

## [MS-OXWSGTZ]:

# Get Server Time Zone Web Service Protocol

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## Revision Summary

| Date       | Revision History | Revision Class | Comments   |
|------------|------------------|----------------|--|
| 7/15/2009  | 1.0              | Major          | Initial Availability.  |
| 11/4/2009  | 1.1.0            | Minor          | Updated the technical content.   |
| 2/10/2010  | 1.1.0            | None           | Version 1.1.0 release  |
| 5/5/2010   | 1.1.1            | Editorial      | Revised and edited the technical content.                                    |
| 8/4/2010   | 1.2              | Minor          | Clarified the meaning of the technical content.                              |
| 11/3/2010  | 2.0              | Major          | Significantly changed the technical content.                                 |
| 3/18/2011  | 3.0              | Major          | Significantly changed the technical content.                                 |
| 8/5/2011   | 3.1              | Minor          | Clarified the meaning of the technical content.                              |
| 10/7/2011  | 3.1              | No Change      | No changes to the meaning, language, or formatting of the technical content. |
| 1/20/2012  | 4.0              | Major          | Significantly changed the technical content.                                 |
| 4/27/2012  | 4.0              | No Change      | No changes to the meaning, language, or formatting of the technical content. |
| 7/16/2012  | 4.1              | Minor          | Clarified the meaning of the technical content.                              |
| 10/8/2012  | 4.2              | Minor          | Clarified the meaning of the technical content.                              |
| 2/11/2013  | 4.2              | No Change      | No changes to the meaning, language, or formatting of the technical content. |
| 7/26/2013  | 5.0              | Major          | Significantly changed the technical content.                                 |
| 11/18/2013 | 5.0              | No Change      | No changes to the meaning, language, or formatting of the technical content. |
| 2/10/2014  | 5.0              | No Change      | No changes to the meaning, language, or formatting of the technical content. |
| 4/30/2014  | 5.1              | Minor          | Clarified the meaning of the technical content.                              |
| 7/31/2014  | 5.2              | Minor          | Clarified the meaning of the technical content.                              |
| 10/30/2014 | 5.2              | No Change      | No changes to the meaning, language, or formatting of the technical content. |
| 5/26/2015  | 6.0              | Major          | Significantly changed the technical content.                                 |

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Preliminary

# 1 Introduction

The Get Server Time Zone Web Service Protocol returns time zone information that is used by the server.

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

## 1.1 Glossary

The following terms are specific to this document:

**Coordinated Universal Time (UTC):** A high-precision atomic time standard that approximately tracks Universal Time (UT). It is the basis for legal, civil time all over the Earth. Time zones around the world are expressed as positive and negative offsets from UTC. In this role, it is also referred to as Zulu time (Z) and Greenwich Mean Time (GMT). In these specifications, all references to UTC refer to the time at UTC-0 (or GMT).

**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 over Secure Sockets Layer (HTTPS):** An extension of **HTTP** that securely encrypts and decrypts webpage requests.

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

**SOAP 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 body:** A container for the payload data being delivered by a **SOAP message** to its recipient. See [\[SOAP1.2-1/2007\]](#) section 5.3 for more information.

**SOAP header:** A mechanism for implementing extensions to a **SOAP message** in a decentralized manner without prior agreement between the communicating parties. See [\[SOAP1.2-1/2007\]](#) section 5.2 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 service:** A unit of application logic that provides data and services to other applications and can be called by using standard Internet transport protocols such as **HTTP**, Simple Mail Transfer

Protocol (SMTP), or File Transfer Protocol (FTP). Web services can perform functions that range from simple requests to complicated business processes.

**Web Services Description Language (WSDL):** An XML format for describing network services as a set of endpoints that operate on messages that contain either document-oriented or procedure-oriented information. The operations and messages are described abstractly and are bound to a concrete network protocol and message format in order to define an endpoint. Related concrete endpoints are combined into abstract endpoints, which describe a network service. WSDL is extensible, which allows the description of endpoints and their messages regardless of the message formats or network protocols that are used.

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

**WSDL 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](mailto: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, <http://www.rfc-editor.org/rfc/rfc2119.txt>

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

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

[RFC3066] Alvestrand, H., "Tags for the Identification of Languages", BCP 47, RFC 3066, January 2001, <http://www.ietf.org/rfc/rfc3066.txt>

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

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

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

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

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

### 1.2.2 Informative References

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

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

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

[MS-OXWSATT] Microsoft Corporation, "[Attachment Handling Web Service Protocol](#)".

[MS-OXWSCONT] Microsoft Corporation, "[Contacts Web Service Protocol](#)".

[MS-OXWSDLIST] Microsoft Corporation, "[Distribution List Creation and Usage Web Service Protocol](#)".

[MS-OXWSMSG] Microsoft Corporation, "[Email Message Types Web Service Protocol](#)".

[MS-OXWSMTGS] Microsoft Corporation, "[Calendar Web Service Protocol](#)".

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

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

[MS-OXWSSYNC] Microsoft Corporation, "[Mailbox Contents Synchronization Web Service Protocol](#)".

[MS-OXWSTASK] Microsoft Corporation, "[Tasks Web Service Protocol](#)".

### 1.3 Overview

The Get Server Time Zone Web Service Protocol provides clients with time zone information that is supported by the server. Clients request the list of time zones for which the server has definitions, then use this information when making requests to other web service protocols, or to present time-based information to the user.

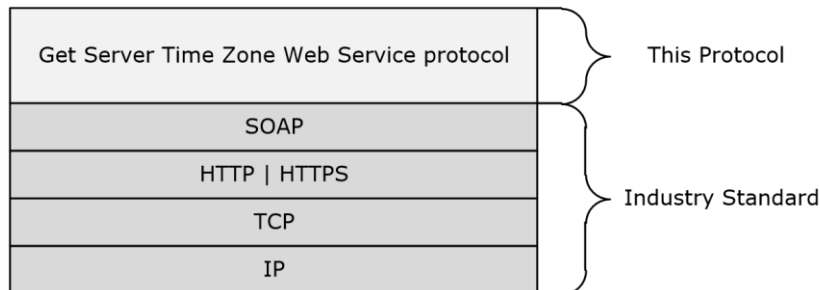


## 1.4 Relationship to Other Protocols

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

The Get Server Time Zone Web Service Protocol uses SOAP over **HTTP**, as described in [\[RFC2616\]](#), and SOAP over **HTTPS**, as described in [\[RFC2818\]](#), as shown in the following figure.



**Figure 1: This protocol in relation to other protocols**

The time zone information that is returned by this protocol is used when requests are made by using the following protocols:

- Attachment Handling Web Service Protocol, as described in [\[MS-OXWSATT\]](#)
- Contacts Web Service Protocol, as described in [\[MS-OXWSCONT\]](#)
- Distribution List Creation and Usage Web Service Protocol, as described in [\[MS-OXWSDLIST\]](#)
- Email Message Types Web Service Protocol, as described in [\[MS-OXWSMSG\]](#)
- Calendaring Web Service Protocol, as described in [\[MS-OXWSMTGS\]](#)
- Post Items Web Service Protocol, as described in [\[MS-OXWSPOST\]](#)
- Mailbox Search Web Service Protocol, as described in [\[MS-OXWSSRCH\]](#)
- Mailbox Contents Synchronization Web Service Protocol, as described in [\[MS-OXWSSYNC\]](#)
- Tasks Web Service Protocol, as described in [\[MS-OXWSTASK\]](#)

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

## 1.5 Prerequisites/Preconditions

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

## 1.6 Applicability Statement

This protocol is applicable to client applications that create, update, or manage items in the server data store that include time or date information.

## 1.7 Versioning and Capability Negotiation

This document covers versioning issues in the following areas:

- **Supported Transports:** This protocol uses SOAP 1.1, as specified in section [2.1](#).
- **Protocol Versions:** This protocol specifies only one **WSDL port type** version. The WSDL version of the request is identified by using the **t:RequestServerVersion** element, as described in [\[MS-OXWSCDATA\]](#) section 2.2.3.11, and the version of the server responding to the request is identified by using the **t:ServerVersionInfo** element, as described in [\[MS-OXWSCDATA\]](#) section 2.2.3.12.
- **Security and Authentication Methods:** This protocol relies on the web server that is hosting it to perform authentication.
- **Localization:** This protocol includes text strings in various messages. Localization considerations for such strings are specified in section [3.1.4](#).
- **Capability Negotiation:** None.

## 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 **MUST** support SOAP over HTTP, as specified in [\[RFC2616\]](#). The protocol **SHOULD** use secure communications via HTTPS, as specified 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 Web Services Description Language (WSDL), as defined in [\[WSDL\]](#).

#### 2.2.1 Namespaces

This specification defines and references various **XML namespaces** 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> |                              |
| 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>       |                              |
| xs     | <a href="http://www.w3.org/2001/XMLSchema">http://www.w3.org/2001/XMLSchema</a>   | <a href="#">[XMLSCHEMA1]</a> |

#### 2.2.2 Messages

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

#### 2.2.3 Elements

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

| Element name                   | Description  |
|--------------------------------|--|
| <b>AbsoluteDateTransition</b>  | Specifies a time zone transition that occurs on a specified date and at a specified time.            |
| <b>RecurringDateTransition</b> | Specifies a time zone transition that occurs on a specific recurring date.                           |
| <b>RecurringDayTransition</b>  | Specifies a time zone transition that occurs on the same day each year.                              |
| <b>TimeZoneContext</b>         | Specifies a time zone definition and enables the association of SOAP attributes with the definition. |
| <b>Transition</b>              | Specifies the base element for all time zone transition elements.                                    |

### 2.2.3.1 AbsoluteDateTransition Element

The **AbsoluteDateTransition** element specifies a time zone transition that occurs on a specified date and at a specified time.

```
<xs:element name="AbsoluteDateTransition"
  type="t:AbsoluteDateTransitionType"
  substitutionGroup="t:Transition"
/>
```

### 2.2.3.2 RecurringDateTransition Element

The **RecurringDateTransition** element specifies a time zone transition that occurs on a specific recurring date.

```
<xs:element name="RecurringDateTransition"
  type="t:RecurringDateTransitionType"
  substitutionGroup="t:Transition"
/>
```

### 2.2.3.3 RecurringDayTransition Element

The **RecurringDayTransition** element specifies a time zone transition that occurs on the same day each year.

```
<xs:element name="RecurringDayTransition"
  type="t:RecurringDayTransitionType"
  substitutionGroup="t:Transition"
/>
```

### 2.2.3.4 TimeZoneContext Element

The **TimeZoneContext** element specifies a time zone definition and enables the association of SOAP attributes with the definition.

```
<xs:element name="TimeZoneContext"
  type="t:TimeZoneContextType"
/>
```

### 2.2.3.5 Transition Element

The **Transition** element specifies the base element for all time zone transition elements.

```
<xs:element name="Transition"
  type="t:TransitionType"
/>
```

### 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  |
|--------------------------------------|--|
| <b>AbsoluteDateTransitionType</b>    | Specifies a time zone transition that occurs on a specific date and at a specific time.  |
| <b>ArrayOfTimeZoneDefinitionType</b> | Specifies zero or more <b>TimeZoneDefinitionType</b> complex type, as specified in section <a href="#">2.2.4.12</a> , instances. |
| <b>ArrayOfTransitionsGroupsType</b>  | Specifies an array of transition groups.   |
| <b>ArrayOfTransitionsType</b>        | Specifies an array of time zone transitions.   |
| <b>NonEmptyArrayOfPeriodsType</b>    | Specifies an array of <b>t:PeriodType</b> complex types that has at least one member.  |
| <b>NonEmptyArrayOfTimeZoneIdType</b> | Specifies one or more time zone identifiers.   |
| <b>PeriodType</b>                    | Specifies the name and offset of a specific time zone.   |
| <b>RecurringDateTransitionType</b>   | Specifies a time zone transition that occurs on a specified day of the year.   |
| <b>RecurringDayTransitionType</b>    | Specifies a time zone transition that occurs on the same weekday each year.  |
| <b>RecurringTimeTransitionType</b>   | Specifies the base class for recurring time zone transitions.  |
| <b>TimeZoneContextType</b>           | Specifies a time zone definition and enables the SOAP protocol attributes to be associated with the definition.                  |
| <b>TimeZoneDefinitionType</b>        | Specifies the time periods and transitions that describe a time zone.  |
| <b>TransitionType</b>                | Specifies the base type for all time zone transition complex types.  |
| <b>TransitionTargetType</b>          | Specifies a time zone transition target type.  |

### 2.2.4.1 t:AbsoluteDateTransitionType Complex Type

The **AbsoluteDateTransitionType** complex type specifies a time zone transition that occurs on a specific date and at a specific time.

```
<xs:complexType name="AbsoluteDateTransitionType">
  <xs:complexContent>
    <xs:extension base="t:TransitionType">
      <xs:sequence>
        <xs:element name="DateTime"
          type="xs:dateTime"
          />
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

The following table lists the child elements of the **AbsoluteDateTransitionType** complex type.

| Element name    | Type   | Description   |
|-----------------|--|---|
| <b>DateTime</b> | <b>xs:dateTime</b><br><a href="#">[XMLSCHEMA2]</a> | Specifies the date and time at which the time zone transition occurs. |

### 2.2.4.2 t:ArrayOfTimeZoneDefinitionType Complex Type

The **ArrayOfTimeZoneDefinitionType** complex type specifies zero or more **TimeZoneDefinitionType** complex type, as specified in section [2.2.4.12](#), instances.

```
<xs:complexType name="ArrayOfTimeZoneDefinitionType">
  <xs:sequence
    maxOccurs="unbounded"
    minOccurs="0"
  >
    <xs:element name="TimeZoneDefinition"
      type="t:TimeZoneDefinitionType"
      />
  </xs:sequence>
</xs:complexType>
```

The following table lists the child elements of the **ArrayOfTimeZoneDefinitionType** complex type.

| Element name              | Type   | Description                              |
|---------------------------|--|--|
| <b>TimeZoneDefinition</b> | <b>t:TimeZoneDefinitionType</b> (section 2.2.4.12) | Specifies the definition of a time zone. |

### 2.2.4.3 t:ArrayOfTransitionsGroupsType Complex Type

The **ArrayOfTransitionsGroupsType** complex type specifies an array of transition groups.

```

<xs:complexType name="ArrayOfTransitionsGroupsType">
  <xs:sequence>
    <xs:element name="TransitionsGroup"
      type="t:ArrayOfTransitionsType"
      maxOccurs="unbounded"
    />
  </xs:sequence>
</xs:complexType>

```

The following table lists the child elements of the **ArrayOfTransitionsGroupsType** complex type.

| Element name            | Type   | Description                                  |
|-------------------------|--|--|
| <b>TransitionsGroup</b> | <b>t:ArrayOfTransitionsType</b> (section <a href="#">2.2.3.4</a> ) | Specifies one or more arrays of transitions. |

#### 2.2.4.4 t:ArrayOfTransitionsType Complex Type

The **ArrayOfTransitionsType** complex type specifies an array of time zone transitions.

```

<xs:complexType name="ArrayOfTransitionsType">
  <xs:sequence>
    <xs:element
      maxOccurs="unbounded"
      ref="t:Transition"
    />
  </xs:sequence>
  <xs:attribute name="Id"
    type="xs:string"
  />
</xs:complexType>

```

The following table lists the child elements of the **ArrayOfTransitionsType** complex type.

| Element name      | Type   | Description  |
|-------------------|--|--|
| <b>Transition</b> | <b>t:Transition</b> (section <a href="#">2.2.4.5</a> ) | Specifies a descendent of the <b>t:Transition</b> element that describes the time zone transition. |

The following table lists the attributes of the **ArrayOfTransitionsType** complex type.

| Attribute name | Type  | Description   |
|----------------|---|---|
| <b>Id</b>      | <b>xs:string</b> ( <a href="#">[XMLSCHEMA2]</a> ) | Specifies a unique identifier for the time zone transition. |

#### 2.2.4.5 t:NonEmptyArrayOfPeriodsType Complex Type

The **NonEmptyArrayOfPeriodsType** complex type specifies an array of **PeriodType** complex types, as specified in section [2.2.4.7](#), that has at least one member.

```

<xs:complexType name="NonEmptyArrayOfPeriodsType">
  <xs:sequence>
    <xs:element name="Period"
      type="t:PeriodType"
      maxOccurs="unbounded"
    />
  </xs:sequence>
</xs:complexType>

```

The following table lists the child elements of the **NonEmptyArrayOfPeriodsType** complex type.

| Element name  | Type                                  | Description  |
|---------------|---------------------------------------|--|
| <b>Period</b> | <b>t:PeriodType</b> (section 2.2.4.7) | Specifies one or more <b>PeriodType</b> complex types. At least one <b>PeriodType</b> complex type MUST be included. |

#### 2.2.4.6 t:NonEmptyArrayOfTimeZoneIdType Complex Type

The **NonEmptyArrayOfTimeZoneIdType** complex type specifies one or more time zone identifiers.

```

<xs:complexType name="NonEmptyArrayOfTimeZoneIdType">
  <xs:sequence>
    <xs:element name="Id"
      type="xs:string"
      maxOccurs="unbounded"
    />
  </xs:sequence>
</xs:complexType>

```

The following table lists the child elements of the **NonEmptyArrayOfTimeZoneIdType** complex type.

| Element name | Type  | Description                       |
|--------------|---|-----------------------------------|
| <b>Id</b>    | <b>xs:string</b> <a href="#">[XMLSCHEMA2]</a> | Specifies a time zone identifier. |

#### 2.2.4.7 t:PeriodType Complex Type

The **PeriodType** complex type specifies the name and offset of a specific time zone.

```

<xs:complexType name="PeriodType">
  <xs:attribute name="Bias"
    type="xs:duration"
  />
  <xs:attribute name="Name"
    type="xs:string"
  />
  <xs:attribute name="Id"
    type="xs:string"
  />

```



```
</xs:complexType>
```

The following table lists the attributes of the **PeriodType** complex type.

| Attribute name | Type   | Description   |
|----------------|--|---|
| <b>Bias</b>    | <b>xs:duration</b><br><a href="#">[XMLSCHEMA2]</a> | Specifies the hourly offset from <b>Coordinated Universal Time (UTC)</b> for the time zone. |
| <b>Name</b>    | <b>xs:string</b><br><a href="#">[XMLSCHEMA2]</a>   | Specifies the descriptive name of the time zone.  |
| <b>Id</b>      | <b>xs:string</b>                                   | Specifies a unique identifier for the time zone period.                                     |

#### 2.2.4.8 t:RecurringDateTransitionType Complex Type

The **RecurringDateTransitionType** complex type specifies a time zone transition that occurs on a specified day of the year.

```
<xs:complexType name="RecurringDateTransitionType">
  <xs:complexContent>
    <xs:extension
      base="t:RecurringTimeTransitionType"
    >
      <xs:sequence>
        <xs:element name="Day"
          type="xs:int"
        />
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

The following table lists the child elements of the **RecurringDateTransitionType** complex type.

| Element name | Type  | Description   |
|--------------|---|---|
| <b>Day</b>   | <b>xs:int</b><br><a href="#">[XMLSCHEMA2]</a> | Specifies the day of the year on which the time zone transition occurs. |

#### 2.2.4.9 t:RecurringDayTransitionType Complex Type

The **RecurringDayTransitionType** complex type specifies a time zone transition that occurs on the same weekday each year.

```
<xs:complexType name="RecurringDayTransitionType">
  <xs:complexContent>
    <xs:extension
      base="t:RecurringTimeTransitionType"
    >

```

```

>
  <xs:sequence>
    <xs:element name="DayOfWeek"
      type="t:DayOfWeekType"
    />
    <xs:element name="Occurrence"
      type="xs:int"
    />
  </xs:sequence>
</xs:extension>
</xs:complexContent>
</xs:complexType>

```

The following table lists the child elements of the **RecurringDayTransitionType** complex type.

| Element name      | Type   | Description   |
|-------------------|--|---|
| <b>DayOfWeek</b>  | <b>t:DayOfWeekType</b> ( <a href="#">[MS-OXWSCDATA]</a> section 2.2.5.5) | Specifies the day of the week on which the time zone transition occurs.                     |
| <b>Occurrence</b> | <b>xs:int</b> ( <a href="#">[XMLSCHEMA2]</a> )                           | Specifies the occurrence of the day of the week in the month that the transition occurs on. |

The value of the **Occurrence** element is interpreted as shown in the following table.

| Value | Meaning   |
|-------|---|
| 1     | The first occurrence of the specified day of the week from the beginning of the month.  |
| 2     | The second occurrence of the specified day of the week from the beginning of the month. |
| 3     | The third occurrence of the specified day of the week from the beginning of the month.  |
| 4     | The fourth occurrence of the specified day of the week from the beginning of the month. |
| -1    | The first occurrence of the specified day of the week from the end of the month.        |
| -2    | The second occurrence of the specified day of the week from the end of the month.       |
| -3    | The third occurrence of the specified day of the week from the end of the month.        |
| -4    | The fourth occurrence of the specified day of the week from the end of the month.       |

#### 2.2.4.10 t:RecurringTimeTransitionType Complex Type

The **RecurringTimeTransitionType** complex type specifies the base class for recurring time zone transitions.

```

<xs:complexType name="RecurringTimeTransitionType"
  abstract="true"
>
  <xs:complexContent>
    <xs:extension
      base="t:TransitionType"
    >
      <xs:sequence>

```

```

    <xs:element name="TimeOffset"
      type="xs:duration"
    />
    <xs:element name="Month"
      type="xs:int"
    />
  </xs:sequence>
</xs:extension>
</xs:complexContent>
</xs:complexType>

```

The following table lists the child elements of the **RecurringTimeTransitionType** complex type.

| Element name      | Type   | Description  |
|-------------------|--|--|
| <b>TimeOffset</b> | <b>xs:duration</b><br><a href="#">[XMLSCHEMA2]</a> | Specifies the hourly offset from UTC for the time zone transition. |
| <b>Month</b>      | <b>xs:int</b> <a href="#">[XMLSCHEMA2]</a>         | Specifies the month in which the time zone transition occurs.      |

#### 2.2.4.11 t:TimeZoneContextType Complex Type

The **TimeZoneContextType** complex type specifies a time zone definition and enables SOAP protocol attributes to be associated with the definition.

```

<xs:complexType name="TimeZoneContextType">
  <xs:sequence>
    <xs:element name="TimeZoneDefinition"
      type="t:TimeZoneDefinitionType"
    />
  </xs:sequence>
  <xs:anyAttribute
    namespace="http://schemas.xmlsoap.org/soap/envelope"
  />
</xs:complexType>

```

The following table lists the child elements of the **TimeZoneContextType** complex type.

| Element name              | Type  | Description                              |
|---------------------------|---|--|
| <b>TimeZoneDefinition</b> | <b>t:TimeZoneDefinitionType</b> (section <a href="#">2.2.4.12</a> ) | Specifies the definition of a time zone. |

#### 2.2.4.12 t:TimeZoneDefinitionType Complex Type

The **TimeZoneDefinitionType** complex type specifies the time periods and transitions that describe a time zone.

```

<xs:complexType name="TimeZoneDefinitionType">
  <xs:sequence
    minOccurs="0"
  >

```

```

    >
    <xs:element name="Periods"
      type="t:NonEmptyArrayOfPeriodsType"
    />
    <xs:element name="TransitionsGroups"
      type="t:ArrayOfTransitionsGroupsType"
      minOccurs="0"
    />
    <xs:element name="Transitions"
      type="t:ArrayOfTransitionsType"
      minOccurs="0"
    />
  </xs:sequence>
  <xs:attribute name="Id"
    type="xs:string"
  />
  <xs:attribute name="Name"
    type="xs:string"
  />
</xs:complexType>

```

The following table lists the child elements of the **TimeZoneDefinitionType** complex type.

| Element name             | Type   | Description   |
|--------------------------|--|---|
| <b>Periods</b>           | <b>t:NonEmptyArrayOfPeriodsType</b> (section <a href="#">2.2.3.5</a> )   | Specifies the time periods when a time zone is in force.                          |
| <b>TransitionsGroups</b> | <b>t:ArrayOfTransitionsGroupsType</b> (section <a href="#">2.2.3.3</a> ) | Specifies a set of transition groups from one time zone specification to another. |
| <b>Transitions</b>       | <b>t:ArrayOfTransitionsType</b> (section <a href="#">2.2.3.4</a> )       | Specifies a set of transitions from one time zone specification to another.       |

The following table lists the attributes of the **TimeZoneDefinitionType** complex type.

| Attribute name | Type  | Description  |
|----------------|---|--|
| <b>Id</b>      | <b>xs:string</b> <a href="#">[XMLSCHEMA2]</a> | The unique identifier of the time zone definition. |
| <b>1. Name</b> | <b>xs:string</b>                              | The descriptive name of the time zone definition.  |

### 2.2.4.13 t:TransitionType Complex Type

The **TransitionType** complex type is the base type for all time zone transition complex types.

```

<xs:complexType name="TransitionType"
  abstract="false"
>
  <xs:sequence>
    <xs:element name="To"
      type="t:TransitionTargetType"
    />
  </xs:sequence>
</xs:complexType>

```

The following table lists the child elements of the **TransitionType** complex type.

| Element name | Type  | Description   |
|--------------|---|---|
| <b>To</b>    | <b>t:TransitionTargetType</b> (section <a href="#">2.2.4.14</a> ) | <p>One of the <b>TransitionTargetType</b> enumeration values that specify whether the time zone transition is a single period or a group of time zone transitions.</p> <p>If the time zone transition is a single period, the value of this element MUST be one of the existing period Ids defined in the <b>Period</b> element as specified in section <a href="#">2.2.4.7</a>.</p> <p>If the time zone transition is a group of time zone transitions, the value of this element MUST be one of the existing transition group Ids defined in the <b>TransitionsGroup</b> element as specified in section <a href="#">2.2.4.7</a>.</p> |

#### 2.2.4.14 t:TransitionTargetType Complex Type

The **TransitionTargetType** complex type specifies a time zone transition target type.

```
<xs:complexType>
  <xs:simpleContent>
    <xs:extension
      base="xs:string"
    >
      <xs:attribute name="Kind"
        type="t:TransitionTargetKindType"
        use="required"
      />
    </xs:extension>
  </xs:simpleContent>
</xs:complexType>
```

The following table lists the attributes of the **TransitionTargetType** complex type.

| Attribute name | Type   | Description   |
|----------------|--|---|
| <b>Kind</b>    | <b>t:TransitionTargetKindType</b> (section <a href="#">3.1.4.1.4.1</a> ) | Specifies the target type (period or group of periods) of the transition. |

#### 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 Get Server Time Zone Web Service Protocol defines a single port type that enables clients to retrieve the time zone definitions that are used by the server.

#### 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 specified in this document.

This protocol is used to retrieve time zone information from the server to provide client applications with the information necessary to translate server time information to the time zones that the client application requires.

The client is not required to maintain the time zones used by the server; instead the client can use this protocol to request time zone information as necessary.

#### 3.1.2 Timers

None.

#### 3.1.3 Initialization

None.

#### 3.1.4 Message Processing Events and Sequencing Rules

This protocol includes the operation that is listed in the following table.

| Operation name            | Description   |
|---------------------------|---|
| <b>GetServerTimeZones</b> | Gets the time zones that are supported by the server. |

##### 3.1.4.1 GetServerTimeZones

The **GetServerTimeZones** operation gets time zone definitions from the server.

The following is the WSDL port type specification of the operation.

```
<wsdl:operation name="GetServerTimeZones">
  <wsdl:input message="tns:GetServerTimeZonesSoapIn" />
  <wsdl:output message="tns:GetServerTimeZonesSoapOut" />
</wsdl:operation>
```

```
</wsdl:operation>
```

The following is the WSDL binding specification of the operation.

```
<wsdl:operation name="GetServerTimeZones">
  <soap:operation
    soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/GetServerTimeZones"
  />
  <wsdl:input>
    <soap:header message="tns:GetServerTimeZonesSoapIn" part="MailboxCulture"
      use="literal"/>
    <soap:header message="tns:GetServerTimeZonesSoapIn" part="RequestVersion"
      use="literal"/>
    <soap:body parts="request" use="literal" />
  </wsdl:input>
  <wsdl:output>
    <soap:body parts="GetServerTimeZonesResult" use="literal" />
    <soap:header message="tns:GetServerTimeZonesSoapOut" 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 this operation.

| Message name                     | Description  |
|----------------------------------|--|
| <b>GetServerTimeZonesSoapIn</b>  | Specifies the <b>SOAP message</b> that requests time zone information from the server. |
| <b>GetServerTimeZonesSoapOut</b> | Specifies the SOAP message that is returned by the server in response.                 |

#### 3.1.4.1.1.1 tns:GetServerTimeZonesSoapIn

The **GetServerTimeZonesSoapIn** WSDL message specifies the **GetServerTimeZones** operation request to get a time zone or list of time zones supported by the server.

```
<wsdl:message name="GetServerTimeZonesSoapIn">
  <wsdl:part name="request" element="tns:GetServerTimeZones" />
  <wsdl:part name="MailboxCulture" element="t:MailboxCulture"/>
  <wsdl:part name="RequestVersion" element="t:RequestServerVersion"/>
</wsdl:message>
```

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

The **GetServerTimeZonesSoapIn** WSDL message contains three parts, as described in the following table.

| Part name | Element/type   | Description                                    |
|-----------|--|--|
| request   | <b>tns:GetServerTimeZones</b> (section <a href="#">3.1.4.1.3.1</a> ) | Specifies the <b>SOAP body</b> of the request. |



| Part name      | Element/type  | Description   |
|----------------|---|---|
| MailboxCulture | <b>t:MailboxCulture</b> ( <a href="#">[MS-OXWSCDATA]</a> section 2.2.3.7) | Specifies a <b>SOAP header</b> that identifies the culture to use for accessing the server. The cultures are defined by <a href="#">[RFC3066]</a> . |
| RequestVersion | <b>t:RequestServerVersion</b> ([MS-OXWSCDATA] section 2.2.3.11)           | Specifies a SOAP header that identifies the schema version for the <b>GetServerTimeZones</b> operation request.                                     |

### 3.1.4.1.1.2 tns:GetServerTimeZonesSoapOut

The **GetServerTimeZonesSoapOut** WSDL message specifies the server response to the **GetServerTimeZones** operation request to retrieve time zone information from the server.

```
<wsdl:message name="GetServerTimeZonesSoapOut">
  <wsdl:part name="GetServerTimeZonesResult" element="tns:GetServerTimeZonesResponse" />
  <wsdl:part name="ServerVersion" element="t:ServerVersionInfo"/>
</wsdl:message>
```

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

The **GetServerTimeZonesSoapOut** WSDL message contains two parts, as described in the following table.

| Part name                | Element/type  | Description  |
|--------------------------|---|--|
| GetServerTimeZonesResult | <b>tns:GetServerTimeZonesResponse</b> (section <a href="#">3.1.4.1.3.2</a> )  | Specifies the SOAP body of the response.                                     |
| ServerVersion            | <b>t:ServerVersionInfo</b> ( <a href="#">[MS-OXWSCDATA]</a> section 2.2.3.12) | Specifies a SOAP header that identifies the server version for the response. |

A successful **GetServerTimeZones** request, as specified in section [3.1.4.1.2.1](#), returns a **GetServerTimeZonesResponse** element, as specified in section [3.1.4.1.2.2](#), with the **ResponseClass** attribute set to "Success". The **ResponseCode** element of the **GetServerTimeZonesResponse** element is set to "NoError".

If the **GetServerTimeZones** request is not successful, it returns a **GetServerTimeZonesResponse** element with the **ResponseClass** attribute set to "Error". The **ResponseCode** element of the **GetServerTimeZonesResponse** element is set to one of the common errors defined in [MS-OXWSCDATA] section 2.2.5.24.

### 3.1.4.1.2 Elements

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

| Element name                      | Description   |
|-----------------------------------|---|
| <b>GetServerTimeZones</b>         | Specifies the base element for the <b>GetServerTimeZones</b> operation. |
| <b>GetServerTimeZonesResponse</b> | Specifies the response from the <b>GetServerTimeZones</b> operation.    |

### 3.1.4.1.2.1 GetServerTimeZones Element

The **GetServerTimeZones** element specifies the base element for a **GetServerTimeZones** operation.

```
<xs:element name="GetServerTimeZones"
  type="m:GetServerTimeZonesType"
/>
```

### 3.1.4.1.2.2 GetServerTimeZonesResponse Element

The **GetServerTimeZonesResponse** element specifies the response message for a **GetServerTimeZones** operation.

```
<xs:element name="GetServerTimeZonesResponse"
  type="m:GetServerTimeZonesResponseType"
/>
```

### 3.1.4.1.3 Complex Types

The following table lists the XML schema complex type definitions are specific to this operation.

| Complex type name                            | Description   |
|--|---|
| <b>GetServerTimeZonesResponseMessageType</b> | Specifies the response message that is returned by the <b>GetServerTimeZones</b> operation. |
| <b>GetServerTimeZonesResponseType</b>        | Specifies the response that is returned by the <b>GetServerTimeZones</b> operation.         |
| <b>GetServerTimeZonesType</b>                | Specifies the request message that is sent to the <b>GetServerTimeZones</b> operation.      |

#### 3.1.4.1.3.1 m:GetServerTimeZonesResponseMessageType Complex Type

The **GetServerTimeZonesResponseMessageType** complex type specifies the response that is returned by the **GetServerTimeZones** operation. The **GetServerTimeZonesResponseMessageType** complex type extends the **ResponseMessageType** complex type, as specified in [\[MS-OXWSCDATA\]](#) section 2.2.4.65.

```
<xs:complexType name="GetServerTimeZonesResponseMessageType">
  <xs:complexContent>
    <xs:extension
      base="m:ResponseMessageType"
    >
      <xs:sequence>
        <xs:element name="TimeZoneDefinitions"
          type="t:ArrayOfTimeZoneDefinitionType"
          minOccurs="1"
        />
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

The following table lists the child elements of the **GetServerTimeZonesResponseMessageType** complex type.

| Element name               | Type  | Description                                  |
|----------------------------|---|--|
| <b>TimeZoneDefinitions</b> | <b>t:ArrayOfTimeZoneDefinitionType</b> (section <a href="#">2.2.3.2</a> ) | Specifies one or more time zone definitions. |

### 3.1.4.1.3.2 m:GetServerTimeZonesResponseType Complex Type

The **GetServerTimeZonesResponseType** complex type extends the **BaseResponseMessageType** complex type, as specified in [\[MS-OXWSCDATA\]](#) section 2.2.4.18.

```
<xs:complexType name="GetServerTimeZonesResponseType">
  <xs:complexContent>
    <xs:extension
      base="m:BaseResponseMessageType"
    />
  </xs:complexContent>
</xs:complexType>
```

### 3.1.4.1.3.3 m:GetServerTimeZonesType Complex Type

The **GetServerTimeZonesType** complex type specifies the requested server time zones or specifies that all server time zones are to be returned. It optionally specifies whether full time zone information is returned, or whether only time zone name and identifiers are returned. The **GetServerTimeZonesType** complex type extends the **BaseRequestType** complex type, as specified in [\[MS-OXWSCDATA\]](#) section 2.2.4.17.

```
<xs:complexType name="GetServerTimeZonesType">
  <xs:complexContent>
    <xs:extension
      base="m:BaseRequestType"
    >
    <xs:sequence>
      <xs:element name="Ids"
        type="t:NonEmptyArrayOfTimeZoneIdType"
        minOccurs="0"
      />
    </xs:sequence>
    <xs:attribute name="ReturnFullTimeZoneData"
      type="xs:boolean"
      use="optional"
    />
  </xs:extension>
</xs:complexContent>
</xs:complexType>
```

The following table lists the child elements of the **GetServerTimeZonesType** complex type.

| Element name | Type                                   | Description  |
|--------------|--|--|
| <b>Ids</b>   | <b>t:NonEmptyArrayOfTimeZoneIdType</b> | Specifies a list of time zone identifiers for which the time zone definitions are returned. The server returns |

| Element name | Type                               | Description   |
|--------------|------------------------------------|---|
|              | (section <a href="#">2.2.4.6</a> ) | information for all valid identifiers. If an identifier is included that is not recognized by the server, the server does not return any information for the unrecognized identifier and does not report an error. This element is optional. If it is not specified, all time zone definitions that are available on the server are returned. |

The following table lists the attributes of the **GetServerTimeZonesType** complex type.

| Attribute name                | Type  | Description  |
|-------------------------------|---|--|
| <b>ReturnFullTimeZoneData</b> | <b>xs:boolean</b><br><a href="#">[XMLSCHEMA2]</a> | Specifies whether the <b>GetServerTimeZones</b> operation returns the complete time zone definition or returns only time zone name and identifiers. This attribute is optional. If it is not included, complete time zone information is returned. |

### 3.1.4.1.4 Simple Types

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

| Simple type name                | Description  |
|---------------------------------|--|
| <b>TransitionTargetKindType</b> | Specifies whether a time zone transition is a single period or a group of time zone periods. |

#### 3.1.4.1.4.1 t:TransitionTargetKindType Simple Type

The **TransitionTargetKindType** simple type specifies whether a time zone transition is a single period or a group of time zone periods.

```
<xs:simpleType name="TransitionTargetKindType">
  <xs:restriction
    base="xs:string"
  >
    <xs:enumeration
      value="Period"
    />
    <xs:enumeration
      value="Group"
    />
  </xs:restriction>
</xs:simpleType>
```

The following values are defined by the **TransitionTargetKindType** simple type.

| Value  | Meaning   |
|--------|---|
| Period | Specifies that the time zone transition target is a single period.              |
| Group  | Specifies that the time zone transition target is a group of time zone periods. |

#### **3.1.4.1.5 Attributes**

None.

#### **3.1.4.1.6 Groups**

None.

#### **3.1.4.1.7 Attribute Groups**

None.

#### **3.1.5 Timer Events**

None.

#### **3.1.6 Other Local Events**

None.

Preliminary

## 4 Protocol Examples

Clients use the **GetServerTimeZones** operation, as described in section [3.1.4.1](#), to request the list of time zones for which the server has definitions and then use this information when making requests to other **web service** protocols or to present time-based information to the user.

The following **XML** shows a request to retrieve time zones for Alaska Standard Time. The value of the **ReturnFullTimeZoneData** attribute indicates that all data is to be returned, as described in section [3.1.4.1.3.3](#).

```
<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:t="http://schemas.microsoft.com/exchange/services/2006/types">
  <soap:Header>
    <t:RequestServerVersion Version="Exchange2013"/>
  </soap:Header>
  <soap:Body>
    xmlns="http://schemas.microsoft.com/exchange/services/2006/messages"
    <GetServerTimeZones ReturnFullTimeZoneData="true" >
      <Ids>
        <Id xmlns="http://schemas.microsoft.com/exchange/services/2006/types">
          Alaskan Standard Time</Id>
        </Ids>
      </GetServerTimeZones>
    </soap:Body>
  </soap:Envelope>
```

The following XML shows a successful response to the preceding **GetServerTimeZones** operation request.

```
<?xml version="1.0" encoding="utf-8"?>
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Header>
    <h:ServerVersionInfo MajorVersion="15" MinorVersion="0" MajorBuildNumber="698"
      MinorBuildNumber="10" Version="Exchange2013"
      xmlns:h="http://schemas.microsoft.com/exchange/services/2006/types"
      xmlns="http://schemas.microsoft.com/exchange/services/2006/types"
      xmlns:xsd="http://www.w3.org/2001/XMLSchema"
      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"/>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <m:GetServerTimeZonesResponse
      xmlns:m="http://schemas.microsoft.com/exchange/services/2006/messages"
      xmlns:t="http://schemas.microsoft.com/exchange/services/2006/types">
      <m:ResponseMessages>
        <m:GetServerTimeZonesResponseMessage ResponseClass="Success">
          <m:ResponseCode>NoError</m:ResponseCode>
          <m:TimeZoneDefinitions>
            <t:TimeZoneDefinition Name="(UTC-09:00) Alaska"
              Id="Alaskan Standard Time">
              <t:Periods>
                <t:Period Bias="PT9H" Name="Standard"
                  Id="trule:Microsoft/Registry/Alaskan Standard Time/2006-Standard"/>
                <t:Period Bias="PT8H" Name="Daylight"
                  Id="trule:Microsoft/Registry/Alaskan Standard Time/2006-Daylight"/>
                <t:Period Bias="PT9H" Name="Standard"
                  Id="trule:Microsoft/Registry/Alaskan Standard Time/2007-Standard"/>
                <t:Period Bias="PT8H" Name="Daylight"
                  Id="trule:Microsoft/Registry/Alaskan Standard Time/2007-Daylight"/>
              </t:Periods>
              <t:TransitionsGroups>
                <t:TransitionsGroup Id="0">
```

```

    <t:RecurringDayTransition>
      <t:To Kind="Period">trule:Microsoft/Registry/
        Alaskan Standard Time/2006-Daylight</t:To>
      <t:TimeOffset>PT2H</t:TimeOffset>
      <t:Month>4</t:Month>
      <t:DayOfWeek>Sunday</t:DayOfWeek>
      <t:Occurrence>1</t:Occurrence>
    </t:RecurringDayTransition>
    <t:RecurringDayTransition>
      <t:To Kind="Period">trule:Microsoft/Registry/
        Alaskan Standard Time/2006-Standard</t:To>
      <t:TimeOffset>PT2H</t:TimeOffset>
      <t:Month>10</t:Month>
      <t:DayOfWeek>Sunday</t:DayOfWeek>
      <t:Occurrence>-1</t:Occurrence>
    </t:RecurringDayTransition>
  </t:TransitionsGroup>
  <t:TransitionsGroup Id="1">
    <t:RecurringDayTransition>
      <t:To Kind="Period">trule:Microsoft/Registry/
        Alaskan Standard Time/2007-Daylight</t:To>
      <t:TimeOffset>PT2H</t:TimeOffset>
      <t:Month>3</t:Month>
      <t:DayOfWeek>Sunday</t:DayOfWeek>
      <t:Occurrence>2</t:Occurrence>
    </t:RecurringDayTransition>
    <t:RecurringDayTransition>
      <t:To Kind="Period">trule:Microsoft/Registry/
        Alaskan Standard Time/2007-Standard</t:To>
      <t:TimeOffset>PT2H</t:TimeOffset>
      <t:Month>11</t:Month>
      <t:DayOfWeek>Sunday</t:DayOfWeek>
      <t:Occurrence>1</t:Occurrence>
    </t:RecurringDayTransition>
  </t:TransitionsGroup>
</t:TransitionsGroups>
<t:Transitions>
  <t:Transition>
    <t:To Kind="Group">0</t:To>
  </t:Transition>
  <t:AbsoluteDateTransition>
    <t:To Kind="Group">1</t:To>
    <t:DateTime>2007-01-01T00:00:00</t:DateTime>
  </t:AbsoluteDateTransition>
</t:Transitions>
</t:TimeZoneDefinition>
</m:TimeZoneDefinitions>
</m:GetServerTimeZonesResponseMessage>
</m:ResponseMessages>
</m:GetServerTimeZonesResponse>
</s:Body>
</s:Envelope>

```



## **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 specified in this document. The contents of each file are included in this section.

| File name               | Description   | Section             |
|-------------------------|---|---------------------|
| MS-OXWSGTZ.wsdl         | Contains the WSDL for the implementation of this protocol.                  | 6                   |
| MS-OXWSGTZ-messages.xsd | Contains the XML schema message definitions that are used in this protocol. | <a href="#">7.1</a> |
| MS-OXWSGTZ-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-OXWSGTZ-types.xsd or MS-OXWSGTZ-messages.xsd schemas have to be placed in the common folder with the files.

This section contains the contents of the MS-OXWSGTZ.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:import namespace="http://schemas.microsoft.com/exchange/services/2006/types"/>
      <xs:include schemaLocation="MS-OXWSGTZ-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="GetServerTimeZonesSoapIn">
    <wsdl:part name="request" element="tns:GetServerTimeZones" />
    <wsdl:part name="MailboxCulture" element="t:MailboxCulture"/>
    <wsdl:part name="RequestVersion" element="t:RequestServerVersion"/>
  </wsdl:message>
  <wsdl:message name="GetServerTimeZonesSoapOut">
    <wsdl:part name="GetServerTimeZonesResult" element="tns:GetServerTimeZonesResponse" />
    <wsdl:part name="ServerVersion" element="t:ServerVersionInfo"/>
  </wsdl:message>
  <wsdl:portType name="ExchangeServicePortType">
    <wsdl:operation name="GetServerTimeZones">
      <wsdl:input message="tns:GetServerTimeZonesSoapIn" />
      <wsdl:output message="tns:GetServerTimeZonesSoapOut" />
    </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="GetServerTimeZones">
        <soap:operation
soapAction="http://schemas.microsoft.com/exchange/services/2006/messages/GetServerTimeZones"
/>
          <wsdl:input>
            <soap:header message="tns:GetServerTimeZonesSoapIn" part="MailboxCulture"
use="literal" />
            <soap:header message="tns:GetServerTimeZonesSoapIn" part="RequestVersion"
use="literal" />
            <soap:body parts="request" use="literal" />
          </wsdl:input>
          <wsdl:output>
            <soap:body parts="GetServerTimeZonesResult" use="literal" />
            <soap:header message="tns:GetServerTimeZonesSoapOut" 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:     | <a href="#">7.1</a> |
| Types schema    | p:     | <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-OXWSGTZ-types.xsd or MS-OXWSGTZ-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-OXWSGTZ-messages.xsd file and information about additional files that this schema file requires to operate correctly.

MS-OXWSGTZ-messages.xsd includes the file listed in the following table. For the schema file to operate correctly, this file MUST be 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="Exchange2016" id="messages">

  <xs:import namespace="http://schemas.microsoft.com/exchange/services/2006/types"
    schemaLocation="MS-OXWSGTZ-types.xsd"/>
  <xs:include schemaLocation="MS-OXWSCDATA-messages.xsd" />

  <xs:complexType name="GetServerTimeZonesType">
    <xs:complexContent>
      <xs:extension base="m:BaseRequestType">
        <xs:sequence>
          <xs:element name="Ids" type="t:NonEmptyArrayOfTimeZoneIdType" minOccurs="0"/>
        </xs:sequence>
        <xs:attribute name="ReturnFullTimeZoneData" type="xs:boolean" use="optional"/>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
  <xs:element name="GetServerTimeZones" type="m:GetServerTimeZonesType"/>
  <xs:complexType name="GetServerTimeZonesResponseMessageType">
    <xs:complexContent>
      <xs:extension base="m:ResponseMessageType">
        <xs:sequence>
          <xs:element name="TimeZoneDefinitions" type="t:ArrayOfTimeZoneDefinitionType"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
  <xs:complexType name="GetServerTimeZonesResponseType">
    <xs:complexContent>
      <xs:extension base="m:BaseResponseMessageType"/>
    </xs:complexContent>
  </xs:complexType>
</xs:schema>
```

```

    </xs:complexContent>
  </xs:complexType>
  <xs:element name="GetServerTimeZonesResponse" type="m:GetServerTimeZonesResponseType"/>
</xs:schema>

```

## 7.2 Types Schema

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

MS-OXWSGTZ-types.xsd includes the file listed in the following table. For the schema file 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/messages"
  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:element name="AbsoluteDateTransition" type="t:AbsoluteDateTransitionType"
  substitutionGroup="t:Transition"/>
  <xs:complexType name="AbsoluteDateTransitionType">
    <xs:complexContent>
      <xs:extension base="t:TransitionType">
        <xs:sequence>
          <xs:element name="DateTime" type="xs:dateTime"/>
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
  <xs:complexType name="ArrayOfTimeZoneDefinitionType">
    <xs:sequence minOccurs="0" maxOccurs="unbounded">
      <xs:element name="TimeZoneDefinition" type="t:TimeZoneDefinitionType"/>
    </xs:sequence>
  </xs:complexType>
  <xs:complexType name="ArrayOfTransitionsGroupsType">
    <xs:sequence>
      <xs:element name="TransitionsGroup" type="t:ArrayOfTransitionsType"
      maxOccurs="unbounded"/>
    </xs:sequence>
  </xs:complexType>
  <xs:complexType name="ArrayOfTransitionsType">
    <xs:sequence>
      <xs:element ref="t:Transition" maxOccurs="unbounded"/>
    </xs:sequence>
    <xs:attribute name="Id" type="xs:string"/>
  </xs:complexType>
  <xs:complexType name="NonEmptyArrayOfPeriodsType">
    <xs:sequence>
      <xs:element name="Period" type="t:PeriodType" maxOccurs="unbounded"/>
    </xs:sequence>
  </xs:complexType>
  <xs:complexType name="NonEmptyArrayOfTimeZoneIdType">
    <xs:sequence>
      <xs:element name="Id" type="xs:string" maxOccurs="unbounded"/>
    </xs:sequence>
  </xs:complexType>

```

```

</xs:complexType>
<xs:complexType name="PeriodType">
  <xs:attribute name="Bias" type="xs:duration"/>
  <xs:attribute name="Name" type="xs:string"/>
  <xs:attribute name="Id" type="xs:string"/>
</xs:complexType>
<xs:element name="RecurringDayTransition" type="t:RecurringDayTransitionType"
substitutionGroup="t:Transition"/>
<xs:element name="RecurringDateTransition" type="t:RecurringDateTransitionType"
substitutionGroup="t:Transition"/>
<xs:complexType name="RecurringDateTransitionType">
  <xs:complexContent>
    <xs:extension base="t:RecurringTimeTransitionType">
      <xs:sequence>
        <xs:element name="Day" type="xs:int"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
<xs:complexType name="RecurringDayTransitionType">
  <xs:complexContent>
    <xs:extension base="t:RecurringTimeTransitionType">
      <xs:sequence>
        <xs:element name="DayOfWeek" type="t:DayOfWeekType"/>
        <xs:element name="Occurrence" type="xs:int"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
<xs:complexType name="RecurringTimeTransitionType" abstract="true">
  <xs:complexContent>
    <xs:extension base="t:TransitionType">
      <xs:sequence>
        <xs:element name="TimeOffset" type="xs:duration"/>
        <xs:element name="Month" type="xs:int"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
<xs:complexType name="TimeZoneContextType">
  <xs:sequence>
    <xs:element name="TimeZoneDefinition" type="t:TimeZoneDefinitionType"/>
  </xs:sequence>
  <xs:anyAttribute namespace="http://schemas.xmlsoap.org/soap/envelope/">
</xs:complexType>
<xs:element name="TimeZoneContext" type="t:TimeZoneContextType"/>
<xs:complexType name="TimeZoneDefinitionType">
  <xs:sequence minOccurs="0">
    <xs:element name="Periods" type="t:NonEmptyArrayOfPeriodsType"/>
    <xs:element name="TransitionsGroups" type="t:ArrayOfTransitionsGroupsType"
minOccurs="0"/>
    <xs:element name="Transitions" type="t:ArrayOfTransitionsType" minOccurs="0"/>
  </xs:sequence>
  <xs:attribute name="Id" type="xs:string"/>
  <xs:attribute name="Name" type="xs:string"/>
</xs:complexType>
<xs:simpleType name="TransitionTargetKindType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Period"/>
    <xs:enumeration value="Group"/>
  </xs:restriction>
</xs:simpleType>
<xs:complexType name="TransitionTargetType">
  <xs:simpleContent>
    <xs:extension base="xs:string">
      <xs:attribute name="Kind" type="t:TransitionTargetKindType"
use="required"/>

```

```
        </xs:extension>
      </xs:simpleContent>
    </xs:complexType>
    <xs:complexType name="TransitionType" abstract="false">
      <xs:sequence>
        <xs:element name="To" type="t:TransitionTargetType"/>
      </xs:sequence>
    </xs:complexType>
    <xs:element name="Transition" type="t:TransitionType"/>
  </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 released service packs.

- Microsoft Exchange Server 2010
- Microsoft Exchange Server 2013
- Microsoft Exchange Server 2016 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.

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## 9 Change Tracking

This section identifies changes that were made to this document since the last release. 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.
- The removal of a document from the documentation set.

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 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 changes were introduced. Minor editorial and formatting changes may have been made, but the technical content of the document is identical to the last released version.

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.
- 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 [dochelp@microsoft.com](mailto:dochelp@microsoft.com).

| Section  | Tracking number (if applicable) and description    | Major change (Y or N) | Change type     |
|--|--|-----------------------|-----------------|
| <a href="#">8</a> Appendix C: Product Behavior | Added Exchange 2016 to list of supported products. | Y                     | Content update. |

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