

# [MS-ASAIRS]: ActiveSync AirSyncBase Namespace Protocol Specification

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## Revision Summary

Date	Revision History	Revision Class	Comments
12/03/2008	1.0	Major	Initial Release.
03/04/2009	1.0.1	Editorial	Revised and edited technical content.
04/10/2009	2.0	Major	Updated technical content and applicable product releases.
07/15/2009	3.0	Major	Revised and edited for technical content.
11/04/2009	3.1.0	Minor	Updated the technical content.
02/10/2010	3.0.2	Editorial	Updated the technical content.
05/05/2010	4.0.0	Major	Updated and revised the technical content.
08/04/2010	5.0	Major	Significantly changed the technical content.
11/03/2010	6.0	Major	Significantly changed the technical content.
03/18/2011	7.0	Major	Significantly changed the technical content.
08/05/2011	7.1	Minor	Clarified the meaning of the technical content.
10/07/2011	7.2	Minor	Clarified the meaning of the technical content.
01/20/2012	8.0	Major	Significantly changed the technical content.
04/27/2012	8.1	Minor	Clarified the meaning of the technical content.
07/16/2012	9.0	Major	Significantly changed the technical content.
10/08/2012	10.0	Major	Significantly changed the technical content.

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# 1 Introduction

The ActiveSync AirSyncBase Namespace Protocol describes the elements in the AirSyncBase namespace, which are used by the commands specified in [\[MS-ASCMD\]](#) to identify the size, type, and content of the data sent by and returned to the client. The AirSyncBase namespace contains elements used in both request and response command messages.

Sections 1.8, 2, and 3 of this specification are normative and can contain the terms MAY, SHOULD, MUST, MUST NOT, and SHOULD NOT as defined in RFC 2119. Sections 1.5 and 1.9 are also normative but cannot contain those terms. All other sections and examples in this specification are informative.

## 1.1 Glossary

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

**Hypertext Transfer Protocol (HTTP)**  
**Unicode**

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

**Attachment object**  
**attachments table**  
**base64 encoding**  
**calendar**  
**Hypertext Markup Language (HTML)**  
**message body**  
**Message object**  
**message part**  
**Object Linking and Embedding (OLE)**  
**plain text**  
**Rich Text Format (RTF)**  
**store**  
**Uniform Resource Identifier (URI)**  
**XML namespace**  
**XML schema**  
**XML schema definition (XSD)**

The following terms are specific to this document:

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

## 1.2 References

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

### 1.2.1 Normative References

We conduct frequent surveys of the normative references to assure their continued availability. If you have any issue with finding a normative reference, please contact [dochelp@microsoft.com](mailto:dochelp@microsoft.com). We will assist you in finding the relevant information. Please check the archive site,

<http://msdn2.microsoft.com/en-us/library/E4BD6494-06AD-4aed-9823-445E921C9624>, as an additional source.

[MS-ASCMD] Microsoft Corporation, "[ActiveSync Command Reference Protocol Specification](#)".

[MS-ASDTYPE] Microsoft Corporation, "[ActiveSync Data Types](#)".

[MS-ASEMAIL] Microsoft Corporation, "[ActiveSync E-Mail Class Protocol Specification](#)".

[MS-ASHTTP] Microsoft Corporation, "[ActiveSync HTTP Protocol Specification](#)".

[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>

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

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

### 1.2.2 Informative References

[MS-ASCAL] Microsoft Corporation, "[ActiveSync Calendar Class Protocol Specification](#)".

[MS-ASCNTC] Microsoft Corporation, "[ActiveSync Contact Class Protocol Specification](#)".

[MS-ASCON] Microsoft Corporation, "[ActiveSync Conversations Protocol Specification](#)".

[MS-ASDOC] Microsoft Corporation, "[ActiveSync Document Class Protocol Specification](#)".

[MS-ASMS] Microsoft Corporation, "[ActiveSync Short Message Service Protocol Specification](#)".

[MS-ASNOTE] Microsoft Corporation, "[ActiveSync Notes Class Protocol Specification](#)".

[MS-ASRM] Microsoft Corporation, "[ActiveSync Rights Management Protocol Specification](#)".

[MS-ASTASK] Microsoft Corporation, "[ActiveSync Tasks Class Protocol Specification](#)".

[MS-GLOS] Microsoft Corporation, "[Windows Protocols Master Glossary](#)".

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

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

### 1.3 Overview

The elements specified in the AirSyncBase namespace are used by multiple ActiveSync commands to identify the size, type, and content of data sent by and returned to the client. In order to use the elements in the AirSyncBase namespace, the namespace and elements are included in the command request and response messages as specified in this document.

### 1.4 Relationship to Other Protocols

The AirSyncBase namespace is used by the following protocols.

- ActiveSync Calendar Class Protocol, described in [\[MS-ASCAL\]](#)

- ActiveSync Command Reference Protocol, described in [\[MS-ASCMD\]](#)
- ActiveSync Contact Class Protocol, described in [\[MS-ASCNTC\]](#)
- ActiveSync Conversations Protocol, described in [\[MS-ASCON\]](#)
- ActiveSync Document Class Protocol, described in [\[MS-ASDOC\]](#)
- ActiveSync E-mail Class Protocol, described in [\[MS-ASEMAIL\]](#)
- ActiveSync Short Message Service Protocol, described in [\[MS-ASMS\]](#)
- ActiveSync Notes Class Protocol, described in [\[MS-ASNOTE\]](#)
- ActiveSync Rights Management Protocol, described in [\[MS-ASRM\]](#)
- ActiveSync Tasks Class Protocol, described in [\[MS-ASTASK\]](#)

The elements in this specification use data types specified in [\[MS-ASDTYPE\]](#).

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

## 1.5 Prerequisites/Preconditions

To use the elements in the AirSyncBase namespace, include the namespace in the command request. The namespace is included by adding the following to the command request:

```
<CommandName xmlns:airsyncbase="ClassName:">
```

For a complete example, see [\[MS-ASCMD\]](#) section 4.10.1.1.

## 1.6 Applicability Statement

This specification applies to the **ItemOperations**, **Search**, and **Sync** commands, as specified in [\[MS-ASCMD\]](#).

## 1.7 Versioning and Capability Negotiation

None.

## 1.8 Vendor-Extensible Fields

The **Type** element can be extended to include custom message types. For more details, see section [2.2.2.22.4](#).

## 1.9 Standards Assignments

None.

## 2 Messages

### 2.1 Transport

The elements specified in the following sections are sent and received by using the **ItemOperations**, **Search**, and **Sync** commands, as specified in [\[MS-ASCMD\]](#).

### 2.2 Message Syntax

The AirSyncBase namespace adheres to the following **XML schema definition (XSD)**, using the mechanisms specified in [\[XMLNS\]](#) and [\[XMLSCHEMA1\]](#):

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema
  attributeFormDefault="unqualified"
  xmlns:airsyncbase="AirSyncBase:"
  xmlns:email2="Email2:"
  xmlns:itemoperations="ItemOperations:"
  elementFormDefault="qualified"
  targetNamespace="AirSyncBase:"
  xmlns:xs="http://www.w3.org/2001/XMLSchema"
  xmlns="AirSyncBase:">

  <xs:element name="FileReference" type="xs:string" />
  <xs:element name="BodyPreference">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="Type" type="xs:unsignedByte" />
        <xs:element name="TruncationSize" minOccurs="0" type="xs:unsignedInt" />
        <xs:element name="AllOrNone" minOccurs="0" type="xs:boolean"/>
        <xs:element name="Preview" minOccurs="0">
          <xs:simpleType>
            <xs:restriction base="xs:unsignedInt">
              <xs:minInclusive value="0"/>
              <xs:maxInclusive value="255"/>
            </xs:restriction>
          </xs:simpleType>
        </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="BodyPartPreference">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="Type">
          <xs:simpleType>
            <xs:restriction base="xs:unsignedByte">
              <xs:minInclusive value="1"/>
              <xs:maxInclusive value="4"/>
            </xs:restriction>
          </xs:simpleType>
        </xs:element>
        <xs:element name="TruncationSize" minOccurs="0" type="xs:unsignedInt" />
        <xs:element name="AllOrNone" minOccurs="0" type="xs:boolean"/>
        <xs:element name="Preview" minOccurs="0">
          <xs:simpleType>
            <xs:restriction base="xs:unsignedInt">
```



```

        <xs:minInclusive value="0"/>
        <xs:maxInclusive value="255"/>
    </xs:restriction>
</xs:simpleType>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
<xs:element name="Body">
    <xs:complexType>
        <xs:sequence>
            <xs:element name="Type" type="xs:unsignedByte" />
            <xs:element name="EstimatedDataSize" type="xs:unsignedInt" minOccurs="0"/>
            <xs:element name="Truncated" minOccurs="0" type="xs:boolean"/>
            <xs:element name="Data" minOccurs="0" type="xs:string" />
            <xs:element name="Preview" minOccurs="0" type="xs:string" />
            <xs:element ref="itemoperations:Part" minOccurs="0" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="BodyPart">
    <xs:complexType>
        <xs:sequence>
            <xs:element name="Status">
                <xs:simpleType>
                    <xs:restriction base="xs:unsignedByte">
                        <xs:enumeration value="1"/>
                        <xs:enumeration value="176"/>
                    </xs:restriction>
                </xs:simpleType>
            </xs:element>
            <xs:element name="Type" type="xs:unsignedByte" />
            <xs:element name="EstimatedDataSize" type="xs:unsignedInt" />
            <xs:element name="Truncated" minOccurs="0" type="xs:boolean"/>
            <xs:element name="Data" minOccurs="0" type="xs:string" />
            <xs:element name="Preview" minOccurs="0" type="xs:string" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="Attachments">
    <xs:complexType>
        <xs:sequence>
            <xs:element name="Attachment" maxOccurs="unbounded">
                <xs:complexType>
                    <xs:all>
                        <xs:element name="DisplayName" type="xs:string" minOccurs="0"/>
                        <xs:element name="FileReference" type="xs:string" />
                        <xs:element name="Method" type="xs:unsignedByte" />
                        <xs:element name="EstimatedDataSize" type="xs:unsignedInt" />
                        <xs:element name="ContentId" type="xs:string" minOccurs="0" />
                        <xs:element name="ContentLocation" type="xs:string"
minOccurs="0"/>
                        <xs:element name="IsInline" minOccurs="0" type="xs:boolean"/>
                        <xs:element ref="email2:UmAttDuration" minOccurs="0" />
                        <xs:element ref="email2:UmAttOrder" minOccurs="0" />
                    </xs:all>
                </xs:complexType>
            </xs:element>
        </xs:sequence>
    </xs:complexType>
</xs:element>

```

```

    </xs:complexType>
  </xs:element>
  <xs:complexType name="EmptyTag"/>
  <xs:element name="NativeBodyType" type="xs:unsignedByte" />
  <xs:group name="TopLevelSchemaProps">
    <xs:sequence>
      <xs:choice maxOccurs="unbounded">
        <xs:element name="Body" type="airsyncbase:EmptyTag"/>
        <xs:element name="BodyPart" type="airsyncbase:EmptyTag"/>
        <xs:element name="Attachments" type="airsyncbase:EmptyTag"/>
      </xs:choice>
    </xs:sequence>
  </xs:group>
</xs:schema>

```

## 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
None	AirSyncBase	
airsync	AirSync	<a href="#">[MS-ASCMD]</a> section 2.2.2.19
email2	Email2	<a href="#">[MS-AEMAIL]</a> section 2.2
itemoperations	ItemOperations	<a href="#">[MS-ASCMD]</a> section 2.2.2.8
search	Search	<a href="#">[MS-ASCMD]</a> section 2.2.2.14
xs	http://www.w3.org/2001/XMLSchema	<a href="#">[XMLSCHEMA1]</a>

## 2.2.2 Elements

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

Element name	Description
<b>FileReference</b> (section <a href="#">2.2.2.13.2</a> )	A unique identifier that is assigned by the server to each attachment to a message.
<b>BodyPreference</b> (section <a href="#">2.2.2.7</a> )	A collection of elements that sets the preference information related to the type and size of information that is returned from searching, synchronizing, or fetching.
<b>Type</b> (section <a href="#">2.2.2.22.4</a> )	The preferred format type of the body content of the item.
<b>TruncationSize</b> (section <a href="#">2.2.2.21.2</a> )	Specifies the size, in bytes, of the content that the client wants to search, synchronize, or fetch.
<b>AllOrNone</b> (section <a href="#">2.2.2.21.2</a> )	Specifies whether to search, synchronize, or retrieve all or none of the

Element name	Description
<a href="#">2.2.2.1.2</a> )	content based on the <b>TruncationSize</b> element.
<b>Preview</b> (section <a href="#">2.2.2.18.4</a> )	The preferred length of the message preview to be returned to the client.
<b>BodyPartPreference</b> (section <a href="#">2.2.2.6</a> )	A collection of elements that sets the preference information related to the type and size of information that is returned from searching, synchronizing, or fetching a <b>BodyPart</b> .
<b>Type</b> (section <a href="#">2.2.2.22.3</a> )	The preferred format type of the body part content of the item.
<b>TruncationSize</b> (section <a href="#">2.2.2.21.1</a> )	Specifies the size, in bytes, of the content that the client wants to search, synchronize, or fetch.
<b>AllOrNone</b> (section <a href="#">2.2.2.1.1</a> )	Specifies whether to search, synchronize, or retrieve all or none of the content based on the <b>TruncationSize</b> element.
<b>Preview</b> (section <a href="#">2.2.2.18.3</a> )	The preferred length of the message preview to be returned to the client.
<b>Body</b> (section <a href="#">2.2.2.4</a> )	A collection of elements that specifies a free-form, variable-length data field associated with a stored item on the server.
<b>Type</b> (section <a href="#">2.2.2.22.1</a> )	The format type of the body content of the item.
<b>EstimatedDataSize</b> (section <a href="#">2.2.2.12.2</a> )	An informational estimate of the size of the data associated with the item's <b>Body</b> element.
<b>Truncated</b> (section <a href="#">2.2.2.20.1</a> )	Specifies whether the body of the item has been truncated according to the <b>BodyPreference</b> element indicated by the client.
<b>Data</b> (section <a href="#">2.2.2.10.1</a> )	The body of the <b>calendar</b> item, contact, document, e-mail, or task.
<b>Preview</b> (section <a href="#">2.2.2.18.1</a> )	The length of the message preview to be returned to the client.
<b>Part</b> (section <a href="#">2.2.2.17</a> )	The integer index into the metadata of the multipart response.
<b>BodyPart</b> (section <a href="#">2.2.2.5</a> )	A collection of elements that contains the <b>message part</b> of the body of an e-mail.
<b>Status</b> (section <a href="#">2.2.2.19</a> )	The status of the <b>Data</b> element within the <b>BodyPart</b> response.
<b>Type</b> (section <a href="#">2.2.2.22.2</a> )	The format type of the body part content of the item.
<b>EstimatedDataSize</b> (section <a href="#">2.2.2.12.3</a> )	An informational estimate of the size of the data associated with the item's <b>BodyPart</b> element.
<b>Truncated</b> (section <a href="#">2.2.2.20.2</a> )	Specifies whether the body of the item has been truncated according to the <b>BodyPartPreference</b> element indicated by the client.
<b>Data</b> (section <a href="#">2.2.2.10.2</a> )	The body part of the calendar item, contact, document, e-mail, note, or task.
<b>Preview</b> (section <a href="#">2.2.2.18.2</a> )	The length of the message preview to be returned to the client.
<b>Attachments</b> (section <a href="#">2.2.2.3</a> )	A collection of elements that contains one or more attachment items.

Element name	Description
<b>Attachment</b> (section <a href="#">2.2.2.2</a> )	Specifies the attachment information for a single attachment item.
<b>DisplayName</b> (section <a href="#">2.2.2.11</a> )	The display name of the attachment.
<b>FileReference</b> (section <a href="#">2.2.2.13.1</a> )	The location of an item on the server to retrieve.
<b>Method</b> (section <a href="#">2.2.2.15</a> )	Identifies the method in which the attachment was attached.
<b>EstimatedDataSize</b> (section <a href="#">2.2.2.12.1</a> )	An informational estimate of the size of the data associated with the attachment.
<b>ContentId</b> (section <a href="#">2.2.2.8</a> )	Contains the unique object ID for an attachment.
<b>ContentLocation</b> (section <a href="#">2.2.2.9</a> )	Contains the relative <b>URI</b> for an attachment, which is used to match a reference to an inline attachment in an <b>HTML</b> message to the attachment in the <b>attachments table</b> .
<b>IsInline</b> (section <a href="#">2.2.2.14</a> )	Specifies whether the attachment is embedded in the message.
<b>NativeBodyType</b> (section <a href="#">2.2.2.16</a> )	The original format type of the item.

### 2.2.2.1 AllOrNone

The **AllOrNone** element is a child element of the **BodyPartPreference** element (section [2.2.2.6](#)) and the **BodyPreference** element (section [2.2.2.7](#)) that specifies whether to search, synchronize, or retrieve all or none of the content based on the **TruncationSize** element (section [2.2.2.21](#)).

The value of this element is a **boolean** value ([\[MS-ASDTYPE\]](#) section 2.1). When the value is set to 1 (TRUE) and the content has not been truncated, all of the content is searched, synchronized, or retrieved. When the value is set to 1 (TRUE) and the content has been truncated, the content is not searched, synchronized, or retrieved. When the value is set to 0 (FALSE), the truncated or nontruncated content is searched, synchronized, or retrieved.

#### 2.2.2.1.1 AllOrNone (BodyPartPreference)

The **AllOrNone** element is an optional child element of the **BodyPartPreference** element (section [2.2.2.6](#)). A command request MUST have a maximum of 1 **AllOrNone** element per **BodyPartPreference** element. If the **AllOrNone** element is not included in the request, the truncated or nontruncated content is searched, synchronized, or retrieved as if the value was set to 0 (FALSE). The **AllOrNone** element MUST NOT be used in command responses.

This element MUST be ignored if the **TruncationSize** element is not included.

A client can include multiple **BodyPartPreference** elements in a command request with different values for the **Type** element (section [2.2.2.22.3](#)). By default, the server returns the data truncated to the size requested by **TruncationSize** for the **Type** element that matches the native storage format of the item's **Body** element (section [2.2.2.4](#)). But, if the client also includes the **AllOrNone** element with a value of 1 (TRUE) along with the **TruncationSize** element, it is instructing the server not to return a truncated response for that type when the size (in bytes) of the available data exceeds the value of the **TruncationSize** element. For example, a client can use these two elements to signify that it cannot process partial **Rich Text Format (RTF)** data (a **Type** element

value of 3). In this case, if the client has specified multiple **BodyPartPreference** elements, the server selects the next **BodyPartPreference** element that will return the maximum amount of body text to the client. Assume that the client specifies two **BodyPartPreference** elements:

```
<airsynbase:BodyPartPreference>
  <airsynbase:Type>2</airsynbase:Type>
  <airsynbase:AllOrNone>1</airsynbase:AllOrNone>
  <airsynbase:TruncationSize>50</airsynbase:TruncationSize>
</airsynbase:BodyPartPreference>

<airsynbase:BodyPartPreference>
  <airsynbase:Type>1</airsynbase:Type>
  <airsynbase:TruncationSize>50</airsynbase:TruncationSize>
</airsynbase:BodyPartPreference>
```

The first **BodyPartPreference** element requests an HTML body, but only if the body size is less than 50 bytes. The second requests an element in **plain text** format. If the client requests a text body whose native format is HTML, and the size of the data exceeds 50 bytes, the server converts the body to plain text and returns the first 50 bytes of plain text data.

### 2.2.2.1.2 AllOrNone (BodyPreference)

The **AllOrNone** element is an optional child element of the **BodyPreference** element (section [2.2.2.7](#)). A command request MUST have a maximum of 1 **AllOrNone** element per **BodyPreference** element. If the **AllOrNone** element is not included in the request, then the truncated or non-truncated content is searched, synchronized, or retrieved as if the value was set to 0 (FALSE). The **AllOrNone** element MUST NOT be used in command responses.

This element MUST be ignored if the **TruncationSize** element is not included.

A client can include multiple **BodyPreference** elements in a command request with different values for the **Type** element (section [2.2.2.2.4](#)). By default, the server returns the data truncated to the size requested by **TruncationSize** for the **Type** element that matches the native storage format of the item's **Body** element (section [2.2.2.4](#)). But, if the client also includes the **AllOrNone** element with a value of 1 (TRUE) along with the **TruncationSize** element, it is instructing the server not to return a truncated response for that type when the size (in bytes) of the available data exceeds the value of the **TruncationSize** element. For example, a client can use these two elements to signify that it cannot process partial Rich Text Format (RTF) data (a **Type** element value of 3). In this case, if the client has specified multiple **BodyPreference** elements, the server selects the next **BodyPreference** element that will return the maximum amount of body text to the client. Assume that the client specifies two **BodyPreference** elements.

```
<airsynbase:BodyPreference>
  <airsynbase:Type>2</airsynbase:Type>
  <airsynbase:AllOrNone>1</airsynbase:AllOrNone>
  <airsynbase:TruncationSize>50</airsynbase:TruncationSize>
</airsynbase:BodyPreference>

<airsynbase:BodyPreference>
  <airsynbase:Type>1</airsynbase:Type>
  <airsynbase:TruncationSize>50</airsynbase:TruncationSize>
</airsynbase:BodyPreference>
```

The first **BodyPreference** element requests an HTML body, but only if the body size is less than 50 bytes. The second requests an element in plain text format. If the client requests a text body whose

native format is HTML, and the size of the data exceeds 50 bytes, the server converts the body to plain text and returns the first 50 bytes of plain text data.

### 2.2.2.2 Attachment

The **Attachment** element is a required child element of the **Attachments** element (section [2.2.2.3](#)) and specifies the attachment information for a single attachment item.

Command requests MUST NOT include the **Attachment** element.

The **Attachment** element has the following child elements in any order (elements noted as optional can be in the response):

- **DisplayName** (section [2.2.2.11](#)). This element is optional.
- **FileReference** (section [2.2.2.13.1](#)). This element is required.
- **Method** (section [2.2.2.15](#)). This element is required.
- **EstimatedDataSize** (section [2.2.2.12.1](#)). This element is required.
- **ContentId** (section [2.2.2.8](#)). This element is optional.
- **ContentLocation** (section [2.2.2.9](#)). This element is optional.
- **IsInline** (section [2.2.2.14](#)). This element is optional.
- **email2:UmAttDuration** ([\[MS-ASEMAIL\]](#) section 2.2.2.69). This element is optional.
- **email2:UmAttOrder** ([\[MS-ASEMAIL\]](#) section 2.2.2.70). This element is optional.

### 2.2.2.3 Attachments

The **Attachments** element is an optional child element of the **Properties** element ([\[MS-ASCMD\]](#) section 2.2.3.128) in the **ItemOperations** command response that contains one or more attachment items.

Command requests MUST NOT include the **Attachments** element.

The **Attachments** element has the following child elements:

- **Attachment** (section [2.2.2.2](#)): At least one instance of this element is required.

### 2.2.2.4 Body

The **Body** element is an optional child element of the **airsync:ApplicationData** element (as specified in [\[MS-ASCMD\]](#) section 2.2.3.11), the **itemoperations:Properties** element (as specified in [\[MS-ASCMD\]](#) section 2.2.3.128.1), and the **search:Properties** element (as specified in [\[MS-ASCMD\]](#) section 2.2.3.128.2) that specifies a free-form, variable-length data field associated with a stored item on the server. Examples include, but are not limited to, the body of an e-mail message and the Notes field in a contact. The **Body** element MUST be included in a response message whenever an item has changes or new items are created.

The **Body** element is a container ([\[MS-ASDTYPE\]](#) section 2.2).

There is no limit on the number of **Body** elements in a command response. When included in a command response, the **Body** element indicates the existence of one or more variable-length fields of data associated with the item. Command requests can include the **Body** element.

The **Body** element, if present, has the following required and optional child elements in this order:

- **Type** (section [2.2.2.22.1](#)): This element is required.
- **EstimatedDataSize** (section [2.2.2.12.2](#)): This element is optional.
- **Truncated** (section [2.2.2.20.1](#)). This element has no effect in a command request and is optional in the response.
- **Data** (section [2.2.2.10.1](#)): This element is optional.
- **Part** (section [2.2.2.17](#)): This element is optional.
- **Preview** (section [2.2.2.18.1](#)): This element is optional.

### 2.2.2.5 BodyPart

The **BodyPart** element is an optional child element of the **airsync:ApplicationData** element that specifies details about the message part of an e-mail in a response. The **BodyPart** element MUST be included in a command response when the **BodyPartPreference** element (section [2.2.2.6](#)) is specified in a request.

The **BodyPart** element is a container ([\[MS-ASDTYPE\]](#) section 2.2).

There is no limit on the number of **BodyPart** elements in a command response. Command requests MUST NOT include the **BodyPart** element.

In a response, the **airsync:ApplicationData** element MUST be the parent element of the **BodyPart** element.

The **BodyPart** element, if present, MUST have its required and optional child elements in the following order:

- **Status** (section [2.2.2.19](#)). This element is required.
- **Type** (section [2.2.2.22.2](#)). This element is required.
- **EstimatedDataSize** (section [2.2.2.12.3](#)). This element is required.
- **Truncated** (section [2.2.2.20.2](#)). This element is optional.
- **Data** (section [2.2.2.10.2](#)). This element is optional.
- **Preview** (section [2.2.2.18.2](#)). This element is optional.

### 2.2.2.6 BodyPartPreference

The **BodyPartPreference** element is an optional [<1>](#) container (as specified in [\[MS-ASDTYPE\]](#) section 2.2) element that sets preference information related to the type and size of information that is returned from searching, synchronizing, or fetching a message part.

A command response MUST NOT include a **BodyPartPreference** element. Command requests can include the **BodyPartPreference** element.

In a request, the **Options** element MUST be the parent element of the **BodyPartPreference** element. The **BodyPartPreference** element, if present, MUST have the following required and optional child elements in the following order:

- **Type** (section [2.2.2.22.3](#)). This element is required.
- **TruncationSize** (section [2.2.2.21.1](#)). This element is optional.
- **AllOrNone** (section [2.2.2.1.1](#)). This element is optional.
- **Preview** (section [2.2.2.18.3](#)). This element is optional.

The contents of the **Options** element specify preferences for all of the content that the user is interested in searching, synchronizing, or retrieving. These preferences are set on a per-request basis and override any stored information. Because this information is required to process every request, the information can be persisted on the server if network load is a concern.

There MUST be one explicit **BodyPartPreference** element for each **Type** value specified in the set of preferences in order to request a **BodyPart** element (section [2.2.2.5](#)) of that **Type** in the response.

### 2.2.2.7 BodyPreference

The **BodyPreference** element is an optional container (as specified in [\[MS-ASDTYPE\]](#) section 2.2) element that sets preference information related to the type and size of information that is returned from searching, synchronizing, or fetching.

A command response MUST NOT include the **BodyPreference** element. Command requests can include the **BodyPreference** element.

The **BodyPreference** element, if present, has the following child elements in this order:

- **Type** (section [2.2.2.22.4](#)). This element is required.
- **TruncationSize** (section [2.2.2.21.2](#)). This element is optional.
- **AllOrNone** (section [2.2.2.1.2](#)). This element is optional.
- **Preview** (section [2.2.2.18.4](#)). This element is optional.

The contents of the **airsync:Options**, **itemoperations:Options**, or **search:Options** element specify preferences for all of the content that the user is interested in searching, synchronizing, or retrieving. These preferences are persisted by the server from request to request for the specified client, and can be changed by the inclusion of an **airsync:Options** element in any subsequent request.

A request MUST NOT contain more than one **BodyPreference** element for each allowable value of the **Type** element.

### 2.2.2.8 ContentId

The **ContentId** element is an optional child element of the **Attachment** element (section [2.2.2.2](#)) that contains the unique object ID for an attachment. This element is provided for informational purposes only and can be ignored by the client.

The value of this element is a **string** value ([\[MS-ASDTYPE\]](#) section 2.6).



A command response MUST have a maximum of one **ContentId** element per **Attachment** element.

The **ContentId** element MUST have no child elements.

### 2.2.2.9 ContentLocation

The **ContentLocation** element is an optional child element of the **Attachment** element (section [2.2.2.2](#)) that contains the relative URI for an attachment, and is used to match a reference to an inline attachment in an HTML message to the attachment in the attachments table.

The value of this element is a **string** ([\[MS-ASDTYPE\]](#) section 2.6) value.

A command response MUST have a maximum of one **ContentLocation** element per **Attachment** element.

The **ContentLocation** element MUST have no child elements.

### 2.2.2.10 Data

The **Data** element is a child element of the **Body** element (section [2.2.2.4](#)) and the **BodyPart** element (section [2.2.2.5](#)) that contains the data of the **message body (2)** or the message part of the calendar item, contact, document, e-mail, or task.

The value of this element is a **string** ([\[MS-ASDTYPE\]](#) section 2.6).

#### 2.2.2.10.1 Data (Body)

The **Data** element is an optional child element of the **Body** element (section [2.2.2.4](#)). A command response MUST have a maximum of one **Data** element within each returned **Body** element. Command requests can include the **Data** element. This element MUST NOT be present in multipart responses, as specified in [\[MS-ASCMD\]](#) section 2.2.2.8.1.

In a response, the **Data** element MUST have no child elements.

The content of the **Data** element is returned as a **string** in the format that is specified by the **Type** element (section [2.2.2.22.1](#)). If the value of the **Type** element is 3 (RTF), the value of the **Data** element is encoded using **base64 encoding**.

If the **Truncated** element (section [2.2.2.20.1](#)) is included in the response, the data in the **Data** element is truncated. The **EstimatedDataSize** element (section [2.2.2.12.2](#)) provides a rough estimation of the actual size of the complete content of the **Data string**.

#### 2.2.2.10.2 Data (BodyPart)

The **Data** element is an optional child element of the **BodyPart** element (section [2.2.2.5](#)). A command response MUST have a maximum of one **Data** element within each returned **BodyPart** element.

In a response, the **Data** element MUST have no child elements.

The content of the **Data** element is returned as a **string** in the format that is specified by the **Type** element (section [2.2.2.22.2](#)). If the value of the **Type** element is 3 (RTF), the value of the **Data** element is encoded using base64 encoding.

If the **Truncated** element (section [2.2.2.20.2](#)) is included in the response, then the data in the **Data** element is truncated. The **EstimatedDataSize** element (section [2.2.2.12.3](#)) provides a rough estimation of the actual size of the complete content of the **Data string**.

### 2.2.2.11 DisplayName

The **DisplayName** element is an optional child element of the **Attachment** element (section [2.2.2.2](#)) that specifies the display name of the attachment.

The value of this element is a **string** value ([\[MS-ASDTYPE\]](#) section 2.6).

A command response MUST have a maximum of one **DisplayName** element per **Attachment** element.

The **DisplayName** element MUST have no child elements.

### 2.2.2.12 EstimatedDataSize

The **EstimatedDataSize** element is a child element of the **Attachment** element (section [2.2.2.2](#)), the **Body** element (section [2.2.2.4](#)), and the **BodyPart** element (section [2.2.2.5](#)) that provides an informational estimate of the size of the data associated with the parent element.

The value of this element is an **integer** value ([\[MS-ASDTYPE\]](#) section 2.5).

The **EstimatedDataSize** value represents an estimate of the original size of the content in the **store** and is specified in bytes. This number is only an estimate, and the actual size of the content when fetched can differ based on the content filtering rules applied.

#### 2.2.2.12.1 EstimatedDataSize (Attachment)

The **EstimatedDataSize** element is required child element of the **Attachment** element (section [2.2.2.2](#)).

A command response MUST have a maximum of one **EstimatedDataSize** element per **Attachment** element.

The **EstimatedDataSize** element MUST have no child elements.

#### 2.2.2.12.2 EstimatedDataSize (Body)

The **EstimatedDataSize** element is an optional child element of the **Body** element (section [2.2.2.4](#)). The **EstimatedDataSize** element SHOULD be included in a response message whenever the **Truncated** element is set to TRUE.

A command response MUST have a maximum of one **EstimatedDataSize** element per **Body** element.

The **EstimatedDataSize** element MUST have no child elements.

#### 2.2.2.12.3 EstimatedDataSize (BodyPart)

The **EstimatedDataSize** element is a required child element of the **BodyPart** element (section [2.2.2.5](#)). The **EstimatedDataSize** element SHOULD be included in a response message whenever the **Truncated** element is set to TRUE.

A command response MUST have a maximum of one **EstimatedDataSize** element per **BodyPart** element. The **EstimatedDataSize** element MUST have no child elements.

### 2.2.2.13 FileReference

The **FileReference** element is a child element of the **itemoperations:Fetch** element ([\[MS-ASCMD\]](#) section 2.2.3.63.1) and the **Attachment** element (section [2.2.2.2](#)).

The value of this element is a **string** value ([\[MS-ASDTYPE\]](#) section 2.6).

#### 2.2.2.13.1 FileReference (Attachment)

The **FileReference** element is a required child element of the **Attachment** element (section [2.2.2.2](#)) that specifies the location of an item on the server to retrieve.

#### 2.2.2.13.2 FileReference (Fetch)

In an **ItemOperations** command request (as specified in [\[MS-ASCMD\]](#) section 2.2.2.8), the **FileReference** element is an optional child element of the **itemoperations:Fetch** element (as specified in [\[MS-ASCMD\]](#) section 2.2.3.63.1). The **FileReference** element specifies a unique identifier that is assigned by the server to each **Attachment object** to a **Message object**.

If the client includes a zero-length string for the value of this element in an **ItemOperations** command request, the server responds with a protocol status error of 15.

The **FileReference** element MUST have no child elements.

### 2.2.2.14 IsInline

The **IsInline** element is an optional child element of the **Attachment** element (section [2.2.2.2](#)) that specifies whether the attachment is embedded in the message.

The value of this element is a **boolean** value ([\[MS-ASDTYPE\]](#) section 2.1).

A command response MUST have a maximum of one **IsInline** element per **Attachment** element.

The **IsInline** element MUST have no child elements.

### 2.2.2.15 Method

The **Method** element is a required child element of the **Attachment** element (section [2.2.2.2](#)) that identifies the method in which the attachment was attached.

The value of this element is an **unsignedByte** value ([\[MS-ASDTYPE\]](#) section 2.7).

A command response MUST have a maximum of one **Method** element per **Attachment** element.

The **Method** element MUST have no child elements.

The following table defines the valid values of the **Method** enumeration.

Value	Meaning	Notes
1	Normal attachment	The attachment is a normal attachment. This is the most common value.

Value	Meaning	Notes
2	Reserved	Do not use.
3	Reserved	Do not use.
4	Reserved	Do not use.
5	Embedded message	Indicates that the attachment is an e-mail message, and that the attachment file has an .eml extension.
6	Attach OLE	Indicates that the attachment is an embedded <b>Object Linking and Embedding (OLE)</b> object, such as an inline image.

### 2.2.2.16 NativeBodyType

The **NativeBodyType** element is a required child element of the **airsync:ApplicationData** element ([\[MS-ASCMD\]](#)) in the **Sync** command that specifies the original format type of the item.

The value of this element is an **unsignedByte** value ([\[MS-ASDTYPE\]](#) section 2.7).

A command response **MUST** have a maximum of one **NativeBodyType** element per **airsync:ApplicationData** element. Command requests can include the **NativeBodyType** element.

The **NativeBodyType** element **MUST** have no child elements.

The following table defines the valid values of the **NativeBodyType** enumeration.

Enumeration value	Description
1	Plain text
2	HTML
3	RTF

The **NativeBodyType** and **Type** elements have the same value unless the server has modified the format of the body to match the client's request. The client can specify a preferred body format by using the **Type** element of a **Search** or **Sync** command request.

### 2.2.2.17 Part

The **Part** element ([\[MS-ASCMD\]](#) section 2.2.3.120) is an optional child element of the **Body** element (section [2.2.2.4](#)) that contains an integer index into the metadata of the multipart response. This element **MUST** be present in multipart responses, as specified in [\[MS-ASCMD\]](#) section 2.2.2.8.1. This element **MUST NOT** be present in requests or non-multipart responses.

The value of this element is an **integer** ([\[MS-ASDTYPE\]](#) section 2.5).

### 2.2.2.18 Preview

The **Preview** element is a child element of the **Body** element (section [2.2.2.4](#)), the **BodyPart** element (section [2.2.2.5](#)), the **BodyPartPreference** element (section [2.2.2.6](#)), and the **BodyPreference** element (section [2.2.2.6](#)).

### 2.2.2.18.1 Preview (Body)

The **Preview** element is an optional [<2>](#) child element of the **Body** element (section [2.2.2.4](#)) that contains the **Unicode** plain text message or message part preview returned to the client.

The value of this element is a **string** ([\[MS-ASDTYPE\]](#) section 2.6). The **Preview** element in a response MUST contain no more than the number of characters specified in the request.

Command responses MUST have a maximum of one **Preview** element per **Body** element.

The **Preview** element MUST have no child elements.

### 2.2.2.18.2 Preview (BodyPart)

The **Preview** element is an optional [<3>](#) child element of the **BodyPart** element (section [2.2.2.5](#)) that contains the Unicode plain text message or message part preview returned to the client.

The value of this element is a **string** ([\[MS-ASDTYPE\]](#) section 2.6). The **Preview** element in a response MUST contain no more than the number of characters specified in the request. The **Preview** element MUST be present in a command response if a **BodyPartPreference** element (section [2.2.2.6](#)) in the request included a **Preview** element and the server can honor the request.

Command responses MUST have a maximum of one **Preview** element per **BodyPart** element.

The **Preview** element MUST have no child elements.

### 2.2.2.18.3 Preview (BodyPartPreference)

The **Preview** element is an optional child element of the **BodyPartPreference** element (section [2.2.2.6](#)) that specifies the maximum length of the Unicode plain text message or message part preview to be returned to the client.

The value of this element is an **integer** value ([\[MS-ASDTYPE\]](#) section 2.5). This element MUST have a value set from 0 to 255, inclusive.

A command request MUST have a maximum of one **Preview** element per **BodyPartPreference** element.

The **Preview** element MUST have no child elements.

### 2.2.2.18.4 Preview (BodyPreference)

The **Preview** element is an optional [<4>](#) child element of the **BodyPreference** element (section [2.2.2.7](#)) that specifies the maximum length of the Unicode plain text message or message part preview to be returned to the client.

The value of this element is an **integer** value (as specified in [\[MS-ASDTYPE\]](#) section 2.5). This element MUST have a value set from 0 to 255, inclusive.

A command request MUST have a maximum of one **Preview** element per **BodyPreference** element.

The **Preview** element MUST have no child elements.

### 2.2.2.19 Status

The **Status** element is a required child element of the **BodyPart** element (section [2.2.2.5](#)) that indicates the success or failure of the response in returning **Data** element content (section [2.2.2.10.2](#)) given the **BodyPartPreference** element settings (section [2.2.2.6](#)) in the request.

The following table lists valid values for the **Status** element.

Value	Meaning
1	Success.
176	The message part is too large.

### 2.2.2.20 Truncated

The **Truncated** element is a child element of the **Body** element (section [2.2.2.4](#)) and the **BodyPart** element (section [2.2.2.5](#)). The value of this element is a **boolean** value ([\[MS-ASDTYPE\]](#) section 2.1) that specified whether the body or body part has been truncated.

#### 2.2.2.20.1 Truncated (Body)

The **Truncated** element is an optional child element of the **Body** element (section [2.2.2.4](#)) that specifies whether the body of the item has been truncated according to the **BodyPreference** element (section [2.2.2.7](#)) indicated by the client.

If the value is TRUE, then the body of the item has been truncated. If the value is FALSE, or there is no **Truncated** element, then the body of the item has not been truncated.

If a **Truncated** element is included in a command request, then it is ignored by the server.

A command response MUST have a maximum of one **Truncated** element per **Body** element.

#### 2.2.2.20.2 Truncated (BodyPart)

The **Truncated** element is an optional child element of the **BodyPart** element (section [2.2.2.5](#)) that specifies whether the body of the item has been truncated according to the **BodyPartPreference** element (section [2.2.2.6](#)) indicated by the client.

If the value is TRUE, then the body of the item has been truncated. If the value is FALSE, or there is no **Truncated** element, then the body of the item has not been truncated.

A command response MUST have a maximum of one **Truncated** element per **BodyPart** element.

### 2.2.2.21 TruncationSize

The **TruncationSize** element is a child element of the **BodyPartPreference** element (section [2.2.2.6](#)) and the **BodyPreference** element (section [2.2.2.7](#)). The value of this element is an **integer** value ([\[MS-ASDTYPE\]](#) section 2.5) that specifies the size, in bytes, of the content that the user wants to **Search**, **Synchronize**, or **Fetch**.

#### 2.2.2.21.1 TruncationSize (BodyPartPreference)

The **TruncationSize** element is an optional child element of the **BodyPartPreference** element (section [2.2.2.6](#)).

A command request MUST have a maximum of one **TruncationSize** element per **BodyPartPreference** element.

Command responses MUST NOT include the **TruncationSize** element.

The **TruncationSize** element MUST have no child elements.

The maximum value for **TruncationSize** is 4,294,967,295. If the **TruncationSize** element is absent, the entire content is used for the request.

#### 2.2.2.21.2 TruncationSize (BodyPreference)

The **TruncationSize** element is an optional child element of the **BodyPreference** type (section [2.2.2.7](#)).

A command request MUST have a maximum of one **TruncationSize** element per **BodyPreference** element.

Command responses MUST NOT include the **TruncationSize** element.

The **TruncationSize** element MUST have no child elements.

The maximum value for **TruncationSize** is 4,294,967,295. If the **TruncationSize** element is absent, the entire content is used for the request.

#### 2.2.2.22 Type

The **Type** element is a child element of the **Body** element (section [2.2.2.4](#)), the **BodyPart** element (section [2.2.2.5](#)), the **BodyPartPreference** element (section [2.2.2.6](#)), and the **BodyPreference** element (section [2.2.2.7](#)). The value of this element is an **unsignedByte** value ([\[MS-ASDTYPE\]](#) section 2.7) that indicates the format type of the body content of the item.

The following table defines the valid values of the **Type** element.

Enumeration value	Description
1	Plain text
2	HTML
3	RTF
4	MIME

##### 2.2.2.22.1 Type (Body)

The **Type** element is a required element of the **Body** element (section [2.2.2.4](#)).

A command request or response MUST have a maximum of one **Type** element per **Body** element.

The **Type** element MUST have no child elements.

##### 2.2.2.22.2 Type (BodyPart)

The **Type** element is a required child element of the **BodyPart** element (section [2.2.2.5](#)).

A command response MUST have a maximum of one **Type** element per **BodyPart** element.

The **Type** element MUST have no child elements.

### 2.2.2.22.3 Type (BodyPartPreference)

The **Type** element is a required child element of the **BodyPartPreference** element (section [2.2.2.6](#)).

A command request MUST have a maximum of one **Type** element per **BodyPartPreference** element.

The **Type** element MUST have no child elements.

Only a value of 2 (HTML) SHOULD be used in the **Type** element of a **BodyPartPreference** element.

### 2.2.2.22.4 Type (BodyPreference)

The **Type** element is a required child element of the **BodyPreference** element (section [2.2.2.7](#)).

A command request MUST have a maximum of one **Type** element per **BodyPreference** element.

The **Type** element MUST have no child elements.

## 2.2.3 Groups

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

Group	Description
<b>TopLevelSchemaProps</b>	Identifies the <b>Body</b> element (section <a href="#">2.2.2.4</a> ), <b>BodyPart</b> element (section <a href="#">2.2.2.5</a> ), and the <b>Attachments</b> element (section <a href="#">2.2.2.3</a> ) as being part of the <b>TopLevelSchemaProps</b> group.

### 2.2.3.1 TopLevelSchemaProps

The **TopLevelSchemaProps** group identifies the **Body** element (section [2.2.2.4](#)), the **BodyPart** element (section [2.2.2.5](#)), and the **Attachments** element (section [2.2.2.3](#)) as being part of the **TopLevelSchemaProps** group. The **TopLevelSchemaProps** group is used by the **ItemOperations** command request specified in [\[MS-ASCMD\]](#) section 2.2.2.8.2.



## 3 Protocol Details

### 3.1 Client Details

#### 3.1.1 Abstract Data Model

None.

#### 3.1.2 Timers

None.

#### 3.1.3 Initialization

None.

#### 3.1.4 Higher-Layer Triggered Events

None.

#### 3.1.5 Message Processing Events and Sequencing Rules

##### 3.1.5.1 Commands

The following table lists the commands that use the XML elements specified by this protocol.

Command	Description
<b>ItemOperations</b>	Retrieves an item from the server.
<b>Search</b>	Searches the server for items that match the specified criteria.
<b>Sync</b>	Synchronizes changes in a collections set between the client and the server.

##### 3.1.5.1.1 ItemOperations

The request message for the **ItemOperations** command can include the following elements:

- **FileReference** (section [2.2.2.13.2](#))
- **BodyPreference** (section [2.2.2.7](#))
  - **Type** (section [2.2.2.22.4](#))
  - **TruncationSize** (section [2.2.2.21.2](#))
  - **AllOrNone** (section [2.2.2.1.2](#))
- **BodyPartPreference** (section [2.2.2.6](#))
  - **Type** (section [2.2.2.22.3](#))
  - **TruncationSize** (section [2.2.2.21.1](#))
  - **AllOrNone** (section [2.2.2.1.1](#))

### 3.1.5.1.2 Search

The request message for the **Search** command can include the following elements and types:

- **BodyPreference** (section [2.2.2.7](#))
  - **Type** (section [2.2.2.22.4](#))
  - **TruncationSize** (section [2.2.2.21.2](#))
  - **AllOrNone** (section [2.2.2.1.2](#))
- **BodyPartPreference** (section [2.2.2.6](#))
  - **Type** (section [2.2.2.22.3](#))
  - **TruncationSize** (section [2.2.2.21.1](#))
  - **AllOrNone** (section [2.2.2.1.1](#))

The **BodyPartPreference** element is only supported in a **Search** command request when the **ConversationId** element ([\[MS-ASCMD\]](#) section 2.2.3.35.2) is also included.

### 3.1.5.1.3 Sync

The request message for the **Sync** command can include the following elements and types:

- **BodyPreference** (section [2.2.2.7](#))
  - **Type** (section [2.2.2.22.4](#))
  - **TruncationSize** (section [2.2.2.21.2](#))
  - **AllOrNone** (section [2.2.2.1.2](#))
  - **Preview** (section [2.2.2.18.3](#))
- **BodyPartPreference** (section [2.2.2.6](#))
  - **Type** (section [2.2.2.22.3](#))
  - **TruncationSize** (section [2.2.2.21.1](#))
  - **AllOrNone** (section [2.2.2.1.1](#))
  - **Preview** (section [2.2.2.18.3](#))
- **Attachments** (section [2.2.2.3](#))
  - **Attachment** (section [2.2.2.2](#))
  - **FileReference** (section [2.2.2.13.1](#))
  - **Method** (section [2.2.2.15](#))
  - **EstimatedDataSize** (section [2.2.2.12.1](#))

### 3.1.6 Timer Events

None.

### 3.1.7 Other Local Events

None.

## 3.2 Server Details

### 3.2.1 Abstract Data Model

None.

### 3.2.2 Timers

None.

### 3.2.3 Initialization

None.

### 3.2.4 Higher-Layer Triggered Events

None.

### 3.2.5 Message Processing Events and Sequencing Rules

#### 3.2.5.1 Validating XML

When the server receives an **ItemOperations**, **Search**, or **Sync** command, it SHOULD check any of the XML elements specified in section [2.2.2](#) that are present in the command's XML body to ensure they comply with the requirements regarding data type, number of instances, order, and placement in the XML hierarchy. Unless specified in the following table, if an element does not meet the requirements specified for that element, the server SHOULD return protocol status error 2 for an **ItemOperations** command (as specified in [\[MS-ASCMD\]](#) section 2.2.2.8) or a **Search** command (as specified in [\[MS-ASCMD\]](#) section 2.2.2.14), and protocol status error 6 for a **Sync** command (as specified in [\[MS-ASCMD\]](#) section 2.2.2.19).

Element name	Condition	Protocol Status Error
<b>BodyPreference</b> (section <a href="#">2.2.2.7</a> )	Child elements are not in the correct order.	4 (for <b>Sync</b> command)
<b>BodyPreference</b>	Multiple <b>BodyPreference</b> elements are present with the same value in the <b>Type</b> child element	Server SHOULD return 4 (for <b>Sync</b> command), but MAY return an <b>HTTP</b> error 500.<5>
<b>AllOrNone</b> (section <a href="#">2.2.2.1.2</a> )	The <b>AllOrNone</b> element is not of type <b>boolean</b> .	4 (for <b>Sync</b> command)
<b>AllOrNone</b>	Multiple <b>AllOrNone</b> elements in a single <b>BodyPreference</b> element.	4 (for <b>Sync</b> command)

### 3.2.5.2 Commands

The following table lists the commands that use the XML elements specified by this protocol.

Command	Description
<b>ItemOperations</b>	Retrieves an item from the server.
<b>Search</b>	Searches the server for items that match the specified criteria.
<b>Sync</b>	Synchronizes changes in a collections set between the client and the server.

The server SHOULD process commands as specified in [\[MS-ASCMD\]](#). The server SHOULD modify responses based on the elements specified in section [2.2.2](#) as specified for each element.

#### 3.2.5.2.1 ItemOperations

The response message for the **ItemOperations** command can include the following:

- **Body** (section [2.2.2.4](#))
  - **Type** (section [2.2.2.22.1](#))
  - **EstimatedDataSize** (section [2.2.2.12.2](#))
  - **Truncated** (section [2.2.2.20.1](#))
  - **Data** (section [2.2.2.10.1](#))
  - **Preview** (section [2.2.2.18.1](#))
- **BodyPart** (section [2.2.2.5](#))
  - **Status** (section [2.2.2.19](#))
  - **Type** (section [2.2.2.22.2](#))
  - **EstimatedDataSize** (section [2.2.2.12.3](#))
  - **Truncated** (section [2.2.2.20.2](#))
  - **Data** (section [2.2.2.10.2](#))
  - **Preview** (section [2.2.2.18.2](#))

#### 3.2.5.2.2 Search

The response message for the **Search** command can include the following:

- **Attachments** (section [2.2.2.3](#))
  - **Attachment** (section [2.2.2.2](#))
    - **DisplayName** (section [2.2.2.11](#))
    - **FileReference** (section [2.2.2.13.1](#))
    - **Method** (section [2.2.2.15](#))

- **EstimatedDataSize** (section [2.2.2.12.1](#))
- **ContentId** (section [2.2.2.8](#))
- **ContentLocation** (section [2.2.2.9](#))
- **IsInline** (section [2.2.2.14](#))
- **Body** (section [2.2.2.4](#))
  - **Type** (section [2.2.2.22.1](#))
  - **EstimatedDataSize** (section [2.2.2.12.2](#))
  - **Truncated** (section [2.2.2.20.1](#))
  - **Data** (section [2.2.2.10.1](#))
  - **Preview** (section [2.2.2.18.1](#))
- **BodyPart** (section [2.2.2.5](#))
  - **Status** (section [2.2.2.19](#))
  - **Type** (section [2.2.2.22.2](#))
  - **EstimatedDataSize** (section [2.2.2.12.3](#))
  - **Truncated** (section [2.2.2.20.2](#))
  - **Data** (section [2.2.2.10.2](#))
  - **Preview** (section [2.2.2.18.2](#))

### 3.2.5.2.3 Sync

The response message for the **Sync** command can include the following:

- **Attachments** (section [2.2.2.3](#))
  - **Attachment** (section [2.2.2.2](#))
    - **DisplayName** (section [2.2.2.11](#))
    - **FileReference** (section [2.2.2.13.1](#))
    - **Method** (section [2.2.2.15](#))
    - **EstimatedDataSize** (section [2.2.2.12.1](#))
    - **ContentId** (section [2.2.2.8](#))
    - **ContentLocation** (section [2.2.2.9](#))
    - **IsInline** (section [2.2.2.14](#))
- **Body** (section [2.2.2.4](#))
  - **Type** (section [2.2.2.22.1](#))

- **Truncated** (section [2.2.2.20.1](#))
- **Data** (section [2.2.2.10.1](#))
- **BodyPart** (section [2.2.2.5](#))
  - **Type** (section [2.2.2.22.2](#))
  - **Truncated** (section [2.2.2.20.2](#))
  - **Data** (section [2.2.2.10.2](#))
- **NativeBodyType** (section [2.2.2.16](#))

### 3.2.6 Timer Events

None.

### 3.2.7 Other Local Events

None.

## 4 Protocol Examples

For examples of the **Search** command using this protocol, see [\[MS-ASCMD\]](#) section 4.11. For examples of the **ItemOperations** command using this protocol, see [\[MS-ASCMD\]](#) section 4.10.2 and [\[MS-ASCMD\]](#) section 4.10.4. For examples of the **Sync** command using this protocol, see [\[MS-ASCMD\]](#) section 4.5.7.

## **5 Security**

### **5.1 Security Considerations for Implementers**

None.

### **5.2 Index of Security Parameters**

None.



## 6 Appendix A: Product Behavior

The information in this specification is applicable to the following Microsoft products or supplemental software. References to product versions include released service packs:

- Microsoft® Exchange Server 2007 Service Pack 1 (SP1)
- Microsoft® Exchange Server 2010
- Microsoft® Exchange Server 2013
- Windows® Communication Apps

Exceptions, if any, are noted below. If a service pack or Quick Fix Engineering (QFE) number appears with the product version, behavior changed in that service pack or QFE. The new behavior also applies to subsequent service packs of the product unless otherwise specified. If a product edition appears with the product version, behavior is different in that product edition.

Unless otherwise specified, any statement of optional behavior in this specification that is prescribed using the terms SHOULD or SHOULD NOT implies product behavior in accordance with the SHOULD or SHOULD NOT prescription. Unless otherwise specified, the term MAY implies that the product does not follow the prescription.

[<1> Section 2.2.2.6:](#) The **BodyPartPreference** element is not supported when the **MS-ASProtocolVersion** header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.4, is set to 12.1 or 14.0.

[<2> Section 2.2.2.18.1:](#) The **Preview** element is not supported when the **MS-ASProtocolVersion** header is set to 12.1.

[<3> Section 2.2.2.18.2:](#) The **Preview** element is not supported when the **MS-ASProtocolVersion** header is set to 12.1.

[<4> Section 2.2.2.18.4:](#) The **Preview** element is not supported when the **MS-ASProtocolVersion** header is set to 12.1.

[<5> Section 3.2.5.1:](#) Exchange 2007 SP1 returns an HTTP error 500 instead of a **Status** value of 4 when multiple **BodyPreference** elements are present with the same value in the **Type** child element.

## 7 Change Tracking

This section identifies changes that were made to the [MS-ASAIRS] protocol document between the July 2012 and October 2012 releases. Changes are classified as New, Major, Minor, Editorial, or No change.

The revision class **New** means that a new document is being released.

The revision class **Major** means that the technical content in the document was significantly revised. Major changes affect protocol interoperability or implementation. Examples of major changes are:

- A document revision that incorporates changes to interoperability requirements or functionality.
- An extensive rewrite, addition, or deletion of major portions of content.
- The removal of a document from the documentation set.
- Changes made for template compliance.

The revision class **Minor** means that the meaning of the technical content was clarified. Minor changes do not affect protocol interoperability or implementation. Examples of minor changes are updates to clarify ambiguity at the sentence, paragraph, or table level.

The revision class **Editorial** means that the language and formatting in the technical content was changed. Editorial changes apply to grammatical, formatting, and style issues.

The revision class **No change** means that no new technical or language changes were introduced. The technical content of the document is identical to the last released version, but minor editorial and formatting changes, as well as updates to the header and footer information, and to the revision summary, may have been made.

Major and minor changes can be described further using the following change types:

- New content added.
- Content updated.
- Content removed.
- New product behavior note added.
- Product behavior note updated.
- Product behavior note removed.
- New protocol syntax added.
- Protocol syntax updated.
- Protocol syntax removed.
- New content added due to protocol revision.
- Content updated due to protocol revision.
- Content removed due to protocol revision.
- New protocol syntax added due to protocol revision.

- Protocol syntax updated due to protocol revision.
- Protocol syntax removed due to protocol revision.
- New content added for template compliance.
- Content updated for template compliance.
- Content removed for template compliance.
- Obsolete document removed.

Editorial changes are always classified with the change type **Editorially updated**.

Some important terms used in the change type descriptions are defined as follows:

- **Protocol syntax** refers to data elements (such as packets, structures, enumerations, and methods) as well as interfaces.
- **Protocol revision** refers to changes made to a protocol that affect the bits that are sent over the wire.

The changes made to this document are listed in the following table. For more information, please contact [protocol@microsoft.com](mailto:protocol@microsoft.com).

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
<a href="#">1.2.2 Informative References</a>	Added the reference [MS-OXPROTO].	N	Content updated.
<a href="#">1.4 Relationship to Other Protocols</a>	Added informative reference information for overview of relationships between this and other protocols.	N	Content updated.
<a href="#">2.2 Message Syntax</a>	Added maxOccurs="unbounded" to Attachment element definition.	N	Content updated.
<a href="#">2.2 Message Syntax</a>	Updated the schema of the Status element.	N	Content updated.
<a href="#">2.2.2.4 Body</a>	Revised the guidance for when the Body element MUST be included in a response.	Y	Content updated.
<a href="#">2.2.2.10.1 Data (Body)</a>	Replaced "MAY" with "can".	Y	Content updated.
<a href="#">2.2.2.10.2 Data (BodyPart)</a>	Removed statement that the Data element MAY be present in command requests.	Y	Content updated.
<a href="#">2.2.2.15 Method</a>	Changed the data type of the Method element to unsignedByte.	N	Content updated.
<a href="#">2.2.2.16 NativeBodyType</a>	Replaced "MAY" with "can".	Y	Content updated.
<a href="#">2.2.2.16 NativeBodyType</a>	Changed the data type of the NativeBodyType element to unsignedByte.	N	Content updated.

<b>Section</b>	<b>Tracking number (if applicable) and description</b>	<b>Major change (Y or N)</b>	<b>Change type</b>
<a href="#">2.2.2.19 Status</a>	Clarified that Status is a required child element of the BodyPart element.	N	Content updated.
<a href="#">2.2.2.20.2 Truncated (BodyPart)</a>	Removed statement regarding a Truncated element being present in a request.	N	Content updated.
<a href="#">2.2.2.22 Type</a>	Changed the data type of the Type element to unsignedByte.	N	Content updated.
<a href="#">2.2.2.22.2 Type (BodyPart)</a>	Removed statement that command requests MUST have a maximum of one Type element.	Y	Content updated.
<a href="#">2.2.2.22.3 Type (BodyPartPreference)</a>	Removed statement that command responses MUST have a maximum of one Type element.	Y	Content updated.
<a href="#">2.2.2.22.4 Type (BodyPreference)</a>	Removed statement that command responses MUST have a maximum of one Type element.	Y	Content updated.
<a href="#">3.1.5.1.2 Search</a>	Added information that the BodyPartPreference element is only supported if the ConversationId element is present.	N	Content updated.
<a href="#">3.2.5.1 Validating XML</a>	Added behavior note for Exchange 2007 SP1 when there are multiple BodyPreference elements with the same value in the Type child element.	Y	New product behavior note added.

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