[MS-OXWSMTRK]:

Message Tracking Web Service Protocol

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Revision Summary

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11/4/2009	1.1.0	Minor	Updated the technical content.
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5/5/2010	2.0.0	Major	Updated and revised the technical content.
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Date	Revision History	Revision Class	Comments
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Table of Contents

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1 Introduction

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

Sections 1.5, 1.8, 1.9, 2, and 3 of this specification are normative. All other sections and examples in this specification are informative.

1.1 Glossary

This document uses the following terms:

Augmented Backus-Naur Form (ABNF): A modified version of Backus-Naur Form (BNF), commonly used by Internet specifications. ABNF notation balances compactness and simplicity with reasonable representational power. ABNF differs from standard BNF in its definitions and uses of naming rules, repetition, alternatives, order-independence, and value ranges. For more information, see [RFC5234].

blind carbon copy (Bcc) recipient: An addressee on a Message object that is not visible to recipients of the Message object.

distribution list: A collection of users, computers, contacts, or other groups that is used only for email distribution, and addressed as a single recipient.

email address: A string that identifies a user and enables the user to receive Internet messages.

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].

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

Simple Mail Transfer Protocol (SMTP): A member of the TCP/IP suite of protocols that is used to transport Internet messages, as described in [RFC5321].

SOAP action: The HTTP request header field used to indicate the intent of the SOAP request, using a URI value. See [SOAP1.1] section 6.1.1 for more information.

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.

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.

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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 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 namespace prefix: An abbreviated form of an **XML namespace**, as described in [XML].

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".

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

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

[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", W3C Note, May 2000, https://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, https://www.w3.org/TR/2001/NOTE-wsdl-20010315

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[XMLNS] Bray, T., Hollander, D., Layman, A., et al., Eds., "Namespaces in XML 1.0 (Third Edition)", W3C Recommendation, December 2009, https://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, https://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, https://www.w3.org/TR/2001/REC-xmlschema-2-20010502/

1.2.2 Informative References

[MS-OXDSCLI] 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".

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-OXDSCLI], 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.

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.

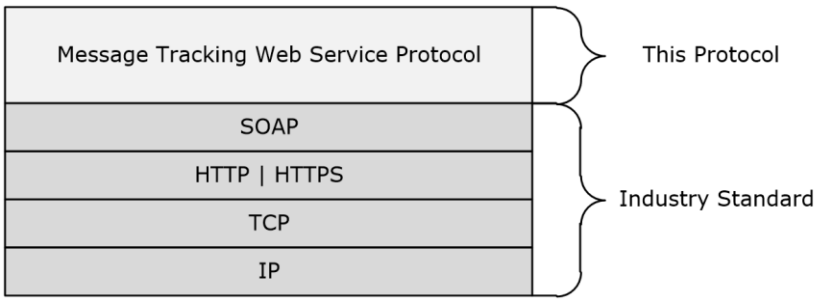

Figure 1: This protocol in relation to other protocols

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

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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.

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 2.2.3.9, and the version of the server responding to the request is identified by using the **t:ServerVersionInfo** element, as described in [MS-OXWSCDATA] section 2.2.3.10.
- **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.

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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]. The protocol MAY use **HTTP**, as described in [RFC2616], for transport.<1>

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	http://schemas.xmlsoap.org/wsdl/soap/	[SOAP1.1]
tns	http://schemas.microsoft.com/exchange/services/2006/messages	
wsdl	http://schemas.xmlsoap.org/wsdl/	[WSDL]
t	http://schemas.microsoft.com/exchange/services/2006/types	
xs	http://www.w3.org/2001/XMLSchema	[XMLSCHEMA1]

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.

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2.2.4 Complex Types

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

Complex type name	Description
TrackingPropertyType	Specifies a name/value pair of string that is used to create properties for message tracking reports.
ArrayOfTrackingPropertiesType	Specifies a list of one or more tracking properties.

2.2.4.1 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.<2>

```
<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>
```

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

Element name	Type	Description
Name	**xs:string** (**[XMLSCHEMA2]**)	Defines a name for a particular message tracking report property.
Value	**xs:string**	Defines a value for the message tracking report property.

The following table lists and describes the valid values of the **TrackingPropertyType** complex type.

Name	Value	Usage	Description
ExpandTree	**unlimited**	Used in **FindMessageTrackingReport** operation.	Specifies whether to expand recipient tree before searching the recipients.
SearchAsRecip	**unlimited**	Used in **FindMessageTrackingReport**	Specifies whether to

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Name	Value	Usage	Description
		operation.	search starting from recipients.
GetAdditionRecords	**unlimited**	Used in **GetMessageTrackingReport** operation.	Specifies whether to get additional records.
SearchForModerationResult	**unlimited**	Used in **FindMessageTrackingReport** operation.	Specifies whether to get moderation results.

2.2.4.2 t:ArrayOfTrackingPropertiesType Complex Type

The **ArrayOfTrackingPropertiesType** complex type specifies a list of one or more tracking properties.<3>

```
<xs:complexType name="ArrayOfTrackingPropertiesType">
  <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
TrackingPropertyType	**t:TrackingPropertyType** (section 2.2.4.1)	Specifies a name/value pair of strings that is used to create properties for message tracking reports.

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.

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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.

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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
FindMessageTrackingReport (section 3.1.4.1)	Finds messages that meet the specified criteria.
GetMessageTrackingReport (section 3.1.4.2)	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.

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```
<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>
```

For any valid **FindMessageTrackingReport** operation request, the server MUST return a **FindMessageTrackingReportResponse** element with the **ResponseClass** attribute set to "Success", and the **ResponseCode** element MUST be set to "NoError". If the sender in the **FindMessageTrackingReport** operation request has not sent any emails or is not found, the **FindMessageTrackingReportResponse** element MUST only contain an **ExecutedSearchScope** element and an empty **MessageTrackingSearchResults** element.

3.1.4.1.1 Messages

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

Message name	Description
FindMessageTrackingReportSoapIn	Specifies the **SOAP message** that requests the report.
FindMessageTrackingReportSoapOut	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.

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

Part name	Element/type	Description
request	**tns:FindMessageTrackingReport** (section 3.1.4.1.2.1)	Specifies the request.
RequestVersion	**t:RequestServerVersion** ([MS-OXWSCDATA] section 2.2.3.9)	Specifies the schema version for the **FindMessageTrackingReport** operation request (section 3.1.4.1).

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
FindMessageTrackingReportResult	**tns:FindMessageTrackingReportResponse** (section 3.1.4.1.2.2)	Specifies the response message.
ServerVersion	**t:ServerVersionInfo** ([MS-OXWSCDATA] section 2.2.3.10)	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
FindMessageTrackingReport	Specifies a request to find a message tracking report.
FindMessageTrackingReportResponse	Specifies the response body content from a request to find a message tracking report.

3.1.4.1.2.1 FindMessageTrackingReport Element

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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
FindMessageTrackingReportRequestType	Specifies the criteria for finding a tracking report.
FindMessageTrackingReportResponseMessageType	Specifies the response for the **FindMessageTrackingReport** operation.
ArrayOfFindMessageTrackingSearchResultType	Specifies an array of search results.
FindMessageTrackingSearchResultType	Specifies information about the message that was found by using the **FindMessageTrackingReport** 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 2.2.4.17).

```
<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"
         />
```


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```
          <xs:element name="PurportedSender"
            type="t:EmailAddressType"
            maxOccurs="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
Scope	**t:NonEmptyStringType** ([MS-OXWSCDATA] section 2.2.5.20)	Specifies where to perform the search.<4>
Domain	**t:NonEmptyStringType**	Specifies the domain to search for.
Sender	**t:EmailAddressType** ([MS-OXWSCDATA] section 2.2.4.31)	Specifies the **email address** of the person who is sending the message.
PurportedSender	**t:EmailAddressType**	Specifies the email address of the person who is purportedly sending the message.<5>
Recipient	**t:EmailAddressType**	Specifies the email addresses of the

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Element name	Type	Description
		people who are receiving the message.
Subject	**xs:string (**[XMLSCHEMA2]**)**	Specifies the subject filter to search for.
StartDateTime	**xs:dateTime (**[XMLSCHEMA2]**)**	Specifies the start date and time for the search period. Only messages sent after this date and time will be found and returned.
EndDateTime	**xs:dateTime**	Specifies the end date and time for the search period. Only messages sent before this date and time will be found and returned.
MessageId	**t:NonEmptyStringType**	Specifies message identifier to search for.
FederatedDeliveryMailbox	**t:EmailAddressType**	Specifies the **mailbox** to which a cross-premise message was sent.
DiagnosticsLevel	**xs:string**	Specifies how detailed the tracing report should be.
ServerHint	**xs:string**	Specifies the starting point for tracking a message in a remote site or forest.<6>
Properties	**t:ArrayOfTrackingPropertiesType** (section 2.2.4.2)	Specifies a list of one or more tracking properties.<7>

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 2.2.4.65).

```
<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"
          minOccurs="0"
         />
        <xs:element name="ExecutedSearchScope"
          type="xs:string"
          minOccurs="0"
         />
        <xs:element name="Errors"
          type="t:ArrayOfArraysOfTrackingPropertiesType"
          minOccurs="0"
         />
```


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```
        <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
Diagnostics	**t:ArrayOfStringsType** ([MS-OXWSCDATA] section 2.2.4.13)	Specifies timing and performance information that will be used to produce various statistical reports.
MessageTrackingSearchResults	**t:ArrayOfFindMessageTrackingSearchResultType** (section 3.1.4.1.3.3)	Specifies an array of matching records.
ExecutedSearchScope	**xs:string (**[XMLSCHEMA2])	Specifies the scope of the search that was performed to get the search results.<8>
Errors	**t:ArrayOfArraysOfTrackingPropertiesType** (section 3.1.4.2.3.6)	Specifies a property bag for storing errors that are returned through the web service.<9>
Properties	**t:ArrayOfTrackingPropertiesType** (section 2.2.4.2)	Specifies a list of one or more tracking properties.<10>

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>
```


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

Element name	Type	Description
MessageTrackingSearchResult	**t:FindMessageTrackingSearchResultType** (section 3.1.4.1.3.4)	Specifies a message that was found by using the **FindMessageTrackingReport** operation (section 3.1.4.1).

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: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
Subject	**xs:string** ([XMLSCHEMA2])	Specifies the subject of the

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Element name	Type	Description
		message that was found.
Sender	**t:EmailAddressType** ([MS-OXWSCDATA] section 2.2.4.31)	Specifies the email address of the sender for the message that was found.
PurportedSender	**t:EmailAddressType**	Specifies the email address of the person who is purportedly sending the message.<11>
Recipients	**t:ArrayOfRecipientsType** ([MS-OXWSCDATA] section 2.2.4.11)	Specifies the email addresses of the recipients for the message that was found.
SubmittedTime	**xs:dateTime (**[XMLSCHEMA2])	Specifies the time that the message entered the server.
MessageTrackingReportId	**t:NonEmptyStringType** ([MS-OXWSCDATA] section 2.2.5.20)	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 identifies the message.
1. **PreviousHopServer**	**t:NonEmptyStringType**	Specifies the previous server name (if available) that submitted the message.
FirstHopServer	**t:NonEmptyStringType**	Specifies the name of the server in the forest that first accepted the message.<12>
Properties	**t:ArrayOfTrackingPropertiesType** (section 2.2.4.2)	Specifies a list of one or more tracking properties.<13>

The following **Augmented Backus-Naur Form (ABNF)** specifies the string structure of **MessageTrackingReportId** element.

```
MessageTrackingReportId = messageId %x2C server %x2C internalId %x2C senderRecip
%x2C domain
messageId = messageIdTag %x3D messageIdValue
server = serverTag %x3D serverValue
internalId = internalIdTag %x3D internalIdValue
senderRecip = senderTag / recipentTag %x3D senderRecipValue
domain = domainTag %x3D domainValue
messageIdTag = %x4D.65.73.73.61.67.65.2D.49.64
serverTag = %x53.65.72.76.65.72
internalIdTag  = %x49.6E.74.65.72.6E.61.6C.2D.49.64
senderTag = %x53.65.6E.64.65.72
recipentTag = %x52.65.63.69.70.69.65.6E.74
domain = %x44.6F.6D.61.69.6E
```

The **messageIdValue** rule specifies the uniquely identifier of the message.

The **serverValue** rule specifies the server on which the message was submitted.

The **internalIdValue** rule specifies the internal ID that uniquely identifies the message.

The **senderRecipValue** rule specifies the GUID of the user who is doing the tracking.

The **domainValue** rule specifies the domain/organization where the message was found.

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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 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/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>
```

For a successful **GetMessageTrackingReport** operation request, the server MUST return a **GetMessageTrackingReportResponse** element with the **ResponseClass** attribute set to "Success", and the **ResponseCode** element MUST be set to "NoError".

If the **GetMessageTrackingReport** operation request asks for a **RecipientPath** report and provides a recipient to whom the tracking email was not sent, the server MUST return a **GetMessageTrackingReportResponse** element with **MessageTrackingReport** only including **SubmitTime** as "0001-01-01T00:00:00" and an empty **RecipientTrackingEvents** element.

3.1.4.2.1 Messages

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

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Message name	Description
GetMessageTrackingReportSoapIn	Specifies the **SOAP message** that retrieves the message tracking report.
GetMessageTrackingReportSoapOut	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
request	**tns:GetMessageTrackingReport** (section 3.1.4.1.2.1)	Specifies the request.
RequestVersion	**t:RequestServerVersion** ([MS-OXWSCDATA] section 2.2.3.9)	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
GetMessageTrackingReportResult	**tns:GetMessageTrackingReportResponse**	Specifies the

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Part name	Element/	Description
	(section 3.1.4.2.3.2)	response message.
ServerVersion	**t:ServerVersionInfo** ([MS-OXWSCDATA] section 2.2.3.10)	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
GetMessageTrackingReport	Specifies a request for a tracking report.
GetMessageTrackingReportResponse	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
GetMessageTrackingReportRequestType	Specifies details for the type of tracking report to retrieve.
GetMessageTrackingReportResponseMessageType	Specifies the response for getting a tracking report.
ArrayOfRecipientTrackingEventType	Specifies an array of one or more events for a message.
MessageTrackingReportType	Specifies the information to be included in the tracking report.

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Complex type name	Description
RecipientTrackingEventType	Specifies details for a specific event in the tracking report.
ArrayOfArraysOfTrackingPropertiesType	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 2.2.4.17).

```
<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>
```

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

Element name	Type	Description
Scope	**t:NonEmptyStringType** ([MS-OXWSCDATA] section 2.2.5.20)	Specifies where to perform the search.<14>
ReportTemplate	**t:MessageTrackingReportTemplateType** (section 3.1.4.2.1.1)	Specifies the type of tracking report to retrieve.

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Element name	Type	Description
RecipientFilter	**t:EmailAddressType** ([MS-OXWSCDATA] section 2.2.4.31)	Specifies a recipient address to use with the specified tracking report. If the **ReportTemplate** element is set to "RecipientPath", this element MUST be present.
MessageTrackingReportId	**t:NonEmptyStringType**	Specifies an identity string that was obtained from the **FindMessageTrackingReport** operation (section 3.1.4.1).
ReturnQueueEvents	**xs:boolean (**[XMLSCHEMA2])	Specifies that the person who is running the task has a privileged role.
DiagnosticsLevel	**xs:string (**[XMLSCHEMA2])	Specifies timing and performance information that will be used to derive the tracking report.
Properties	**t:ArrayOfTrackingPropertiesType** (section 2.2.4.2)	Specifies a list of one or more tracking properties.<15>

The following table lists and describes the values of the **DiagnosticsLevel** element.

Value name	Description
None	Diagnostics logging is disabled.
Basic	Basic diagnostics are collected and returned in web response.
Verbose	Basic diagnostics plus verbose logging (Such as the result that was returned through web service). The traces are returned in web response.
Etw	Turn on event tracing for windows, in addition to Verbose diagnostics. The verbose traces are returned in the web response. The event tracing for windows are written locally on the server and will not be returned in the web response.

The values of the **DiagnosticsLevel** element are case sensitive. If the value is set as the any value except above 4 values, the server will treat it as **None**.

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 2.2.4.65).

```
<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"
```


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```
        />
        <xs:element name="Errors"
          type="t:ArrayOfArraysOfTrackingPropertiesType"
          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
MessageTrackingReport	**t:MessageTrackingReportType** (section 3.1.4.2.3.4)	Specifies the tracking report that was requested.<16>
Diagnostics	**t:ArrayOfStringsType** ([MS-OXWSCDATA] section 2.2.4.13)	Specifies timing and performance information that will be used to derive the tracking report.
Errors	**t:ArrayOfArraysOfTrackingPropertiesType** (section 3.1.4.2.3.6)	Specifies possible issues that will be used to derive the tracking report.<17>
Properties	**t:ArrayOfTrackingPropertiesType** (section 2.2.4.2)	Specifies a list of one or more tracking properties. <18>

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
RecipientTrackingEvent	**t:RecipientTrackingEventType** (section	Specifies an event for a

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Element name	Type	Description
	3.1.4.2.3.5)	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
Sender	**t:EmailAddressType** ([MS-OXWSCDATA] section 2.2.4.31)	Specifies the email address for the sender of a message.
PurportedSender	**t:EmailAddressType**	Specifies the email address of the person who is purportedly sending the message.<19>
Subject	**xs:string (**[XMLSCHEMA2])	Specifies the subject of the message.
SubmitTime	**xs:dateTime (**[XMLSCHEMA2])	Specifies the time at which the message was sent to the server.
OriginalRecipients	**t:ArrayOfEmailAddressesType** ([MS-	Specifies the email addresses of

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Element name	Type	Description
	OXWSCDATA] section 2.2.4.7)	the message recipients.
RecipientTrackingEvents	**t:ArrayOfRecipientTrackingEventType** (section 3.1.4.2.3.3)	Specifies the type of events to report.
Properties	**t:ArrayOfTrackingPropertiesType** (section 2.2.4.2)	Specifies a list of one or more tracking properties.<20>

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>
```


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

Element name	Type	Description
Date	**xs:dateTime (**[XMLSCHEMA2]**)**	Specifies the time at which a particular event occurred.
Recipient	**t:EmailAddressType** ([MS-OXWSCDATA] section 2.2.4.31)	Specifies the recipient for whom the event occurred.
DeliveryStatus	**xs:string (**[XMLSCHEMA2]**)**	Specifies the status for the message.<21>
EventDescription	**xs:string**	Specifies the processing step for the event.<22>
EventData	**t:ArrayOfStringsType** ([MS-OXWSCDATA] section 2.2.4.13)	Specifies data that is associated with the processing step for the event.
Server	**t:NonEmptyStringType** ([MS-OXWSCDATA] section 2.2.5.20)	Specifies the server where the event occurred.
InternalId	**xs:nonNegativeInteger (**[XMLSCHEMA2]**)**	Specifies an integer value for the event.
BccRecipient	**xs: boolean (**[XMLSCHEMA2]**)**	Specifies that the recipient was addressed as a **blind carbon copy (Bcc) recipient**.
HiddenRecipient	**xs:boolean**	Specifies that the recipient was added by an organization policy that should be hidden from unprivileged users.
UniquePathId	**t:NonEmptyStringType**	Specifies a string that is different for each path.
RootAddress	**t:NonEmptyStringType**	Specifies the first address that starts the event for a **RecipientTrackingEventType** event.<23>
Properties	**t:ArrayOfTrackingPropertiesType** (section 2.2.4.2)	Specifies a list of one or more tracking properties.<24>

3.1.4.2.3.6 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 name="ArrayOfArraysOfTrackingPropertiesType">
  <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.

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Element name	Type	Description
ArrayOfTrackingPropertiesType	**t:ArrayOfTrackingPropertiesType** (section 2.2.4.2)	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
MessageTrackingReportTemplateType	Specifies the type of report to display.
MessageTrackingDeliveryStatusType	Specifies the message delivery status.
MessageTrackingEventDescriptionType	Specifies the status of the message for an event in the tracking report.
MessageTrackingScopeType	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>
```

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

Value name	Description
Summary	Specifies that the report will display all the recipients of the message and the message delivery status for each recipient.
RecipientPath	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>

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


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```
        value="RulesCc"
       />
      <xs:enumeration
        value="FailedGeneral"
       />
      <xs:enumeration
        value="FailedModeration"
       />
      <xs:enumeration
        value="FailedTransportRules"
       />
      <xs:enumeration
        value="SmtpSend"
       />
      <xs:enumeration
        value="SmtpSendCrossSite"
       />
      <xs:enumeration
        value="SmtpSendCrossForest"
       />
      <xs:enumeration
        value="SmtpReceive"
       />
      <xs:enumeration
        value="Forwarded"
       />
      <xs:enumeration
        value="Pending"
       />
      <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.

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Value name	Description
Submitted	Specifies that a particular message was submitted by the client.
Resolved	Specifies that the recipients for the message were successfully resolved.
Expanded	Specifies that a **distribution list** was expanded to deliver the message to the members of the list.
Delivered	Specifies that the message was delivered to each recipient's **mailbox**.
MovedToFolderByInboxRule	Specifies that the message was delivered to a different folder because of an Inbox rule.
RulesCc	Specifies that another recipient was copied on the message because of a transport rule.
FailedGeneral	Specifies that the message failed during delivery.
FailedModeration	Specifies that the delivery of the message failed because it was rejected by the moderator.
FailedTransportRules	Specifies that the delivery of the message failed because of a transport rule.
SmtpSend	Specifies that the message was sent over **SMTP** to the Internet and cannot be tracked further.
SmtpSendCrossSite	Specifies that the message was sent to a hub in a different site.
SmtpSendCrossForest	Specifies that the message was sent to a hub in a different trusted forest.
SmtpReceive	Specifies that the hub received a message over SMTP from a server on the Internet, or from a server that does not support tracking.
Forwarded	Specifies that the message was forwarded to another recipient.
Pending	Specifies that the message has not been delivered yet.
PendingModeration	Specifies that the message was sent to a moderator and is waiting for an approval message.
ApprovedModeration	Specifies that the message was approved by the moderator.
QueueRetry	Specifies that the message is in a transport queue and that the **EventData XML** element contains a string that represents the next time that the message will be retried.
QueueRetryNoRetryTime	Specifies that the message is in a transport queue and that the retry time could not be retrieved.
MessageDefer	Specifies that the delivery of the message has been deferred for an unknown reason.
TransferredToForeignOrg	Specifies that the message was transferred to another organization or to a server in the organization that does not support tracking.
TransferredToPartnerOrg	Specifies that the message was transferred to a cross-premise organization.
TransferredToLegacyExchangeServer	Specifies that the message was transferred to an earlier version of the server, or to another server with a different schema.

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Value name	Description
DelayedAfterTransferToPartnerOrg	Specifies that the delivery of the message has been delayed during the transfer to a trusted organization.
Read	Specifies that the message is marked as read.
NotRead	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
Organization	Specifies that a particular search will cover all forests in the organization.
Forest	Specifies that the search will cover all servers in the forest.
Site	Specifies that the search will cover the local site of the server that executes it.

3.1.4.2.5 Attributes

None.

3.1.4.2.6 Groups

None.

3.1.4.2.7 Attribute Groups

None.

3.1.5 Timer Events

None.

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3.1.6 Other Local Events

None.

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4 Protocol Examples

None.

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5 Security

5.1 Security Considerations for Implementers

None.

5.2 Index of Security Parameters

None.

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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.	6
MS-OXWSMTRK-messages.xsd	Contains the **XML schema** message definitions that are used in this protocol.	7.1
MS-OXWSMTRK-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-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: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:include schemaLocation="MS-OXWSMTRK-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="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>
```


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


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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:	7.1
Types schema	t:	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-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	[MS-OXWSCDATA] 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="Exchange2016" 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:element name="FindMessageTrackingReport"
type="m:FindMessageTrackingReportRequestType"/>
```


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```
  <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" minOccurs="0"/>
          <xs:element name="ExecutedSearchScope" type="xs:string" minOccurs="0"/>
          <xs:element name="Errors" type="t:ArrayOfArraysOfTrackingPropertiesType"
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"
minOccurs="0"/>
          <xs:element name="Diagnostics" type="t:ArrayOfStringsType" minOccurs="0"/>
          <xs:element name="Errors" type="t:ArrayOfArraysOfTrackingPropertiesType"
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.

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File name	Defining specification
MS-OXWSCDATA-types.xsd	[MS-OXWSCDATA] 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-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: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"/>
```


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```
    </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="ArrayOfArraysOfTrackingPropertiesType">
    <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>
```


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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 updates to those products.

- Microsoft Exchange Server 2010
- Microsoft Exchange Server 2013
- Microsoft Exchange Server 2016
- Microsoft Exchange Server 2019

Exceptions, if any, are noted in this section. If an update version, service pack or Knowledge Base (KB) number appears with a product name, the behavior changed in that update. The new behavior also applies to subsequent updates 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 2.1: Microsoft Exchange Server 2010 Service Pack 1 (SP1) uses **HTTP** for transport.

<2> Section 2.2.4.1: Exchange 2010 does not include the **TrackingPropertyType** complex type.

<3> Section 2.2.4.2: Exchange 2010 does not include the **ArrayOfTrackingPropertiesType** complex type.

<4> Section 3.1.4.1.3.1: In Exchange 2010, the type for the **Scope** element is **MessageTrackingScopeType**.

<5> Section 3.1.4.1.3.1: Exchange 2010 does not include the **PurportedSender** element.

<6> Section 3.1.4.1.3.1: Exchange 2010 does not include the **ServerHint** element.

<7> Section 3.1.4.1.3.1: Exchange 2010 does not include the **Properties** element.

<8> Section 3.1.4.1.3.2: Exchange 2010 does not include the **ExecuteSearchScope** element.

<9> Section 3.1.4.1.3.2: Exchange 2010 does not include the **Errors** element.

<10> Section 3.1.4.1.3.2: Exchange 2010 does not include the **Properties** element.

<11> Section 3.1.4.1.3.4: Exchange 2010 does not include the **PurportedSender** element.

<12> Section 3.1.4.1.3.4: Exchange 2010 does not include the **FirstHopServer** element.

<13> Section 3.1.4.1.3.4: Exchange 2010 does not include the **Properties** element.

<14> Section 3.1.4.2.3.1: In Exchange 2010, the **Scope** element is of type **MessageTrackingScopeType**.

<15> Section 3.1.4.2.3.1: Exchange 2010 does not include the **Properties** element.

<16> Section 3.1.4.2.3.2: In Exchange 2010, the **MessageTrackingReport** element does not have a value for the **minOccurs** attribute.

<17> Section 3.1.4.2.3.2: Exchange 2010 does not include the **Errors** element.

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<18> Section 3.1.4.2.3.2: Exchange 2010 does not include the **Properties** element.

<19> Section 3.1.4.2.3.4: Exchange 2010 does not include the **PurportedSender** element.

<20> Section 3.1.4.2.3.4: Exchange 2010 does not include the **Properties** element.

<21> Section 3.1.4.2.3.5: In Exchange 2010, the **DeliveryStatus** element is of type **MessageTrackingDeliveryStatusType**.

<22> Section 3.1.4.2.3.5: In Exchange 2010, the **EventDescription** element is of type **MessageTrackingEventDescriptionType**.

<23> Section 3.1.4.2.3.5: Exchange 2010 does not include the **RootAddress** element.

<24> Section 3.1.4.2.3.5: Exchange 2010 does not include the **Properties** element.

<25> Section 3.1.4.2.3.6: Exchange 2010 does not include the **ArrayOfArraysOfTrackingPropertiesType** complex type.

<26> Section 3.1.4.2.4.2: Only the initial release version of Exchange 2010 supports the **MessageTrackingDeliveryStatusType** simple type.

<27> Section 3.1.4.2.4.3: Only the initial release version of Exchange 2010 supports the **MessageTrackingEventDescriptionType** simple type.

<28> Section 3.1.4.2.4.4: Only the initial release version of Exchange 2010 supports the **MessageTrackingScopeType** simple type.

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9 Change Tracking

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

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10 Index

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T

V

W

X

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