literal"/>
  </wsdl:input>
</wsdl:operation>
```

```

    <soap:header message="tns:MoveItemSoapIn" part="RequestVersion" use="literal"/>
    <soap:body parts="request" use="literal"/>
  </wsdl:input>
  <wsdl:output>
    <soap:body parts="MoveItemResult" use="literal"/>
    <soap:header message="tns:MoveItemSoapOut" part="ServerVersion" use="literal"/>
  </wsdl:output>
</wsdl:operation>

```

Message format	Description
tns:MoveItemSoapIn ([MS-OXWSCORE] section 3.1.4.7.1.1)	Specifies the SOAP message that defines the task item to be moved. The MoveItem operation (as specified in [MS-OXWSCORE] section 3.1.4.7) that specifies the XML request MUST contain the t:TargetFolderIdType complex type element (as specified in [MS-OXWSFOLD] section 2.2.4.16) and t:ItemIdType complex type element (as specified in [MS-OXWSCORE] section 2.2.4.25). All other type elements in t:NonEmptyArrayOfBaseItemIdsType element MUST be empty.
tns:MoveItemSoapOut ([MS-OXWSCORE] section 3.1.4.7.1.2)	Specifies the SOAP message that is returned by the server in response.

3.1.4.5.1 Messages

None.

3.1.4.5.2 Elements

None.

3.1.4.5.3 Complex Types

None.

3.1.4.5.4 Simple Types

None.

3.1.4.5.5 Attributes

None.

3.1.4.5.6 Groups

None.

3.1.4.5.7 Attribute Groups

None.

3.1.4.6 UpdateItem Operation

This protocol uses the **UpdateItem** operation, as specified in [MS-OXWSCORE] section 3.1.4.9, to update task item elements.

The following is the WSDL port type specification for the **UpdateItem** operation.

```
<wsdl:operation name="UpdateItem">
  <wsdl:input message="tns:UpdateItemSoapIn" />
  <wsdl:output message="tns:UpdateItemSoapOut" />
</wsdl:operation>
```

The following is the WSDL binding specification for the **UpdateItem** operation.

```
<wsdl:operation name="UpdateItem">
  <soap:operation
    soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/UpdateItem"/>
  <wsdl:input>
    <soap:header message="tns:UpdateItemSoapIn" part="Impersonation" use="literal"/>
    <soap:header message="tns:UpdateItemSoapIn" part="MailboxCulture" use="literal"/>
    <soap:header message="tns:UpdateItemSoapIn" part="RequestVersion" use="literal"/>
    <soap:header message="tns:UpdateItemSoapIn" part="TimeZoneContext" use="literal"/>
    <soap:body parts="request" use="literal"/>
  </wsdl:input>
  <wsdl:output>
    <soap:body parts="UpdateItemResult" use="literal"/>
    <soap:header message="tns:UpdateItemSoapOut" part="ServerVersion" use="literal"/>
  </wsdl:output>
</wsdl:operation>
```

Message format	Description
tns:UpdateItemSoapIn ([MS-OXWSCORE] section 3.1.4.9.1.1)	Specifies the SOAP message that defines the task item to be updated.
tns:UpdateItemSoapOut ([MS-OXWSCORE] section 3.1.4.9.1.2)	Specifies the SOAP message that is returned by the server in response.

3.1.4.6.1 Messages

None.

3.1.4.6.2 Elements

None.

3.1.4.6.3 Complex Types

None.

3.1.4.6.4 Simple Types

None.

3.1.4.6.5 Attributes

None.

3.1.4.6.6 Groups

None.

3.1.4.6.7 Attribute Groups

None.

3.1.5 Timer Events

None.

3.1.6 Other Local Events

None.

4 Protocol Examples

None.

5 Security

5.1 Security Considerations for Implementers

None.

5.2 Index of Security Parameters

None.

6 Appendix A: Full WSDL

The XML files that are listed in the following table are required in order to implement the functionality described in this document.

File name	Description	Section
MS-OXWSTASK.wsdl	Contains the WSDL for the implementation of this protocol.	6
MS-OXWSTASK-types.xsd	Contains the XML schema type definitions that are used in this protocol.	7.2

These files have to be placed in a common folder in order for the WSDL to validate and operate. Also, any schema files that are included in or imported into the MS-OXWSTASK-types.xsd schema have to be placed in the common folder along with the files listed in the table.

This section contains the contents of the MS-OXWSTASK.wsdl file.

```
<?xml version="1.0" encoding="utf-8"?>
<wsdl:definitions xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:tns="http://schemas.microsoft.com/exchange/services/2006/messages"
xmlns:s="http://www.w3.org/2001/XMLSchema" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/"
xmlns:t="http://schemas.microsoft.com/exchange/services/2006/types"
targetNamespace="http://schemas.microsoft.com/exchange/services/2006/messages">
  <wsdl:types>
    <xs:schema id="messages" elementFormDefault="qualified" version="Exchange2016"
xmlns:m="http://schemas.microsoft.com/exchange/services/2006/messages"
xmlns:tns="http://schemas.microsoft.com/exchange/services/2006/messages"
xmlns:t="http://schemas.microsoft.com/exchange/services/2006/types"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
targetNamespace="http://schemas.microsoft.com/exchange/services/2006/messages"
xmlns="http://schemas.microsoft.com/exchange/services/2006/messages">
      <xs:import
namespace="http://schemas.microsoft.com/exchange/services/2006/types" schemaLocation="MS-
OXWSCORE-types.xsd"/>
      <xs:include schemaLocation="MS-OXWSCORE-messages.xsd"/>
      <!-- Add global elements and types from messages.xsd -->
    </xs:schema>
    <xs:schema id="types" elementFormDefault="qualified" version="Exchange2016"
xmlns:t="http://schemas.microsoft.com/exchange/services/2006/types"
targetNamespace="http://schemas.microsoft.com/exchange/services/2006/types"
xmlns="http://schemas.microsoft.com/exchange/services/2006/types"
xmlns:tns="http://schemas.microsoft.com/exchange/services/2006/types"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
      <xs:import namespace="http://www.w3.org/XML/1998/namespace"/>
      <!-- Add global elements and types from types.xsd -->
    </xs:schema>
  </wsdl:types>
  <wsdl:message name="GetItemSoapIn">
    <wsdl:part name="request" element="tns:GetItem"/>
    <wsdl:part name="Impersonation" element="t:ExchangeImpersonation"/>
    <wsdl:part name="MailboxCulture" element="t:MailboxCulture"/>
    <wsdl:part name="RequestVersion" element="t:RequestServerVersion"/>
    <wsdl:part name="TimeZoneContext" element="t:TimeZoneContext"/>
  </wsdl:message>
  <wsdl:message name="GetItemSoapOut">
    <wsdl:part name="GetItemResult" element="tns:GetItemResponse"/>
    <wsdl:part name="ServerVersion" element="t:ServerVersionInfo"/>
  </wsdl:message>
  <wsdl:message name="CreateItemSoapIn">
    <wsdl:part name="request" element="tns:CreateItem"/>
    <wsdl:part name="Impersonation" element="t:ExchangeImpersonation"/>
    <wsdl:part name="MailboxCulture" element="t:MailboxCulture"/>
    <wsdl:part name="RequestVersion" element="t:RequestServerVersion"/>
    <wsdl:part name="TimeZoneContext" element="t:TimeZoneContext"/>
  </wsdl:message>

```

```

<wsdl:message name="CreateItemSoapOut">
  <wsdl:part name="CreateItemResult" element="tns:CreateItemResponse"/>
  <wsdl:part name="ServerVersion" element="t:ServerVersionInfo"/>
</wsdl:message>
<wsdl:message name="DeleteItemSoapIn">
  <wsdl:part name="request" element="tns>DeleteItem"/>
  <wsdl:part name="Impersonation" element="t:ExchangeImpersonation"/>
  <wsdl:part name="MailboxCulture" element="t:MailboxCulture"/>
  <wsdl:part name="RequestVersion" element="t:RequestServerVersion"/>
</wsdl:message>
<wsdl:message name="DeleteItemSoapOut">
  <wsdl:part name="DeleteItemResult" element="tns>DeleteItemResponse"/>
  <wsdl:part name="ServerVersion" element="t:ServerVersionInfo"/>
</wsdl:message>
<wsdl:message name="UpdateItemSoapIn">
  <wsdl:part name="request" element="tns:UpdateItem"/>
  <wsdl:part name="Impersonation" element="t:ExchangeImpersonation"/>
  <wsdl:part name="MailboxCulture" element="t:MailboxCulture"/>
  <wsdl:part name="RequestVersion" element="t:RequestServerVersion"/>
  <wsdl:part name="TimeZoneContext" element="t:TimeZoneContext"/>
</wsdl:message>
<wsdl:message name="UpdateItemSoapOut">
  <wsdl:part name="UpdateItemResult" element="tns:UpdateItemResponse"/>
  <wsdl:part name="ServerVersion" element="t:ServerVersionInfo"/>
</wsdl:message>
<wsdl:message name="MoveItemSoapIn">
  <wsdl:part name="request" element="tns:MoveItem"/>
  <wsdl:part name="Impersonation" element="t:ExchangeImpersonation"/>
  <wsdl:part name="MailboxCulture" element="t:MailboxCulture"/>
  <wsdl:part name="RequestVersion" element="t:RequestServerVersion"/>
</wsdl:message>
<wsdl:message name="MoveItemSoapOut">
  <wsdl:part name="MoveItemResult" element="tns:MoveItemResponse"/>
  <wsdl:part name="ServerVersion" element="t:ServerVersionInfo"/>
</wsdl:message>
<wsdl:message name="CopyItemSoapIn">
  <wsdl:part name="request" element="tns:CopyItem"/>
  <wsdl:part name="Impersonation" element="t:ExchangeImpersonation"/>
  <wsdl:part name="MailboxCulture" element="t:MailboxCulture"/>
  <wsdl:part name="RequestVersion" element="t:RequestServerVersion"/>
</wsdl:message>
<wsdl:message name="CopyItemSoapOut">
  <wsdl:part name="CopyItemResult" element="tns:CopyItemResponse"/>
  <wsdl:part name="ServerVersion" element="t:ServerVersionInfo"/>
</wsdl:message>
<wsdl:portType name="ExchangeServicePortType">
  <wsdl:operation name="GetItem">
    <wsdl:input message="tns:GetItemSoapIn"/>
    <wsdl:output message="tns:GetItemSoapOut"/>
  </wsdl:operation>
  <wsdl:operation name="CreateItem">
    <wsdl:input message="tns:CreateItemSoapIn"/>
    <wsdl:output message="tns:CreateItemSoapOut"/>
  </wsdl:operation>
  <wsdl:operation name="DeleteItem">
    <wsdl:input message="tns>DeleteItemSoapIn"/>
    <wsdl:output message="tns>DeleteItemSoapOut"/>
  </wsdl:operation>
  <wsdl:operation name="UpdateItem">
    <wsdl:input message="tns:UpdateItemSoapIn"/>
    <wsdl:output message="tns:UpdateItemSoapOut"/>
  </wsdl:operation>
  <wsdl:operation name="MoveItem">
    <wsdl:input message="tns:MoveItemSoapIn"/>
    <wsdl:output message="tns:MoveItemSoapOut"/>
  </wsdl:operation>
  <wsdl:operation name="CopyItem">
    <wsdl:input message="tns:CopyItemSoapIn"/>
    <wsdl:output message="tns:CopyItemSoapOut"/>
  </wsdl:operation>

```

```

        </wsdl:operation>
    </wsdl:portType>
    <wsdl:binding name="ExchangeServiceBinding" type="tns:ExchangeServicePortType">
        <wsdl:documentation>
            <wsi:Claim conformsTo="http://ws-i.org/profiles/basic/1.0"
xmlns:wsi="http://ws-i.org/schemas/conformanceClaim/" />
        </wsdl:documentation>
        <soap:binding style="document" transport="http://schemas.xmlsoap.org/soap/http" />
        <wsdl:operation name="GetItem">
            <soap:operation
soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/GetItem" />
            <wsdl:input>
                <soap:header message="tns:GetItemSoapIn" part="Impersonation"
use="literal" />
                <soap:header message="tns:GetItemSoapIn" part="MailboxCulture"
use="literal" />
                <soap:header message="tns:GetItemSoapIn" part="RequestVersion"
use="literal" />
                <soap:header message="tns:GetItemSoapIn" part="TimeZoneContext"
use="literal" />
                <soap:body parts="request" use="literal" />
            </wsdl:input>
            <wsdl:output>
                <soap:body parts="GetItemResult" use="literal" />
                <soap:header message="tns:GetItemSoapOut" part="ServerVersion"
use="literal" />
            </wsdl:output>
        </wsdl:operation>
        <wsdl:operation name="CreateItem">
            <soap:operation
soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/CreateItem" />
            <wsdl:input>
                <soap:header message="tns:CreateItemSoapIn" part="Impersonation"
use="literal" />
                <soap:header message="tns:CreateItemSoapIn" part="MailboxCulture"
use="literal" />
                <soap:header message="tns:CreateItemSoapIn" part="RequestVersion"
use="literal" />
                <soap:header message="tns:CreateItemSoapIn" part="TimeZoneContext"
use="literal" />
                <soap:body parts="request" use="literal" />
            </wsdl:input>
            <wsdl:output>
                <soap:body parts="CreateItemResult" use="literal" />
                <soap:header message="tns:CreateItemSoapOut" part="ServerVersion"
use="literal" />
            </wsdl:output>
        </wsdl:operation>
        <wsdl:operation name="DeleteItem">
            <soap:operation
soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/DeleteItem" />
            <wsdl:input>
                <soap:header message="tns>DeleteItemSoapIn" part="Impersonation"
use="literal" />
                <soap:header message="tns>DeleteItemSoapIn" part="MailboxCulture"
use="literal" />
                <soap:header message="tns>DeleteItemSoapIn" part="RequestVersion"
use="literal" />
                <soap:body parts="request" use="literal" />
            </wsdl:input>
            <wsdl:output>
                <soap:body parts="DeleteItemResult" use="literal" />
                <soap:header message="tns>DeleteItemSoapOut" part="ServerVersion"
use="literal" />
            </wsdl:output>
        </wsdl:operation>
        <wsdl:operation name="UpdateItem">
            <soap:operation
soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/UpdateItem" />

```

```

        <wsdl:input>
            <soap:header message="tns:UpdateItemSoapIn" part="Impersonation"
use="literal"/>
            <soap:header message="tns:UpdateItemSoapIn" part="MailboxCulture"
use="literal"/>
            <soap:header message="tns:UpdateItemSoapIn" part="RequestVersion"
use="literal"/>
            <soap:header message="tns:UpdateItemSoapIn" part="TimeZoneContext"
use="literal"/>
            <soap:body parts="request" use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap:body parts="UpdateItemResult" use="literal"/>
            <soap:header message="tns:UpdateItemSoapOut" part="ServerVersion"
use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="MoveItem">
        <soap:operation
soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/MoveItem"/>
        <wsdl:input>
            <soap:header message="tns:MoveItemSoapIn" part="Impersonation"
use="literal"/>
            <soap:header message="tns:MoveItemSoapIn" part="MailboxCulture"
use="literal"/>
            <soap:header message="tns:MoveItemSoapIn" part="RequestVersion"
use="literal"/>
            <soap:body parts="request" use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap:body parts="MoveItemResult" use="literal"/>
            <soap:header message="tns:MoveItemSoapOut" part="ServerVersion"
use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="CopyItem">
        <soap:operation
soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/CopyItem"/>
        <wsdl:input>
            <soap:header message="tns:CopyItemSoapIn" part="Impersonation"
use="literal"/>
            <soap:header message="tns:CopyItemSoapIn" part="MailboxCulture"
use="literal"/>
            <soap:header message="tns:CopyItemSoapIn" part="RequestVersion"
use="literal"/>
            <soap:body parts="request" use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap:body parts="CopyItemResult" use="literal"/>
            <soap:header message="tns:CopyItemSoapOut" part="ServerVersion"
use="literal"/>
        </wsdl:output>
    </wsdl:operation>
</wsdl:binding>
</wsdl:definitions>

```

7 Appendix B: Full XML Schema

For ease of implementation, the following sections provide the full XML schema for this protocol.

Schema name	Prefix	Section
Types schema	t:	7.2

This file has to be placed in a common folder in order for the WSDL to validate and operate. Also, any schema files that are included in or imported into the MS-OXWSNTIF-types.xsd schema have to be placed in the common folder along with the files listed in the table.

7.1 Messages Schema

This protocol does not use a messages schema file.

7.2 Types Schema

This section contains the contents of the MS-OXWSTASK-types.xsd file and information about additional files that this schema file requires in order to operate correctly.

MS-OXWSTASK-types.xsd includes the file listed in the following table. To operate correctly, this file has to be present in the folder that contains the WSDL and the types schema file for this protocol.

File name	Defining specification
MS-OXWSTASK-types.xsd	[MS-OXWSTASK] section 7.2

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema xmlns:t="http://schemas.microsoft.com/exchange/services/2006/types"
xmlns:tns="http://schemas.microsoft.com/exchange/services/2006/types"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
targetNamespace="http://schemas.microsoft.com/exchange/services/2006/types"
elementFormDefault="qualified" version="Exchange2016" id="types">
  <xs:import namespace="http://www.w3.org/XML/1998/namespace"/>
  <xs:include schemaLocation="MS-OXWSTASK-types.xsd"/>
  <xs:simpleType name="AffectedTaskOccurrencesType">
    <xs:restriction base="xs:string">
      <xs:enumeration value="AllOccurrences"/>
      <xs:enumeration value="SpecifiedOccurrenceOnly"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:complexType name="RegeneratingPatternBaseType" abstract="true">
    <xs:complexContent>
      <xs:extension base="t:IntervalRecurrencePatternBaseType"/>
    </xs:complexContent>
  </xs:complexType>
  <xs:complexType name="DailyRegeneratingPatternType">
    <xs:complexContent>
      <xs:extension base="t:RegeneratingPatternBaseType"/>
    </xs:complexContent>
  </xs:complexType>
  <xs:complexType name="WeeklyRegeneratingPatternType">
    <xs:complexContent>
      <xs:extension base="t:RegeneratingPatternBaseType"/>
    </xs:complexContent>
  </xs:complexType>
  <xs:complexType name="MonthlyRegeneratingPatternType">
    <xs:complexContent>
      <xs:extension base="t:RegeneratingPatternBaseType"/>
    </xs:complexContent>
  </xs:complexType>
</xs:schema>
```

```

<xs:complexType name="YearlyRegeneratingPatternType">
  <xs:complexContent>
    <xs:extension base="t:RegeneratingPatternBaseType"/>
  </xs:complexContent>
</xs:complexType>
<xs:simpleType name="TaskStatusType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="NotStarted"/>
    <xs:enumeration value="InProgress"/>
    <xs:enumeration value="Completed"/>
    <xs:enumeration value="WaitingOnOthers"/>
    <xs:enumeration value="Deferred"/>
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="TaskDelegateStateType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="NoMatch"/>
    <xs:enumeration value="OwnNew"/>
    <xs:enumeration value="Owned"/>
    <xs:enumeration value="Accepted"/>
    <xs:enumeration value="Declined"/>
    <xs:enumeration value="Max"/>
  </xs:restriction>
</xs:simpleType>
<xs:complexType name="TaskType">
  <xs:complexContent>
    <xs:extension base="t:ItemType">
      <xs:sequence>
        <xs:element name="ActualWork" type="xs:int" minOccurs="0"/>
        <xs:element name="AssignedTime" type="xs:dateTime" minOccurs="0"/>
        <xs:element name="BillingInformation" type="xs:string"
minOccurs="0"/>
        <xs:element name="ChangeCount" type="xs:int" minOccurs="0"/>
        <xs:element name="Companies" type="t:ArrayOfStringsType"
minOccurs="0"/>
        <xs:element name="CompleteDate" type="xs:dateTime" minOccurs="0"/>
        <xs:element name="Contacts" type="t:ArrayOfStringsType"
minOccurs="0"/>
        <xs:element name="DelegationState" type="t:TaskDelegateStateType"
minOccurs="0"/>
        <xs:element name="Delegator" type="xs:string" minOccurs="0"/>
        <xs:element name="DueDate" type="xs:dateTime" minOccurs="0"/>
        <xs:element name="IsAssignmentEditable" type="xs:int"
minOccurs="0"/>
        <xs:element name="IsComplete" type="xs:boolean" minOccurs="0"/>
        <xs:element name="IsRecurring" type="xs:boolean" minOccurs="0"/>
        <xs:element name="IsTeamTask" type="xs:boolean" minOccurs="0"/>
        <xs:element name="Mileage" type="xs:string" minOccurs="0"/>
        <xs:element name="Owner" type="xs:string" minOccurs="0"/>
        <xs:element name="PercentComplete" type="xs:double" minOccurs="0"/>
        <xs:element name="Recurrence" type="t:TaskRecurrenceType"
minOccurs="0"/>
        <xs:element name="StartDate" type="xs:dateTime" minOccurs="0"/>
        <xs:element name="Status" type="t:TaskStatusType" minOccurs="0"/>
        <xs:element name="StatusDescription" type="xs:string"
minOccurs="0"/>
        <xs:element name="TotalWork" type="xs:int" minOccurs="0"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
<xs:complexType name="TaskRecurrenceType">
  <xs:sequence>
    <xs:group ref="t:TaskRecurrencePatternTypes"/>
    <xs:group ref="t:RecurrenceRangeTypes"/>
  </xs:sequence>
</xs:complexType>
<xs:complexType name="TasksFolderType">
  <xs:complexContent>

```

```
        <xs:extension base="t:FolderType"/>
    </xs:complexContent>
</xs:complexType>
</xs:schema>
```

8 Appendix C: 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 2007
- Microsoft Exchange Server 2010
- Microsoft Exchange Server 2013
- Microsoft Exchange Server 2016

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 2.2.4.6](#): The **Owner** element is read-only for the client on Exchange 2007 and Exchange 2010.

9 Change Tracking

No table of changes is available. The document is either new or has had no changes since its last release.

10 Index

A

Abstract data model
[server](#) 21
[Applicability](#) 8
[Attribute groups](#) 20
[Attributes](#) 18

C

[Capability negotiation](#) 8
[Change tracking](#) 41
[Common data structures](#) 20
[Complex types](#) 11
[t:DailyRegeneratingPatternType Complex Type](#) 11
[t:MonthlyRegeneratingPatternType Complex Type](#) 11
[t:RegeneratingPatternBaseType Complex Type](#) 12
[t:TaskRecurrenceType Complex Type](#) 12
[t:TasksFolderType Complex Type](#) 12
[t:TaskType Complex Type](#) 13
[t:WeeklyRegeneratingPatternType Complex Type](#) 16
[t:YearlyRegeneratingPatternType Complex Type](#) 16

D

Data model - abstract
[server](#) 21

E

Events
[local - server](#) 30
[timer - server](#) 30

F

[Fields - vendor-extensible](#) 9
[Full WSDL](#) 33
[Full XML schema](#) 37
[Messages Schema](#) 37
[Types Schema](#) 37

G

[Glossary](#) 5
[Groups](#) 18
[TaskRecurrencePatternTypes Group](#) 18

I

[Implementer - security considerations](#) 32
[Index of security parameters](#) 32
[Informative references](#) 7
Initialization
[server](#) 21
[Introduction](#) 5

L

Local events

[server](#) 30

M

Message processing
[server](#) 21
Messages
[attribute groups](#) 20
[attributes](#) 18
[common data structures](#) 20
[complex types](#) 11
[elements](#) 10
[enumerated](#) 10
[groups](#) 18
[namespaces](#) 10
[simple types](#) 16
[syntax](#) 10
[t:DailyRegeneratingPatternType Complex Type complex type](#) 11
[t:MonthlyRegeneratingPatternType Complex Type complex type](#) 11
[t:RegeneratingPatternBaseType Complex Type complex type](#) 12
[t:TaskDelegateStateType Simple Type simple type](#) 17
[t:TaskRecurrenceType Complex Type complex type](#) 12
[t:TasksFolderType Complex Type complex type](#) 12
[t:TaskStatusType Simple Type simple type](#) 17
[t:TaskType Complex Type complex type](#) 13
[t:WeeklyRegeneratingPatternType Complex Type complex type](#) 16
[t:YearlyRegeneratingPatternType Complex Type complex type](#) 16
[TaskRecurrencePatternTypes Group group](#) 18
[transport](#) 10

N

[Namespaces](#) 10
[Normative references](#) 6

O

Operations
[CopyItem Operation](#) 21
[CreateItem Operation](#) 23
[DeleteItem Operation](#) 24
[GetItem Operation](#) 26
[MoveItem Operation](#) 27
[UpdateItem Operation](#) 29
[Overview \(synopsis\)](#) 7

P

[Parameters - security index](#) 32
[Preconditions](#) 8
[Prerequisites](#) 8
[Product behavior](#) 40
Protocol Details
[overview](#) 21

R

[References](#) 6
 [informative](#) 7
 [normative](#) 6
[Relationship to other protocols](#) 7

S

Security
 [implementer considerations](#) 32
 [parameter index](#) 32
Sequencing rules
 [server](#) 21
Server
 [abstract data model](#) 21
 [CopyItem Operation operation](#) 21
 [CreateItem Operation operation](#) 23
 [DeleteItem Operation operation](#) 24
 [GetItem Operation operation](#) 26
 [initialization](#) 21
 [local events](#) 30
 [message processing](#) 21
 [MoveItem Operation operation](#) 27
 [sequencing rules](#) 21
 [timer events](#) 30
 [timers](#) 21
 [UpdateItem Operation operation](#) 29
[Simple types](#) 16
 [t:TaskDelegateStateType Simple Type](#) 17
 [t:TaskStatusType Simple Type](#) 17
[Standards assignments](#) 9
Syntax
 [messages - overview](#) 10

T

[t:DailyRegeneratingPatternType Complex Type](#)
 [complex type](#) 11
[t:MonthlyRegeneratingPatternType Complex Type](#)
 [complex type](#) 11
[t:RegeneratingPatternBaseType Complex Type](#)
 [complex type](#) 12
[t:TaskDelegateStateType Simple Type simple type](#)
 17
[t:TaskRecurrenceType Complex Type complex type](#)
 12
[t:TasksFolderType Complex Type complex type](#) 12
[t:TaskStatusType Simple Type simple type](#) 17
[t:TaskType Complex Type complex type](#) 13
[t:WeeklyRegeneratingPatternType Complex Type](#)
 [complex type](#) 16
[t:YearlyRegeneratingPatternType Complex Type](#)
 [complex type](#) 16
[TaskRecurrencePatternTypes Group group](#) 18
Timer events
 [server](#) 30
Timers
 [server](#) 21
[Tracking changes](#) 41
[Transport](#) 10
Types
 [complex](#) 11
 [simple](#) 16

V

[Vendor-extensible fields](#) 9
[Versioning](#) 8

W

[WSDL](#) 33

X

[XML schema](#) 37
 [Messages Schema](#) 37
 [Types Schema](#) 37