

# [MS-OXWSMTRK]: Message Tracking Web Service Protocol Specification

---

## 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](mailto: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.
- **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.

**Preliminary Documentation.** This Open Specification provides documentation for past and current releases and/or for the pre-release (beta) version of this technology. This Open Specification is final

documentation for past or current releases as specifically noted in the document, as applicable; it is preliminary documentation for the pre-release (beta) versions. Microsoft will release final documentation in connection with the commercial release of the updated or new version of this technology. As the documentation may change between this preliminary version and the final version of this technology, there are risks in relying on preliminary documentation. To the extent that you incur additional development obligations or any other costs as a result of relying on this preliminary documentation, you do so at your own risk.

## Revision Summary

Date	Revision History	Revision Class	Comments
07/15/2009	1.0	Major	Initial Availability.
11/04/2009	1.1.0	Minor	Updated the technical content.
02/10/2010	1.2.0	Minor	Updated the technical content.
05/05/2010	2.0.0	Major	Updated and revised the technical content.
08/04/2010	2.1	Minor	Clarified the meaning of the technical content.
11/03/2010	2.1	No change	No changes to the meaning, language, or formatting of the technical content.
03/18/2011	2.2	Minor	Clarified the meaning of the technical content.
08/05/2011	3.0	Major	Significantly changed the technical content.
10/07/2011	3.0	No change	No changes to the meaning, language, or formatting of the technical content.
01/20/2012	4.0	Major	Significantly changed the technical content.

# Table of Contents

<b>1 Introduction</b>	<b>5</b>
1.1 Glossary	5
1.2 References	5
1.2.1 Normative References	5
1.2.2 Informative References	6
1.3 Overview	6
1.4 Relationship to Other Protocols	6
1.5 Prerequisites/Preconditions	7
1.6 Applicability Statement	7
1.7 Versioning and Capability Negotiation	7
1.8 Vendor Extensible Fields	7
1.9 Standards Assignments	7
<b>2 Messages</b>	<b>8</b>
2.1 Transport	8
2.2 Common Message Syntax	8
2.2.1 Namespaces	8
2.2.2 Messages	8
2.2.3 Elements	8
2.2.4 Complex Types	8
2.2.5 Simple Types	9
2.2.6 Attributes	9
2.2.7 Groups	9
2.2.8 Attribute Groups	9
<b>3 Protocol Details</b>	<b>10</b>
3.1 ExchangeServicePortType Server Details	10
3.1.1 Abstract Data Model	10
3.1.2 Timers	10
3.1.3 Initialization	10
3.1.4 Message Processing Events and Sequencing Rules	10
3.1.4.1 FindMessageTrackingReport Operation	10
3.1.4.1.1 Messages	11
3.1.4.1.1.1 tns:FindMessageTrackingReportSoapIn Message	11
3.1.4.1.1.2 tns:FindMessageTrackingReportSoapOut Message	12
3.1.4.1.2 Elements	12
3.1.4.1.2.1 FindMessageTrackingReport Element	12
3.1.4.1.2.2 FindMessageTrackingReportResponse Element	13
3.1.4.1.3 Complex Types	13
3.1.4.1.3.1 m:FindMessageTrackingReportRequestType Complex Type	13
3.1.4.1.3.2 m:FindMessageTrackingReportResponseMessageType Complex Type	15
3.1.4.1.3.3 t:ArrayOfFindMessageTrackingSearchResultType Complex Type	17
3.1.4.1.3.4 t:FindMessageTrackingSearchResultType Complex Type	17
3.1.4.2 GetMessageTrackingReport Operation	19
3.1.4.2.1 Messages	19
3.1.4.2.1.1 tns:GetMessageTrackingReportSoapIn Message	20
3.1.4.2.1.2 tns:GetMessageTrackingReportSoapOut Message	20
3.1.4.2.2 Elements	21
3.1.4.2.2.1 GetMessageTrackingReport Element	21
3.1.4.2.2.2 GetMessageTrackingReportResponse Element	21

3.1.4.2.3	Complex Types .....	21
3.1.4.2.3.1	m:GetMessageTrackingReportRequestType Complex Type .....	22
3.1.4.2.3.2	m:GetMessageTrackingReportResponseMessageType Complex Type ....	23
3.1.4.2.3.3	t:ArrayOfRecipientTrackingEventType Complex Type.....	24
3.1.4.2.3.4	t:MessageTrackingReportType Complex Type .....	25
3.1.4.2.3.5	t:RecipientTrackingEventType Complex Type .....	26
3.1.4.2.3.6	t:TrackingPropertyType Complex Type .....	28
3.1.4.2.3.7	t:ArrayOfTrackingPropertiesType Complex Type .....	28
3.1.4.2.3.8	t:ArrayOfArraysOfTrackingPropertiesType Complex Type .....	29
3.1.4.2.4	Simple Types.....	29
3.1.4.2.4.1	t:MessageTrackingReportTemplateType Simple Type .....	29
3.1.4.2.4.2	t:MessageTrackingDeliveryStatusType Simple Type .....	30
3.1.4.2.4.3	t:MessageTrackingEventDescriptionType Simple Type .....	31
3.1.4.2.4.4	t:MessageTrackingScopeType Simple Type .....	34
3.1.5	Timer Events .....	34
3.1.6	Other Local Events .....	34
<b>4</b>	<b>Protocol Examples.....</b>	<b>35</b>
<b>5</b>	<b>Security.....</b>	<b>36</b>
5.1	Security Considerations for Implementers.....	36
5.2	Index of Security Parameters .....	36
<b>6</b>	<b>Appendix A: Full WSDL .....</b>	<b>37</b>
<b>7</b>	<b>Appendix B: Full XML Schema .....</b>	<b>39</b>
7.1	Messages Schema.....	39
7.2	Types Schema.....	41
<b>8</b>	<b>Appendix C: Product Behavior .....</b>	<b>43</b>
<b>9</b>	<b>Change Tracking.....</b>	<b>45</b>
<b>10</b>	<b>Index .....</b>	<b>47</b>

# 1 Introduction

The Message Tracking Web Service Protocol enables clients to find and return information about messages delivered by a server.

Sections 1.8, 2, and 3 of this specification are normative and contain RFC 2119 language. Sections 1.5 and 1.9 are also normative but cannot contain RFC 2119 language. All other sections and examples in this specification are informative.

## 1.1 Glossary

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

**Hypertext Transfer Protocol (HTTP)**  
**Hypertext Transfer Protocol over Secure Sockets Layer (HTTPS)**  
**XML**

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

**blind carbon copy (Bcc) recipient**  
**distribution list**  
**endpoint**  
**mailbox**  
**Simple Mail Transfer Protocol (SMTP)**  
**SOAP action**  
**SOAP message**  
**Uniform Resource Locator (URL)**  
**Web Services Description Language (WSDL)**  
**WSDL message**  
**WSDL port type**  
**XML namespace**  
**XML schema**

The following terms are specific to this document:

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

## 1.2 References

References to Microsoft Open Specification documents do not include a publishing year because links are to the latest version of the documents, which are updated frequently. References to other documents include a publishing year when one is available.

### 1.2.1 Normative References

We conduct frequent surveys of the normative references to assure their continued availability. If you have any issue with finding a normative reference, please contact [dochelp@microsoft.com](mailto: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-OXWSCDATA] Microsoft Corporation, "[Common Web Service Data Types](#)".

[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>

[RFC2818] Rescorla, E., "HTTP Over TLS", RFC 2818, May 2000, <http://www.ietf.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.S., Ed., Beech, D., Ed., Maloney, M., Ed., and Mendelsohn, N., Ed., "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-GLOS] Microsoft Corporation, "[Windows Protocols Master Glossary](#)".

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

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

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

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

### 1.3 Overview

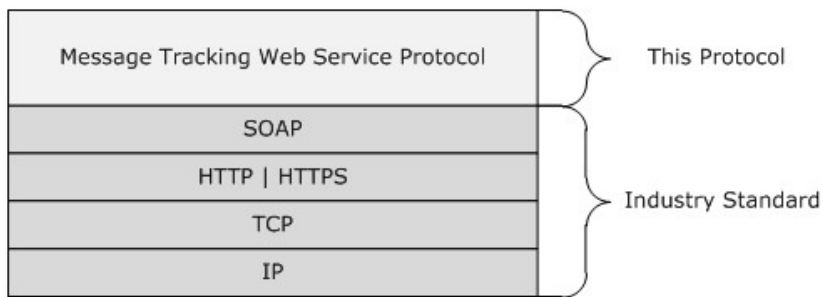
The Message Tracking Web Service Protocol provides clients with message delivery information about the server. Clients can use this protocol to search for a particular message on the server and then retrieve information from the resulting report.

### 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 (4)** 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.

This 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**

## 1.5 Prerequisites/Preconditions

The endpoint(4) **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 (4) is identified in the HTTP Web requests that target this protocol.

## 1.6 Applicability Statement

This protocol is applicable to client applications that track message delivery.

## 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 2.2.4.9, and the version of the server responding to the request is identified by using the **t:ServerVersionInfo** element, as described in [\[MS-OXWSCDATA\]](#) section 2.2.4.10.
- **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 section [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 defined in [\[RFC2818\]](#).

### 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 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	<a href="http://schemas.xmlsoap.org/wsdl/soap/">http://schemas.xmlsoap.org/wsdl/soap/</a>	<a href="#">[SOAP1.1]</a>
tns	<a href="http://schemas.microsoft.com/exchange/services/2006/messages">http://schemas.microsoft.com/exchange/services/2006/messages</a>	
s	<a href="http://www.w3.org/2001/XMLSchema">http://www.w3.org/2001/XMLSchema</a>	<a href="#">[XMLSCHEMA1]</a>
targetNamespace	<a href="http://schemas.microsoft.com/exchange/services/2006/messages">http://schemas.microsoft.com/exchange/services/2006/messages</a>	
wsdl	<a href="http://schemas.xmlsoap.org/wsdl/">http://schemas.xmlsoap.org/wsdl/</a>	<a href="#">[WSDL]</a>
t	<a href="http://schemas.microsoft.com/exchange/services/2006/types">http://schemas.microsoft.com/exchange/services/2006/types</a>	

#### 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

This specification does not define any common XML schema complex type definitions.



### **2.2.5 Simple Types**

This specification does not define any common XML schema simple type definitions.

### **2.2.6 Attributes**

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

### **2.2.7 Groups**

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

### **2.2.8 Attribute Groups**

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

Preliminary

## 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 that are returned by the transport are passed directly back to the higher-layer protocol or application.

### 3.1 ExchangeServicePortType Server Details

The Message Tracking Web Service Protocol defines a single port type with two operations. These operations enable client implementations to find and get message tracking reports.

#### 3.1.1 Abstract Data Model

This section describes a conceptual model of possible data organization that an implementation maintains to participate in this protocol. The described organization is provided to facilitate the explanation of how the protocol behaves. This document does not mandate that implementations adhere to this model as long as their external behavior is consistent with that described in this document.

The Message Tracking Web Service Protocol is used to find and get message tracking reports on a primary account's **mailbox** on the server. The server maintains the reports and retrieves them as requested.

The client is not required to maintain the state of message tracking reports on the server and can retrieve the current report at any time. If more than one client is receiving a particular report, there is no requirement that the server lock the existing set of reports.

#### 3.1.2 Timers

None.

#### 3.1.3 Initialization

None.

#### 3.1.4 Message Processing Events and Sequencing Rules

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

Operation name	Description
<b>FindMessageTrackingReport</b> (section <a href="#">3.1.4.1</a> )	Finds messages that meet the specified criteria.
<b>GetMessageTrackingReport</b> (section <a href="#">3.1.4.2</a> )	Gets tracking information about the specified messages.

##### 3.1.4.1 FindMessageTrackingReport Operation

The **FindMessageTrackingReport** operation finds messages that meet the specified criteria.

The following is the WSDL port type specification for this operation.

```

<wsdl:operation name="FindMessageTrackingReport"
xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:FindMessageTrackingReportSoapIn" />
  <wsdl:output message="tns:FindMessageTrackingReportSoapOut" />
</wsdl:operation>

```

The following is the WSDL binding specification for this operation.

```

<wsdl:operation name="FindMessageTrackingReport">
  <soap:operation
soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/FindMessageTrackingR
eport" />
  <wsdl:input>
    <soap:body parts="request" use="literal"/>
    <soap:header message="tns:FindMessageTrackingReportSoapIn"
part="RequestVersion" use="literal"/>
  </wsdl:input>
  <wsdl:output>
    <soap:body parts="FindMessageTrackingReportResult" use="literal" />
    <soap:header message="tns:FindMessageTrackingReportSoapOut"
part="ServerVersion" use="literal"/>
  </wsdl:output>
</wsdl:operation>

```

### 3.1.4.1.1 Messages

The following table lists the WSDL message definitions that are specific to the **FindMessageTrackingReport** operation.

Message name	Description
<a href="#">FindMessageTrackingReportSoapIn</a>	Specifies the <b>SOAP message</b> that requests the report.
<b>FindMessageTrackingReportSoapOut</b>	Specifies the SOAP message that is returned by the server in response.

#### 3.1.4.1.1.1 tns:FindMessageTrackingReportSoapIn Message

The **FindMessageTrackingReportSoapIn** WSDL message specifies the **FindMessageTrackingReport** operation request to find a message tracking report on the server.

```

<wsdl:message name="FindMessageTrackingReportSoapIn">
  <wsdl:part name="request" element="tns:FindMessageTrackingReport"/>
  <wsdl:part name="RequestVersion" element="t:RequestServerVersion"/>
</wsdl:message>

```

The **FindMessageTrackingReportSoapIn** WSDL message is the input message for the **SOAP action** <http://schemas.microsoft.com/exchange/services/2006/messages/FindMessageTrackingReport>.

The parts of the **FindMessageTrackingReportSoapIn** WSDL message are listed and described in the following table.

Part name	Element/type	Description
<b>request</b>	<b>tns:FindMessageTrackingReport</b> (section <a href="#">3.1.4.1</a> )	Specifies the request.
<b>RequestVersion</b>	<b>t:RequestServerVersion</b> ( <a href="#">[MS-OXWSCDATA]</a> section 2.2.4.9)	Specifies the schema version for the <b>FindMessageTrackingReport</b> operation request (section <a href="#">3.1.4.1</a> ).

### 3.1.4.1.1.2 tns:FindMessageTrackingReportSoapOut Message

The **FindMessageTrackingReportSoapOut** WSDL message specifies the server response to the **FindMessageTrackingReport** operation request to find a message tracking report on the server.

```
<wsdl:message name="FindMessageTrackingReportSoapOut">
  <wsdl:part name="FindMessageTrackingReportResult"
    element="tns:FindMessageTrackingReportResponse"/>
  <wsdl:part name="ServerVersion" element="t:ServerVersionInfo"/>
</wsdl:message>
```

The **FindMessageTrackingReportSoapOut** WSDL message is the output response for the SOAP action <http://schemas.microsoft.com/exchange/services/2006/messages/FindMessageTrackingReport>.

The parts of the **FindMessageTrackingReportSoapOut** WSDL message are described and described in the following table.

Part name	Element/type	Description
<b>FindMessageTrackingReportResult</b>	<b>tns:FindMessageTrackingReportResponse</b> (section <a href="#">3.1.4.1.2.2</a> )	Specifies the response message.
<b>ServerVersion</b>	<b>t:ServerVersionInfo</b> ( <a href="#">[MS-OXWSCDATA]</a> section 2.2.4.10)	Specifies the server version for the response.

### 3.1.4.1.2 Elements

The following table lists the XML schema element definitions that are specific to the **FindMessageTrackingReport** operation.

Element name	Description
<b>FindMessageTrackingReport</b>	Specifies a request to find a message tracking report.
<b>FindMessageTrackingReportResponse</b>	Specifies the response body content from a request to find a message tracking report.

#### 3.1.4.1.2.1 FindMessageTrackingReport Element

The **FindMessageTrackingReport** element specifies a request that includes the search criteria for identifying a message to track.

```
<xs:element name="FindMessageTrackingReport"
  type="m:FindMessageTrackingReportRequestType"
/>
```

### 3.1.4.1.2.2 FindMessageTrackingReportResponse Element

The **FindMessageTrackingReportResponse** element specifies the response to a **FindMessageTrackingReport** operation request (section [3.1.4.1](#)).

```
<xs:element name="FindMessageTrackingReportResponse"
  type="m:FindMessageTrackingReportResponseMessageType"
/>
```

### 3.1.4.1.3 Complex Types

The following table lists the XML schema complex type definitions that are specific to the **FindMessageTrackingReport** operation.

Complex type name	Description
<b>FindMessageTrackingReportRequestType</b>	Specifies the criteria for finding a tracking report.
<b>FindMessageTrackingReportResponseMessageType</b>	Specifies the response for the <b>FindMessageTrackingReport</b> operation.
<b>ArrayOfFindMessageTrackingSearchResultType</b>	Specifies an array of search results.
<b>FindMessageTrackingSearchResultType</b>	Specifies information about the message that was found by using the <b>FindMessageTrackingReport</b> operation.

#### 3.1.4.1.3.1 m:FindMessageTrackingReportRequestType Complex Type

The **FindMessageTrackingReportRequestType** complex type specifies the criteria for finding a tracking report. The **FindMessageTrackingReportRequestType** complex type extends the **BaseRequestType** complex type ([\[MS-OXWSCDATA\]](#) section 2.2.3.15).

```
<xs:complexType name="FindMessageTrackingReportRequestType">
  <xs:complexContent>
    <xs:extension
      base="m:BaseRequestType"
    >
      <xs:all>
        <xs:element name="Scope"
          type="t:NonEmptyStringType"
        />
        <xs:element name="Domain"
          type="t:NonEmptyStringType"
        />
        <xs:element name="Sender"
          type="t:EmailAddressType"
        />
      </xs:all>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

```

        minOccurs="0"
      />
    <xs:element name="PurportedSender"
      type="t:EmailAddressType"
      minOccurs="0"
    />
    <xs:element name="Recipient"
      type="t:EmailAddressType"
      minOccurs="0"
    />
    <xs:element name="Subject"
      type="xs:string"
      minOccurs="0"
    />
    <xs:element name="StartDateTime"
      type="xs:dateTime"
      minOccurs="0"
    />
    <xs:element name="EndDateTime"
      type="xs:dateTime"
      minOccurs="0"
    />
    <xs:element name="MessageId"
      type="t:NonEmptyStringType"
      minOccurs="0"
    />
    <xs:element name="FederatedDeliveryMailbox"
      type="t:EmailAddressType"
      minOccurs="0"
    />
    <xs:element name="DiagnosticsLevel"
      type="xs:string"
      minOccurs="0"
    />
    <xs:element name="ServerHint"
      type="xs:string"
      minOccurs="0"
    />
    <xs:element name="Properties"
      type="t:ArrayOfTrackingPropertiesType"
      minOccurs="0"
    />
  </xs:all>
</xs:extension>
</xs:complexContent>
</xs:complexType>

```

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

Element name	Type	Description
<b>Scope</b>	<b>t:NonEmptyStringType</b> ( <a href="#">[MS-OXWSCDATA]</a> section 2.2.2.19)	Specifies where to perform the search. <a href="#">&lt;1&gt;</a>
<b>Domain</b>	<b>t:NonEmptyStringType</b>	Specifies the domain to search

Element name	Type	Description
		for.
<b>Sender</b>	<b>t:EmailAddressType</b> ([MS-OXWSCDATA] section 2.2.3.27)	Specifies the e-mail address of the person who is sending the message.
<b>PurportedSender</b>	<b>t:EmailAddressType</b>	Specifies the e-mail address of the person who is purportedly sending the message. <2>
<b>Recipient</b>	<b>t:EmailAddressType</b>	Specifies the e-mail addresses of the people who are receiving the message.
<b>Subject</b>	<b>xs:string</b> ([XMLSCHEMA2])	Specifies the subject filter to search for.
<b>StartDateTime</b>	<b>xs:dateTime</b> ([XMLSCHEMA2])	Specifies the start date and time for the search period. Only messages sent after this date and time will be found and returned.
<b>EndDateTime</b>	<b>xs:dateTime</b>	Specifies the end date and time for the search period. Only messages sent before this date and time will be found and returned.
<b>MessageId</b>	<b>t:NonEmptyStringType</b>	Specifies message identifier to search for.
<b>FederatedDeliveryMailbox</b>	<b>t:EmailAddressType</b>	Specifies the mailbox to which a cross-premise message was sent.
<b>DiagnosticsLevel</b>	<b>xs:string</b>	Specifies how detailed the tracing report should be.
<b>ServerHint</b>	<b>xs:string</b>	Specifies the starting point for tracking a message in a remote site or forest. <3>
<b>Properties</b>	<b>t:ArrayOfTrackingPropertiesType</b> (section 3.1.4.2.3.7)	Specifies a list of one or more tracking properties. <4>

### 3.1.4.1.3.2 m:FindMessageTrackingReportResponseMessageType Complex Type

The **FindMessageTrackingReportResponseMessageType** complex type specifies the response for the **FindMessageTrackingReport** operation (section 3.1.4.1). The **FindMessageTrackingReportResponseMessageType** complex type extends the **ResponseMessageType** complex type ([MS-OXWSCDATA] section 2.2.3.57).

```
<xs:complexType name="FindMessageTrackingReportResponseMessageType">
  <xs:complexContent>
    <xs:extension
      base="m:ResponseMessageType"
    >
  </xs:extension>
</xs:complexContent>
</xs:complexType>
```

```

<xs:sequence>
  <xs:element name="Diagnostics"
    type="t:ArrayOfStringsType"
    minOccurs="0"
  />
  <xs:element name="MessageTrackingSearchResults"
    type="t:ArrayOfFindMessageTrackingSearchResultType"
    minOccurs="0"
  />
  <xs:element name="ExecutedSearchScope"
    type="xs:string"
    minOccurs="0"
  />
  <xs:element name="Errors"
    type="t:ArrayOfArrayOfTrackingPropertiesType"
    minOccurs="0"
  />
  <xs:element name="Properties"
    type="t:ArrayOfTrackingPropertiesType"
    minOccurs="0"
  />
</xs:sequence>
</xs:extension>
</xs:complexContent>
</xs:complexType>

```

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

Element name	Type	Description
<b>Diagnostics</b>	<b>t:ArrayOfStringsType</b> ( <a href="#">[MS-OXWSCDATA]</a> section 2.2.3.11)	Specifies timing and performance information that will be used to produce various statistical reports.
<b>MessageTrackingSearchResults</b>	<b>t:ArrayOfFindMessageTrackingSearchResultType</b> (section <a href="#">3.1.4.1.3.3</a> )	Specifies an array of matching records. <a href="#">&lt;5&gt;</a>
<b>ExecutedSearchScope</b>	<b>xs:string</b> ( <a href="#">[XMLSCHEMA2]</a> )	Specifies the scope of the search that was performed to get the search results. <a href="#">&lt;6&gt;</a>
<b>Errors</b>	<b>t:ArrayOfArrayOfTrackingPropertiesType</b> (section <a href="#">3.1.4.2.3.8</a> )	Specifies a property bag



Element name	Type	Description
		for storing errors that are returned through the Web service. <7>
<b>Properties</b>	<b>t:ArrayOfTrackingPropertiesType</b> (section <a href="#">3.1.4.2.3.7</a> )	Specifies a list of one or more tracking properties. <8>

### 3.1.4.1.3.3 t:ArrayOfFindMessageTrackingSearchResultType Complex Type

The **ArrayOfFindMessageTrackingSearchResultType** complex type specifies an array of search results.

```
<xs:complexType name="ArrayOfFindMessageTrackingSearchResultType">
  <xs:choice
    minOccurs="0"
    maxOccurs="unbounded"
  >
    <xs:element name="MessageTrackingSearchResult"
      type="t:FindMessageTrackingSearchResultType"
    />
  </xs:choice>
</xs:complexType>
```

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

Element name	Type	Description
<b>MessageTrackingSearchResult</b>	<b>t:FindMessageTrackingSearchResultType</b> (section <a href="#">3.1.4.1.3.4</a> )	Specifies a message that was found by using the <b>FindMessageTrackingReport</b> operation (section <a href="#">3.1.4.1</a> ).

### 3.1.4.1.3.4 t:FindMessageTrackingSearchResultType Complex Type

The **FindMessageTrackingSearchResultType** complex type specifies information about the message that was found by using the **FindMessageTrackingReport** operation (section [3.1.4.1](#)).

```
<xs:complexType name="FindMessageTrackingSearchResultType">
  <xs:all>
    <xs:element name="Subject"
      type="xs:string"
    />
    <xs:element name="Sender"
      type="t:EmailAddressType"
    />
  </xs:all>
</xs:complexType>
```

```

<xs:element name="PurportedSender"
  type="t:EmailAddressType"
  minOccurs="0"
/>
<xs:element name="Recipients"
  type="t:ArrayOfRecipientsType"
/>
<xs:element name="SubmittedTime"
  type="xs:dateTime"
/>
<xs:element name="MessageTrackingReportId"
  type="t:NonEmptyStringType"
/>
<xs:element name="PreviousHopServer"
  type="t:NonEmptyStringType"
  minOccurs="0"
/>
<xs:element name="FirstHopServer"
  type="t:NonEmptyStringType"
  minOccurs="0"
/>
<xs:element name="Properties"
  type="t:ArrayOfTrackingPropertiesType"
  minOccurs="0"
/>
</xs:all>
</xs:complexType>

```

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

Element name	Type	Description
<b>Subject</b>	<b>xs:string</b> ([ <a href="#">XMLSCHEMA2</a> ])	Specifies the subject of the message that was found.
<b>Sender</b>	<b>t:EmailAddressType</b> ([ <a href="#">MS-OXWSCDATA</a> ] section 2.2.3.27)	Specifies the e-mail address of the sender for the message that was found.
<b>PurportedSender</b>	<b>t:EmailAddressType</b>	Specifies the e-mail address of the person who is purportedly sending the message. <a href="#">&lt;9&gt;</a>
<b>Recipients</b>	<b>t:ArrayOfRecipientsType</b> ([ <a href="#">MS-OXWSCDATA</a> ] section 2.2.3.9)	Specifies the e-mail addresses of the recipients for the message that was found.
<b>SubmittedTime</b>	<b>xs:dateTime</b> ([ <a href="#">XMLSCHEMA2</a> ])	Specifies the time that the message entered the server.
<b>MessageTrackingReportId</b>	<b>t:NonEmptyStringType</b> ([ <a href="#">MS-OXWSCDATA</a> ] section 2.2.2.19)	Specifies the message by its message ID, the organization where the message was found, the server on which the message was submitted, and an internal ID that uniquely

Element name	Type	Description
		identifies the message.
<b>PreviousHopServer</b>	<b>t:NonEmptyStringType</b>	Specifies the previous server name (if available) that submitted the message.
<b>FirstHopServer</b>	<b>t:NonEmptyStringType</b>	Specifies the name of the server in the forest that first accepted the message. <a href="#">&lt;10&gt;</a>
<b>Properties</b>	<b>t:ArrayOfTrackingPropertiesType</b> (section <a href="#">3.1.4.2.3.7</a> )	Specifies a list of one or more tracking properties. <a href="#">&lt;11&gt;</a>

### 3.1.4.2 GetMessageTrackingReport Operation

The **GetMessageTrackingReport** operation gets tracking information about the specified messages.

The following is the WSDL port type specification for this operation.

```
<wsdl:operation name="GetMessageTrackingReport"
xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:GetMessageTrackingReportSoapIn" />
  <wsdl:output message="tns:GetMessageTrackingReportSoapOut" />
</wsdl:operation>
```

The following is the WSDL binding specification for this operation.

```
<wsdl:operation name="GetMessageTrackingReport">
  <soap:operation
soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/GetMessageTrackingReport" />
  <wsdl:input>
    <soap:body parts="request" use="literal"/>
    <soap:header message="tns:GetMessageTrackingReportSoapIn" part="RequestVersion"
use="literal"/>
  </wsdl:input>
  <wsdl:output>
    <soap:body parts="GetMessageTrackingReportResult" use="literal" />
    <soap:header message="tns:GetMessageTrackingReportSoapOut" part="ServerVersion"
use="literal"/>
  </wsdl:output>
</wsdl:operation>
```

#### 3.1.4.2.1 Messages

The following table lists the XML schema message definitions that are specific to the **GetMessageTrackingReport** operation.

Message name	Description
<b>GetMessageTrackingReportSoapIn</b>	Specifies the SOAP message that retrieves the message tracking report.

Message name	Description
<b>GetMessageTrackingReportSoapOut</b>	Specifies the SOAP message that is returned by the server in response.

### 3.1.4.2.1.1 tns:GetMessageTrackingReportSoapIn Message

The **GetMessageTrackingReportSoapIn** WSDL message specifies the **GetMessageTrackingReport** operation request to retrieve a message tracking report from the server.

```
<wsdl:message name="GetMessageTrackingReportSoapIn">
  <wsdl:part name="request" element="tns:GetMessageTrackingReport"/>
  <wsdl:part name="RequestVersion" element="t:RequestServerVersion"/>
</wsdl:message>
```

The **GetMessageTrackingReportSoapIn** WSDL message is the input message for the SOAP action <http://schemas.microsoft.com/exchange/services/2006/messages/GetMessageTrackingReport>.

The parts of the **GetMessageTrackingReportSoapIn** WSDL message are listed and described in the following table.

Part name	Element/type	Description
<b>request</b>	<b>tns:GetMessageTrackingReport</b> (section <a href="#">3.1.4.2</a> )	Specifies the request.
<b>RequestVersion</b>	<b>t:RequestServerVersion</b> ( <a href="#">[MS-OXWSCDATA]</a> section 2.2.4.10)	Specifies the schema version for the request.

### 3.1.4.2.1.2 tns:GetMessageTrackingReportSoapOut Message

The **GetMessageTrackingReportSoapOut** WSDL message specifies the server response to the **GetMessageTrackingReport** operation request to retrieve a message tracking report from the server.

```
<wsdl:message name="GetMessageTrackingReportSoapOut">
  <wsdl:part name="GetMessageTrackingReportResult"
    element="tns:GetMessageTrackingReportResponse"/>
  <wsdl:part name="ServerVersion" element="t:ServerVersionInfo"/>
</wsdl:message>
```

The **GetMessageTrackingReportSoapOut** WSDL message is the output message for the SOAP action <http://schemas.microsoft.com/exchange/services/2006/messages/GetMessageTrackingReport>.

The parts of the **GetMessageTrackingReportSoapOut** WSDL message are listed and described in the following table.

Part name	Element/	Description
<b>GetMessageTrackingReportResult</b>	<b>tns:GetMessageTrackingReportResponse</b> (section <a href="#">3.1.4.2.2.2</a> )	Specifies the response

Part name	Element/	Description
		message.
<b>ServerVersion</b>	<b>t:ServerVersionInfo</b> ( <a href="#">[MS-OXWSCDATA]</a> section 2.2.4.10)	Specifies the server version for the response.

### 3.1.4.2.2 Elements

The following table lists the XML schema element definitions that are specific to the **GetMessageTrackingReport** operation.

Element name	Description
<b>GetMessageTrackingReport</b>	Specifies a request for a tracking report.
<b>GetMessageTrackingReportResponse</b>	Specifies the content of a response to a request for a tracking report.

#### 3.1.4.2.2.1 GetMessageTrackingReport Element

The **GetMessageTrackingReport** element specifies the request to get a tracking report.

```
<xs:element name="GetMessageTrackingReport"
  type="m:GetMessageTrackingReportRequestType"
/>
```

#### 3.1.4.2.2.2 GetMessageTrackingReportResponse Element

The **GetMessageTrackingReportResponse** element specifies the response for getting a report.

```
<xs:element name="GetMessageTrackingReportResponse"
  type="m:GetMessageTrackingReportResponseMessageType"
/>
```

#### 3.1.4.2.3 Complex Types

The following table lists the XML schema complex type definitions that are specific to the **GetMessageTrackingReport** operation.

Complex type name	Description
<b>GetMessageTrackingReportRequestType</b>	Specifies details for the type of tracking report to retrieve.
<b>GetMessageTrackingReportResponseMessageType</b>	Specifies the response for getting a tracking report.
<b>ArrayOfRecipientTrackingEventType</b>	Specifies an array of one or more events for a message.

Complex type name	Description
<b>MessageTrackingReportType</b>	Specifies the information to be included in the tracking report.
<b>RecipientTrackingEventType</b>	Specifies details for a specific event in the tracking report.
<b>TrackingPropertyType</b>	Specifies a name/value pair of strings that is used to create properties for message tracking reports.
<b>ArrayOfTrackingPropertiesType</b>	Specifies a list of one or more tracking properties.
<b>ArrayOfArraysOfTrackingPropertiesType</b>	Specifies a property bag for storing errors that are returned through the Web service.

### 3.1.4.2.3.1 m:GetMessageTrackingReportRequestType Complex Type

The **GetMessageTrackingReportRequestType** complex type specifies details for the type of report to retrieve. The **GetMessageTrackingReportRequestType** complex type extends the **BaseRequestType** complex type ([\[MS-OXWSCDATA\]](#) section 2.2.3.15).

```
<xs:complexType name="GetMessageTrackingReportRequestType">
  <xs:complexContent>
    <xs:extension
      base="m:BaseRequestType"
    >
      <xs:all>
        <xs:element name="Scope"
          type="t:NonEmptyStringType"
        />
        <xs:element name="ReportTemplate"
          type="t:MessageTrackingReportTemplateType"
        />
        <xs:element name="RecipientFilter"
          type="t:EmailAddressType"
          minOccurs="0"
        />
        <xs:element name="MessageTrackingReportId"
          type="t:NonEmptyStringType"
        />
        <xs:element name="ReturnQueueEvents"
          type="xs:boolean"
          minOccurs="0"
        />
        <xs:element name="DiagnosticsLevel"
          type="xs:string"
          minOccurs="0"
        />
        <xs:element name="Properties"
          type="t:ArrayOfTrackingPropertiesType"
          minOccurs="0"
        />
      </xs:all>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

</xs:complexType>

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

Element name	Type	Description
<b>Scope</b>	<b>t:NonEmptyStringType</b> ([MS-OXWSCDATA] section 2.2.2.19)	Specifies where to perform the search. <12>
<b>ReportTemplate</b>	<b>t:MessageTrackingReportTemplateType</b> (section 3.1.4.2.4.1)	Specifies the type of tracking report to retrieve.
<b>RecipientFilter</b>	<b>t:EmailAddressType</b> ([MS-OXWSCDATA] section 2.2.3.27)	Specifies a recipient address to use with the specified tracking report.
<b>MessageTrackingReportId</b>	<b>t:NonEmptyStringType</b>	Specifies an identity string that was obtained from the <b>FindMessageTrackingReport</b> operation (section 3.1.4.1).
<b>ReturnQueueEvents</b>	<b>xs:boolean</b> ([XMLSCHEMA2])	Specifies that the person who is running the task has a privileged role.
<b>DiagnosticsLevel</b>	<b>xs:string</b> ([XMLSCHEMA2])	Specifies timing and performance information that will be used to derive the tracking report.
<b>Properties</b>	<b>t:ArrayOfTrackingPropertiesType</b> (section 3.1.4.2.3.7)	Specifies a list of one or more tracking properties. <13>

### 3.1.4.2.3.2 m:GetMessageTrackingReportResponseMessageType Complex Type

The **GetMessageTrackingReportResponseMessageType** complex type specifies the response for getting a tracking report. The **GetMessageTrackingReportResponseMessageType** complex type extends the **ResponseMessageType** complex type ([MS-OXWSCDATA] section 2.2.3.57).

```
<xs:complexType name="GetMessageTrackingReportResponseMessageType">
  <xs:complexContent>
    <xs:extension
      base="m:ResponseMessageType"
    >
      <xs:sequence>
        <xs:element name="MessageTrackingReport"
          type="t:MessageTrackingReportType"
          minOccurs="0"
        />
        <xs:element name="Diagnostics"
          type="t:ArrayOfStringsType"
          minOccurs="0"
        />
        <xs:element name="Errors"
          type="t:ArrayOfArraysOfTrackingPropertiesType"
        />
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

```

        minOccurs="0"
      />
      <xs:element name="Properties"
        type="t:ArrayOfTrackingPropertiesType"
        minOccurs="0"
      />
    </xs:sequence>
  </xs:extension>
</xs:complexContent>
</xs:complexType>

```

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

Element name	Type	Description
<b>MessageTrackingReport</b>	<b>t:MessageTrackingReportType</b> (section <a href="#">3.1.4.2.3.4</a> )	Specifies the tracking report that was requested. <a href="#">&lt;14&gt;</a>
<b>Diagnostics</b>	<b>t:ArrayOfStringsType</b> ( <a href="#">[MS-OXWSCDATA]</a> section 2.2.3.11)	Specifies timing and performance information that will be used to derive the tracking report.
<b>Errors</b>	<b>t:ArrayOfArraysOfTrackingPropertiesType</b> (section <a href="#">3.1.4.2.3.8</a> )	Specifies possible issues that will be used to derive the tracking report. <a href="#">&lt;15&gt;</a>
<b>Properties</b>	<b>t:ArrayOfTrackingPropertiesType</b> (section <a href="#">3.1.4.2.3.7</a> )	Specifies a list of one or more tracking properties. <a href="#">&lt;16&gt;</a>

### 3.1.4.2.3.3 t:ArrayOfRecipientTrackingEventType Complex Type

The **ArrayOfRecipientTrackingEventType** complex type specifies an array of one or more events for a message.

```

<xs:complexType name="ArrayOfRecipientTrackingEventType">
  <xs:choice
    minOccurs="0"
    maxOccurs="unbounded"
  >
    <xs:element name="RecipientTrackingEvent"
      type="t:RecipientTrackingEventType"
    />
  </xs:choice>
</xs:complexType>

```

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



Element name	Type	Description
<b>RecipientTrackingEvent</b>	<b>t:RecipientTrackingEventType</b> (section <a href="#">3.1.4.2.3.5</a> )	Specifies an event for a message.

### 3.1.4.2.3.4 t:MessageTrackingReportType Complex Type

The **MessageTrackingReportType** complex type specifies the information to be included in a tracking report.

```
<xs:complexType name="MessageTrackingReportType">
  <xs:all>
    <xs:element name="Sender"
      type="t:EmailAddressType"
      minOccurs="0"
    />
    <xs:element name="PurportedSender"
      type="t:EmailAddressType"
      maxOccurs="0"
    />
    <xs:element name="Subject"
      type="xs:string"
      minOccurs="0"
    />
    <xs:element name="SubmitTime"
      type="xs:dateTime"
      minOccurs="0"
    />
    <xs:element name="OriginalRecipients"
      type="t:ArrayOfEmailAddressesType"
      minOccurs="0"
    />
    <xs:element name="RecipientTrackingEvents"
      type="t:ArrayOfRecipientTrackingEventType"
    />
    <xs:element name="Properties"
      type="t:ArrayOfTrackingPropertiesType"
      minOccurs="0"
    />
  </xs:all>
</xs:complexType>
```

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

Element name	Type	Description
<b>Sender</b>	<b>t:EmailAddressType</b> ( <a href="#">[MS-OXWSCDATA]</a> section 2.2.3.27)	Specifies the e-mail address for the sender of a message.
<b>PurportedSender</b>	<b>t:EmailAddressType</b>	Specifies the e-mail address of the person who is purportedly sending the message. <a href="#">&lt;17&gt;</a>

Element name	Type	Description
<b>Subject</b>	<b>xs:string</b> ( <a href="#">[XMLSCHEMA2]</a> )	Specifies the subject of the message.
<b>SubmitTime</b>	<b>xs:dateTime</b> ( <a href="#">[XMLSCHEMA2]</a> )	Specifies the time at which the message was sent to the server.
<b>OriginalRecipients</b>	<b>t:ArrayOfEmailAddressesType</b> ( <a href="#">[MS-OXWSCDATA]</a> section 2.2.3.5)	Specifies the e-mail addresses of the message recipients.
<b>RecipientTrackingEvents</b>	<b>t:ArrayOfRecipientTrackingEventType</b> (section <a href="#">3.1.4.2.3.3</a> )	Specifies the type of events to report.
<b>Properties</b>	<b>t:ArrayOfTrackingPropertiesType</b> (section <a href="#">3.1.4.2.3.7</a> )	Specifies a list of one or more tracking properties. <a href="#">&lt;18&gt;</a>

### 3.1.4.2.3.5 t:RecipientTrackingEventType Complex Type

The **RecipientTrackingEventType** complex type specifies details for a particular event in a tracking report.

```

<xs:complexType name="RecipientTrackingEventType">
  <xs:all>
    <xs:element name="Date"
      type="xs:dateTime"
    />
    <xs:element name="Recipient"
      type="t:EmailAddressType"
    />
    <xs:element name="DeliveryStatus"
      type="xs:string"
    />
    <xs:element name="EventDescription"
      type="xs:string"
    />
    <xs:element name="EventData"
      type="t:ArrayOfStringsType"
      minOccurs="0"
    />
    <xs:element name="Server"
      type="t:NonEmptyStringType"
    />
    <xs:element name="InternalId"
      type="xs:nonNegativeInteger"
    />
    <xs:element name="BccRecipient"
      type="xs:boolean"
      minOccurs="0"
    />
    <xs:element name="HiddenRecipient"
      type="xs:boolean"
      minOccurs="0"
    />
    <xs:element name="UniquePathId"

```

```

        type="t:NonEmptyStringType"
        minOccurs="0"
    />
    <xs:element name="RootAddress"
        type="t:NonEmptyStringType"
        minOccurs="0"
    />
    <xs:element name="Properties"
        type="t:ArrayOfTrackingPropertiesType"
        minOccurs="0"
    />
</xs:all>
</xs:complexType>

```

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

Element name	Type	Description
<b>Date</b>	<b>xs:dateTime</b> ( <a href="#">[XMLSCHEMA2]</a> )	Specifies the time at which a particular event occurred.
<b>Recipient</b>	<b>t:EmailAddressType</b> ( <a href="#">[MS-OXWSCDATA]</a> section 2.2.3.27)	Specifies the recipient for whom the event occurred.
<b>DeliveryStatus</b>	<b>xs:string</b> ( <a href="#">[XMLSCHEMA2]</a> )	Specifies the status for the message. <a href="#">&lt;19&gt;</a>
<b>EventDescription</b>	<b>xs:string</b>	Specifies the processing step for the event. <a href="#">&lt;20&gt;</a>
<b>EventData</b>	<b>t:ArrayOfStringsType</b> ( <a href="#">[MS-OXWSCDATA]</a> section 2.2.3.11)	Specifies data that is associated with the processing step for the event.
<b>Server</b>	<b>t:NonEmptyStringType</b> ( <a href="#">[MS-OXWSCDATA]</a> section 2.2.2.19)	Specifies the server where the event occurred.
<b>InternalId</b>	<b>xs:nonNegativeInteger</b> ( <a href="#">[XMLSCHEMA2]</a> )	Specifies an integer value for the event.
<b>BccRecipient</b>	<b>xs:boolean</b> ( <a href="#">[XMLSCHEMA2]</a> )	Specifies that the recipient was addressed as a <b>blind carbon copy (Bcc) recipient</b> .
<b>HiddenRecipient</b>	<b>xs:boolean</b>	Specifies that the recipient was added by an organization policy that should be hidden from unprivileged users.
<b>UniquePathId</b>	<b>t:NonEmptyStringType</b>	Specifies a string that is different for each path.
<b>RootAddress</b>	<b>t:NonEmptyStringType</b>	Specifies the first address that starts the event for a <b>RecipientTrackingEventType</b> event. <a href="#">&lt;21&gt;</a>
<b>Properties</b>	<b>t:ArrayOfTrackingPropertiesType</b> (section <a href="#">3.1.4.2.3.7</a> )	Specifies a list of one or more tracking properties. <a href="#">&lt;22&gt;</a>

### 3.1.4.2.3.6 t:TrackingPropertyType Complex Type

The **TrackingPropertyType** complex type specifies a name/value pair of strings that is used to create properties for message tracking reports. [<23>](#)

```
<xs:complexType>
  <xs:sequence>
    <xs:element name="Name"
      type="xs:string"
    />
    <xs:element name="Value"
      type="xs:string"
      minOccurs="0"
    />
  </xs:sequence>
</xs:complexType>
```

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

Element name	Type	Description
<b>Name</b>	<b>xs:string</b> ( <a href="#">[XMLSCHEMA2]</a> )	Defines a name for a particular message tracking report property.
<b>Value</b>	<b>xs:string</b>	Defines a value for the message tracking report property.

### 3.1.4.2.3.7 t:ArrayOfTrackingPropertiesType Complex Type

The **ArrayOfTrackingPropertiesType** complex type specifies a list of one or more tracking properties. [<24>](#)

```
<xs:complexType>
  <xs:choice
    maxOccurs="unbounded"
    minOccurs="0"
  >
    <xs:element name="TrackingPropertyType"
      type="t:TrackingPropertyType"
    />
  </xs:choice>
</xs:complexType>
```

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

Element name	Type	Description
<b>TrackingPropertyType</b>	<b>t:TrackingPropertyType</b> (section <a href="#">3.1.4.2.3.6</a> )	Specifies a name/value pair of strings that is used to create properties for message tracking reports.

### 3.1.4.2.3.8 t:ArrayOfArraysOfTrackingPropertiesType Complex Type

The **ArrayOfArraysOfTrackingPropertiesType** complex type specifies a property bag for storing errors that are returned through the Web service. [<25>](#)

```
<xs:complexType>
  <xs:choice
    maxOccurs="unbounded"
    minOccurs="0"
  >
    <xs:element name="ArrayOfTrackingPropertiesType"
      type="t:ArrayOfTrackingPropertiesType"
    />
  </xs:choice>
</xs:complexType>
```

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

Element name	Type	Description
<b>ArrayOfTrackingPropertiesType</b>	<b>t:ArrayOfTrackingPropertiesType</b> (section <a href="#">3.1.4.2.3.7</a> )	Specifies a list of one or more tracking properties.

### 3.1.4.2.4 Simple Types

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

Simple type name	Description
<b>MessageTrackingReportTemplateType</b>	Specifies the type of report to display.
<b>MessageTrackingDeliveryStatusType</b>	Specifies the message delivery status.
<b>MessageTrackingEventDescriptionType</b>	Specifies the status of the message for an event in the tracking report.
<b>MessageTrackingScopeType</b>	Specifies where to search for tracking reports.

#### 3.1.4.2.4.1 t:MessageTrackingReportTemplateType Simple Type

The **MessageTrackingReportTemplateType** simple type specifies the type of report to display.

```
<xs:simpleType name="MessageTrackingReportTemplateType">
  <xs:restriction
    base="xs:string"
  >
    <xs:enumeration
      value="Summary"
    />
    <xs:enumeration
      value="RecipientPath"
    />
  </xs:restriction>
</xs:simpleType>
```

```

    />
  </xs:restriction>
</xs:simpleType>

```

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

Value name	Description
<b>Summary</b>	Specifies that the report will display all the recipients of the message and the message delivery status for each recipient.
<b>RecipientPath</b>	Specifies that for a single recipient, the report will display a full history of all events that have occurred for that recipient.

### 3.1.4.2.4.2 t:MessageTrackingDeliveryStatusType Simple Type

The **MessageTrackingDeliveryStatusType** simple type specifies the status for message delivery. [<26>](#)

```

<xs:simpleType name="MessageTrackingDeliveryStatusType">
  <xs:restriction
    base="xs:string"
  >
    <xs:enumeration
      value="Unsuccessful"
    />
    <xs:enumeration
      value="Pending"
    />
    <xs:enumeration
      value="Delivered"
    />
    <xs:enumeration
      value="Transferred"
    />
    <xs:enumeration
      value="Read"
    />
  </xs:restriction>
</xs:simpleType>

```

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

Value name	Description
<b>Unsuccessful</b>	Specifies that a particular message was not delivered.
<b>Pending</b>	Specifies that the message is waiting for approval from a moderator.
<b>Delivered</b>	Specifies that the message was delivered to all of the specified recipients.
<b>Transferred</b>	Specifies that the message was transferred to a server outside the search scope.

Value name	Description
Read	Specifies that the message was delivered and read by the recipients.

### 3.1.4.2.4.3 t:MessageTrackingEventDescriptionType Simple Type

The **MessageTrackingEventDescriptionType** element specifies the status of the message for an event in the tracking report. <27>

```

<xs:simpleType name="MessageTrackingEventDescriptionType">
  <xs:restriction
    base="xs:string"
  >
    <xs:enumeration
      value="Submitted"
    />
    <xs:enumeration
      value="Resolved"
    />
    <xs:enumeration
      value="Expanded"
    />
    <xs:enumeration
      value="Delivered"
    />
    <xs:enumeration
      value="MovedToFolderByInboxRule"
    />
    <xs:enumeration
      value="RulesCc"
    />
    <xs:enumeration
      value="FailedGeneral"
    />
    <xs:enumeration
      value="FailedModeration"
    />
    <xs:enumeration
      value="FailedTransportRules"
    />
    <xs:enumeration
      value="SmtSend"
    />
    <xs:enumeration
      value="SmtSendCrossSite"
    />
    <xs:enumeration
      value="SmtSendCrossForest"
    />
    <xs:enumeration
      value="SmtReceive"
    />
    <xs:enumeration
      value="Forwarded"
    />
    <xs:enumeration
      value="Pending"
    />
  </xs:restriction>
</xs:simpleType>

```

```

<xs:enumeration
  value="PendingModeration"
/>
<xs:enumeration
  value="ApprovedModeration"
/>
<xs:enumeration
  value="QueueRetry"
/>
<xs:enumeration
  value="QueueRetryNoRetryTime"
/>
<xs:enumeration
  value="MessageDefer"
/>
<xs:enumeration
  value="TransferredToForeignOrg"
/>
<xs:enumeration
  value="TransferredToPartnerOrg"
/>
<xs:enumeration
  value="TransferredToLegacyExchangeServer"
/>
<xs:enumeration
  value="DelayedAfterTransferToPartnerOrg"
/>
<xs:enumeration
  value="Read"
/>
<xs:enumeration
  value="NotRead"
/>
</xs:restriction>
</xs:simpleType>

```

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

Value name	Description
<b>Submitted</b>	Specifies that a particular message was submitted by the client.
<b>Resolved</b>	Specifies that the recipients for the message were successfully resolved.
<b>Expanded</b>	Specifies that a <b>distribution list</b> was expanded to deliver the message to the members of the list.
<b>Delivered</b>	Specifies that the message was delivered to each recipient's mailbox.
<b>MovedToFolderByInboxRule</b>	Specifies that the message was delivered to a different folder because of an Inbox rule.
<b>RulesCc</b>	Specifies that another recipient was copied on the message because of a transport rule.



Value name	Description
<b>FailedGeneral</b>	Specifies that the message failed during delivery.
<b>FailedModeration</b>	Specifies that the delivery of the message failed because it was rejected by the moderator.
<b>FailedTransportRules</b>	Specifies that the delivery of the message failed because of a transport rule.
<b>SmtplibSend</b>	Specifies that the message was sent over <b>SMTP</b> to the Internet and cannot be tracked further.
<b>SmtplibSendCrossSite</b>	Specifies that the message was sent to a hub in a different site.
<b>SmtplibSendCrossForest</b>	Specifies that the message was sent to a hub in a different trusted forest.
<b>SmtplibReceive</b>	Specifies that the hub received a message over SMTP from a server on the Internet, or from a server that does not support tracking.
<b>Forwarded</b>	Specifies that the message was forwarded to another recipient.
<b>Pending</b>	Specifies that the message has not been delivered yet.
<b>PendingModeration</b>	Specifies that the message was sent to a moderator and is waiting for an approval message.
<b>ApprovedModeration</b>	Specifies that the message was approved by the moderator.
<b>QueueRetry</b>	Specifies that the message is in a transport queue and that the retry time could not be retrieved.
<b>QueueRetryNoRetryTime</b>	Specifies that the message is in a transport queue and that the <b>EventData</b> XML element contains a string that represents the next time that the message will be retried.
<b>MessageDefer</b>	Specifies that the delivery of the message has been deferred for an unknown reason.
<b>TransferredToForeignOrg</b>	Specifies that the message was transferred to another organization or to a server in the organization that does not support tracking.
<b>TransferredToPartnerOrg</b>	Specifies that the message was transferred to a cross-premise organization.
<b>TransferredToLegacyExchangeServer</b>	Specifies that the message was transferred to an earlier version of the server, or to another server with a different schema.
<b>DelayedAfterTransferToPartnerOrg</b>	Specifies that the delivery of the message has been delayed during the transfer to a trusted organization.
<b>Read</b>	Specifies that the message is marked as read.
<b>NotRead</b>	Specifies that the message is marked as not read.

#### 3.1.4.2.4.4 t:MessageTrackingScopeType Simple Type

The **MessageTrackingScopeType** simple type specifies where to search for tracking reports. [<28>](#)

```
<xs:simpleType name="MessageTrackingScopeType">
  <xs:restriction
    base="xs:string"
  >
    <xs:enumeration
      value="Organization"
    />
    <xs:enumeration
      value="Forest"
    />
    <xs:enumeration
      value="Site"
    />
  </xs:restriction>
</xs:simpleType>
```

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

Value name	Description
<b>Organization</b>	Specifies that a particular search will cover all forests in the organization.
<b>Forest</b>	Specifies that the search will cover all servers in the forest.
<b>Site</b>	Specifies that the search will cover the local site of the server that executes it.

#### 3.1.5 Timer Events

None.

#### 3.1.6 Other Local Events

None.

## 4 Protocol Examples

None.

Preliminary

## 5 Security

### 5.1 Security Considerations for Implementers

None.

### 5.2 Index of Security Parameters

None.

Preliminary

## 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-OXWSMTRK.wsdl	Contains the WSDL for the implementation of this protocol.	<a href="#">6</a>
MS-OXWSMTRK-messages.xsd	Contains the XML schema message definitions that are used in this protocol.	<a href="#">7.1</a>
MS-OXWSMTRK-types.xsd	Contains the XML schema type definitions that are used in this protocol.	<a href="#">7.2</a>

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-OXWSMTRK-types.xsd or MS-OXWSMTRK-messages.xsd schemas have to be placed in the common folder along with the files listed in the table.

This section contains the contents of the MS-OXWSMTRK.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="Exchange2010_SP1"
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:include schemaLocation="MS-OXWSMTRK-messages.xsd" />
      <!-- Add global elements and types from messages.xsd -->
    </xs:schema>
    <xs:schema id="types" elementFormDefault="qualified" version="Exchange2010_SP1"
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:portType name="ExchangeServicePortType">
    <wsdl:operation name="FindMessageTrackingReport">
      <wsdl:input message="tns:FindMessageTrackingReportSoapIn"/>
      <wsdl:output message="tns:FindMessageTrackingReportSoapOut"/>
    </wsdl:operation>
    <wsdl:operation name="GetMessageTrackingReport">
      <wsdl:input message="tns:GetMessageTrackingReportSoapIn"/>
      <wsdl:output message="tns:GetMessageTrackingReportSoapOut"/>
    </wsdl:operation>
  </wsdl:portType>
</wsdl:definitions>
```

```

</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="FindMessageTrackingReport">
    <soap:operation
soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/FindMessageTrackingR
eport" />
    <wsdl:input>
      <soap:body parts="request" use="literal" />
      <soap:header message="tns:FindMessageTrackingReportSoapIn"
part="RequestVersion" use="literal" />
    </wsdl:input>
    <wsdl:output>
      <soap:body parts="FindMessageTrackingReportResult" use="literal" />
      <soap:header message="tns:FindMessageTrackingReportSoapOut"
part="ServerVersion" use="literal" />
    </wsdl:output>
  </wsdl:operation>

  <wsdl:operation name="GetMessageTrackingReport">
    <soap:operation
soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/GetMessageTrackingRe
port" />
    <wsdl:input>
      <soap:body parts="request" use="literal" />
      <soap:header message="tns:GetMessageTrackingReportSoapIn"
part="RequestVersion" use="literal" />
    </wsdl:input>
    <wsdl:output>
      <soap:body parts="GetMessageTrackingReportResult" use="literal" />
      <soap:header message="tns:GetMessageTrackingReportSoapOut"
part="ServerVersion" use="literal" />
    </wsdl:output>
  </wsdl:operation>
</wsdl:binding>
<wsdl:message name="FindMessageTrackingReportSoapIn">
  <wsdl:part name="request" element="tns:FindMessageTrackingReport" />
  <wsdl:part name="RequestVersion" element="t:RequestServerVersion" />
</wsdl:message>
<wsdl:message name="FindMessageTrackingReportSoapOut">
  <wsdl:part name="FindMessageTrackingReportResult"
element="tns:FindMessageTrackingReportResponse" />
  <wsdl:part name="ServerVersion" element="t:ServerVersionInfo" />
</wsdl:message>

<wsdl:message name="GetMessageTrackingReportSoapIn">
  <wsdl:part name="request" element="tns:GetMessageTrackingReport" />
  <wsdl:part name="RequestVersion" element="t:RequestServerVersion" />
</wsdl:message>
<wsdl:message name="GetMessageTrackingReportSoapOut">
  <wsdl:part name="GetMessageTrackingReportResult"
element="tns:GetMessageTrackingReportResponse" />
  <wsdl:part name="ServerVersion" element="t:ServerVersionInfo" />
</wsdl:message>
</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
Messages schema	m:	<a href="#">7.1</a>
Types schema	t:	<a href="#">7.2</a>

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-OXWSMTRK-types.xsd or MS-OXWSMTRK-messages.xsd schemas have to be placed in the common folder along with the files listed in the table.

### 7.1 Messages Schema

This section contains the contents of the MS-OXWSMTRK-messages.xsd file and information about additional files that this schema file requires to operate correctly.

MS-OXWSMTRK-messages.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, types schema, and messages schema files for this protocol.

File name	Defining specification
MS-OXWSCDATA-messages.xsd	<a href="#">[MS-OXWSCDATA]</a> section 7.1

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema 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"
  elementFormDefault="qualified" version="Exchange2010_SP1" id="messages">
  <xs:include schemaLocation="MS-OXWSCDATA-messages.xsd"/>
  <xs:import namespace="http://schemas.microsoft.com/exchange/services/2006/types"
    schemaLocation="MS-OXWSMTRK-types.xsd"/>
  <xs:complexType name="FindMessageTrackingReportRequestType">
    <xs:complexContent>
      <xs:extension base="m:BaseRequestType">
        <xs:all>
          <xs:element name="Scope" type="t:NonEmptyStringType"/>
          <xs:element name="Domain" type="t:NonEmptyStringType"/>
          <xs:element name="Sender" type="t:EmailAddressType" minOccurs="0"/>
          <xs:element name="PurportedSender" type="t:EmailAddressType" minOccurs="0"/>
          <xs:element name="Recipient" type="t:EmailAddressType" minOccurs="0"/>
          <xs:element name="Subject" type="xs:string" minOccurs="0"/>
          <xs:element name="StartDateTime" type="xs:dateTime" minOccurs="0"/>
          <xs:element name="EndDateTime" type="xs:dateTime" minOccurs="0"/>
          <xs:element name="MessageId" type="t:NonEmptyStringType" minOccurs="0"/>
          <xs:element name="FederatedDeliveryMailbox" type="t:EmailAddressType"
            minOccurs="0"/>
          <xs:element name="DiagnosticsLevel" type="xs:string" minOccurs="0"/>
          <xs:element name="ServerHint" type="xs:string" minOccurs="0"/>
          <xs:element name="Properties" type="t:ArrayOfTrackingPropertiesType"
            minOccurs="0"/>
        </xs:all>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
</xs:schema>
```

```

        </xs:all>
    </xs:extension>
</xs:complexContent>
</xs:complexType>
<xs:element name="FindMessageTrackingReport"
type="m:FindMessageTrackingReportRequestType"/>
<xs:complexType name="FindMessageTrackingReportResponseMessageType">
    <xs:complexContent>
        <xs:extension base="m:ResponseMessageType">
            <xs:sequence>
                <xs:element name="Diagnostics" type="t:ArrayOfStringsType" minOccurs="0"/>
                <xs:element name="MessageTrackingSearchResults"
type="t:ArrayOfFindMessageTrackingSearchResultType"/>
                <xs:element name="ExecutedSearchScope" type="xs:string" minOccurs="0"/>
                <xs:element name="Errors" type="t:ArrayOfArrayOfTrackingPropertiesType"
minOccurs="0"/>
                <xs:element name="Properties" type="t:ArrayOfTrackingPropertiesType"
minOccurs="0"/>
            </xs:sequence>
        </xs:extension>
    </xs:complexContent>
</xs:complexType>
<xs:element name="FindMessageTrackingReportResponse"
type="m:FindMessageTrackingReportResponseMessageType"/>
<xs:complexType name="GetMessageTrackingReportRequestType">
    <xs:complexContent>
        <xs:extension base="m:BaseRequestType">
            <xs:all>
                <xs:element name="Scope" type="t:NonEmptyStringType"/>
                <xs:element name="ReportTemplate" type="t:MessageTrackingReportTemplateType"/>
                <xs:element name="RecipientFilter" type="t:EmailAddressType" minOccurs="0"/>
                <xs:element name="MessageTrackingReportId" type="t:NonEmptyStringType"/>
                <xs:element name="ReturnQueueEvents" type="xs:boolean" minOccurs="0"/>
                <xs:element name="DiagnosticsLevel" type="xs:string" minOccurs="0"/>
                <xs:element name="Properties" type="t:ArrayOfTrackingPropertiesType"
minOccurs="0"/>
            </xs:all>
        </xs:extension>
    </xs:complexContent>
</xs:complexType>
<xs:element name="GetMessageTrackingReport" type="m:GetMessageTrackingReportRequestType"/>
<xs:complexType name="GetMessageTrackingReportResponseMessageType">
    <xs:complexContent>
        <xs:extension base="m:ResponseMessageType">
            <xs:sequence>
                <xs:element name="MessageTrackingReport" type="t:MessageTrackingReportType"/>
                <xs:element name="Diagnostics" type="t:ArrayOfStringsType" minOccurs="0"/>
                <xs:element name="Errors" type="t:ArrayOfArrayOfTrackingPropertiesType"
minOccurs="0"/>
                <xs:element name="Properties" type="t:ArrayOfTrackingPropertiesType"
minOccurs="0"/>
            </xs:sequence>
        </xs:extension>
    </xs:complexContent>
</xs:complexType>
<xs:element name="GetMessageTrackingReportResponse"
type="m:GetMessageTrackingReportResponseMessageType"/>
</xs:schema>

```



## 7.2 Types Schema

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

MS-OXWSMTRK-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, types schema, and messages schema files for this protocol.

File name	Defining specification
MS-OXWSCDATA-types.xsd	<a href="#">[MS-OXWSCDATA]</a> 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="Exchange2010_SP1" id="types">
  <xs:import namespace="http://www.w3.org/XML/1998/namespace"/>
  <xs:include schemaLocation="MS-OXWSCDATA-types.xsd"/>
  <xs:complexType name="ArrayOfFindMessageTrackingSearchResultType">
    <xs:choice minOccurs="0" maxOccurs="unbounded">
      <xs:element name="MessageTrackingSearchResult"
type="t:FindMessageTrackingSearchResultType"/>
    </xs:choice>
  </xs:complexType>
  <xs:complexType name="FindMessageTrackingSearchResultType">
    <xs:all>
      <xs:element name="Subject" type="xs:string"/>
      <xs:element name="Sender" type="t:EmailAddressType"/>
      <xs:element name="PurportedSender" type="t:EmailAddressType" minOccurs="0"/>
      <xs:element name="Recipients" type="t:ArrayOfRecipientsType"/>
      <xs:element name="SubmittedTime" type="xs:dateTime"/>
      <xs:element name="MessageTrackingReportId" type="t:NonEmptyStringType"/>
      <xs:element name="PreviousHopServer" type="t:NonEmptyStringType" minOccurs="0"/>
      <xs:element name="FirstHopServer" type="t:NonEmptyStringType" minOccurs="0"/>
      <xs:element name="Properties" type="t:ArrayOfTrackingPropertiesType" minOccurs="0"/>
    </xs:all>
  </xs:complexType>
  <xs:simpleType name="MessageTrackingReportTemplateType">
    <xs:restriction base="xs:string">
      <xs:enumeration value="Summary"/>
      <xs:enumeration value="RecipientPath"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:complexType name="RecipientTrackingEventType">
    <xs:all>
      <xs:element name="Date" type="xs:dateTime"/>
      <xs:element name="Recipient" type="t:EmailAddressType"/>
      <xs:element name="DeliveryStatus" type="xs:string"/>
      <xs:element name="EventDescription" type="xs:string"/>
      <xs:element name="EventData" type="t:ArrayOfStringsType" minOccurs="0"/>
      <xs:element name="Server" type="t:NonEmptyStringType"/>
      <xs:element name="InternalId" type="xs:nonNegativeInteger"/>
      <xs:element name="BccRecipient" type="xs:boolean" minOccurs="0"/>
      <xs:element name="HiddenRecipient" type="xs:boolean" minOccurs="0"/>
      <xs:element name="UniquePathId" type="t:NonEmptyStringType" minOccurs="0"/>
      <xs:element name="RootAddress" type="t:NonEmptyStringType" minOccurs="0"/>
    </xs:all>
  </xs:complexType>
</xs:schema>
```

```

        <xs:element name="Properties" type="t:ArrayOfTrackingPropertiesType" minOccurs="0"/>
    </xs:all>
</xs:complexType>
<xs:complexType name="MessageTrackingReportType">
    <xs:all>
        <xs:element name="Sender" type="t:EmailAddressType" minOccurs="0"/>
        <xs:element name="PurportedSender" type="t:EmailAddressType" minOccurs="0"/>
        <xs:element name="Subject" type="xs:string" minOccurs="0"/>
        <xs:element name="SubmitTime" type="xs:dateTime" minOccurs="0"/>
        <xs:element name="OriginalRecipients" type="t:ArrayOfEmailAddressesType"
minOccurs="0"/>
        <xs:element name="RecipientTrackingEvents"
type="t:ArrayOfRecipientTrackingEventType"/>
        <xs:element name="Properties" type="t:ArrayOfTrackingPropertiesType" minOccurs="0"/>
    </xs:all>
</xs:complexType>
<xs:complexType name="TrackingPropertyType">
    <xs:sequence>
        <xs:element name="Name" type="xs:string"/>
        <xs:element name="Value" type="xs:string" minOccurs="0"/>
    </xs:sequence>
</xs:complexType>
<xs:complexType name="ArrayOfTrackingPropertiesType">
    <xs:choice minOccurs="0" maxOccurs="unbounded">
        <xs:element name="TrackingPropertyType" type="t:TrackingPropertyType"/>
    </xs:choice>
</xs:complexType>
<xs:complexType name="ArrayOfArrayOfTrackingPropertiesType">
    <xs:choice minOccurs="0" maxOccurs="unbounded">
        <xs:element name="ArrayOfTrackingPropertiesType"
type="t:ArrayOfTrackingPropertiesType"/>
    </xs:choice>
</xs:complexType>
<xs:complexType name="ArrayOfRecipientTrackingEventType">
    <xs:choice minOccurs="0" maxOccurs="unbounded">
        <xs:element name="RecipientTrackingEvent" type="t:RecipientTrackingEventType"/>
    </xs:choice>
</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 2010
- Microsoft® Exchange Server 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 3.1.4.1.3.1](#): In Exchange 2010, the type for the **Scope** element is **MessageTrackingScopeType**.

<2> [Section 3.1.4.1.3.1](#): Exchange 2010 does not include the **PurportedSender** element.

<3> [Section 3.1.4.1.3.1](#): Exchange 2010 does not include the **ServerHint** element.

<4> [Section 3.1.4.1.3.1](#): Exchange 2010 does not include the **Properties** element.

<5> [Section 3.1.4.1.3.2](#): Exchange 2010 does not include a value for the **minOccurs** attribute.

<6> [Section 3.1.4.1.3.2](#): Exchange 2010 does not include the **ExecuteSearchScope** element.

<7> [Section 3.1.4.1.3.2](#): Exchange 2010 does not include the **Errors** element.

<8> [Section 3.1.4.1.3.2](#): Exchange 2010 does not include the **Properties** element.

<9> [Section 3.1.4.1.3.4](#): Exchange 2010 does not include the **PurportedSender** element.

<10> [Section 3.1.4.1.3.4](#): Exchange 2010 does not include the **FirstHopServer** element.

<11> [Section 3.1.4.1.3.4](#): Exchange 2010 does not include the **Properties** element.

<12> [Section 3.1.4.2.3.1](#): In Exchange 2010, the **Scope** element is of type **MessageTrackingScopeType**.

<13> [Section 3.1.4.2.3.1](#): Exchange 2010 does not include the **Properties** element.

<14> [Section 3.1.4.2.3.2](#): In Exchange 2010, the **MessageTrackingReport** element does not have a value for the **minOccurs** attribute.

<15> [Section 3.1.4.2.3.2](#): Exchange 2010 does not include the **Errors** element.

<16> [Section 3.1.4.2.3.2](#): Exchange 2010 does not include the **Properties** element..

<17> [Section 3.1.4.2.3.4](#): Exchange 2010 does not include the **PurportedSender** element.

<18> [Section 3.1.4.2.3.4](#): Exchange 2010 does not include the **Properties** element.

<19> [Section 3.1.4.2.3.5](#): In Exchange 2010, the **DeliveryStatus** element is of type **MessageTrackingDeliveryStatusType**.

<20> [Section 3.1.4.2.3.5](#): In Exchange 2010, the **EventDescription** element is of type **MessageTrackingEventDescriptionType**.

<21> [Section 3.1.4.2.3.5](#): Exchange 2010 does not include the **RootAddress** element.

<22> [Section 3.1.4.2.3.5](#): Exchange 2010 does not include the **Properties** element.

<23> [Section 3.1.4.2.3.6](#): Exchange 2010 does not include the **TrackingPropertyType** complex type.

<24> [Section 3.1.4.2.3.7](#): Exchange 2010 does not include the **ArrayOfTrackingPropertiesType** complex type.

<25> [Section 3.1.4.2.3.8](#): Exchange 2010 does not include the **ArrayOfArraysOfTrackingPropertiesType** complex type.

<26> [Section 3.1.4.2.4.2](#): Exchange 2010 SP1 does not include the **MessageTrackingDeliveryStatusType** simple type.

<27> [Section 3.1.4.2.4.3](#): Exchange 2010 SP1 does not include the **MessageTrackingEventDescriptionType** simple type.

<28> [Section 3.1.4.2.4.4](#): Exchange 2010 SP1 does not include the **MessageTrackingScopeType** simple type.

## 9 Change Tracking

This section identifies changes that were made to the [MS-OXWSMTRK] protocol document between the October 2011 and January 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](mailto:protocol@microsoft.com).

<b>Section</b>	<b>Tracking number (if applicable) and description</b>	<b>Major change (Y or N)</b>	<b>Change type</b>
<a href="#">8 Appendix C: Product Behavior</a>	Added Exchange 15 Technical Preview to the list of applicable product versions.	Y	Content updated.

## 10 Index

### A

Abstract data model  
[server](#) 10  
[Applicability](#) 7  
[Attribute groups](#) 9  
[Attributes](#) 9

### C

[Capability negotiation](#) 7  
[Change tracking](#) 45  
[Complex types](#) 8

### D

Data model - abstract  
[server](#) 10

### E

Events  
[local - server](#) 34  
[timer - server](#) 34

### F

[Fields - vendor extensible](#) 7  
[Full WSDL](#) 37

### G

[Glossary](#) 5  
[Groups](#) 9

### I

[Implementer - security considerations](#) 36  
[Index of security parameters](#) 36  
[Informative references](#) 6  
Initialization  
[server](#) 10  
[Introduction](#) 5

### L

Local events  
[server](#) 34

### M

Message processing  
[server](#) 10  
Messages  
[attribute groups](#) 9  
[attributes](#) 9  
[complex types](#) 8  
[elements](#) 8

[enumerated](#) 8  
[groups](#) 9  
[namespaces](#) 8  
[simple types](#) 9  
[syntax](#) 8  
[transport](#) 8

### N

[Namespaces](#) 8  
[Normative references](#) 5

### O

Operations  
[FindMessageTrackingReport Operation](#) 10  
[GetMessageTrackingReport Operation](#) 19  
[Overview \(synopsis\)](#) 6

### P

[Parameters - security index](#) 36  
[Product behavior](#) 43

### R

[References](#) 5  
[informative](#) 6  
[normative](#) 5  
[Relationship to other protocols](#) 6

### S

Security  
[implementer considerations](#) 36  
[parameter index](#) 36  
Sequencing rules  
[server](#) 10  
Server  
[abstract data model](#) 10  
[FindMessageTrackingReport Operation operation](#) 10  
[GetMessageTrackingReport Operation operation](#) 19  
[initialization](#) 10  
[local events](#) 34  
[message processing](#) 10  
[sequencing rules](#) 10  
[timer events](#) 34  
[timers](#) 10  
[Simple types](#) 9  
[Standards assignments](#) 7  
Syntax  
[messages - overview](#) 8

### T

Timer events

[server](#) 34  
Timers  
[server](#) 10  
[Tracking changes](#) 45  
[Transport](#) 8  
Types  
[complex](#) 8  
[simple](#) 9

## **V**

[Vendor extensible fields](#) 7  
[Versioning](#) 7

## **W**

[WSDL](#) 37