

# [MS-ASDOC]: ActiveSync Document Class Protocol Specification

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## Revision Summary

Date	Revision History	Revision Class	Comments
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03/04/2009	1.0.2	Editorial	Revised and edited technical content.
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# 1 Introduction

ActiveSync supports accessing documents stored in Windows Sharepoint Services and on file shares specified using Universal Naming Convention (UNC) paths. The Document **class** protocol specifies how such document data is communicated from the server to the client in the ActiveSync protocol.

## 1.1 Glossary

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

**class**  
**collection**  
**Coordinated Universal Time (UTC)**  
**folder**  
**Multipurpose Internet Mail Extensions (MIME)**  
**Uniform Resource Identifier (URI)**  
**WAP Binary XML (WBXML)**  
**XML**  
**XML schema**

The following terms are specific to this document:

**Uniform Naming Convention (UNC):** A format for referencing an object, such as a folder or computer, that is shared across a local area network (LAN).

**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

### 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-ASAIRS] Microsoft Corporation, "[ActiveSync AirSyncBase Namespace Protocol Specification](#)", December 2008.

[MS-ASCMD] Microsoft Corporation, "[ActiveSync Command Reference Protocol Specification](#)", December 2008.

[MS-ASDTYPE] Microsoft Corporation, "[ActiveSync Data Types](#)", December 2008.

[MS-ASWBXML] Microsoft Corporation, "[ActiveSync WAP Binary XML \(WBXML\) Protocol Specification](#)", December 2008.

[MS-OXGLOS] Microsoft Corporation, "[Exchange Server Protocols Master Glossary](#)", April 2008.

[RFC822] Crocker, D., "STANDARD FOR THE FORMAT OF ARPA INTERNET TEXT MESSAGES", RFC 822, August 1982, <http://www.ietf.org/rfc/rfc0822.txt>

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

[XML] Bray, T., Paoli, J., Sperberg-McQueen, C., Eds., et al., "Extensible Markup Language (XML) 1.0 (Fifth Edition)", W3C Recommendation, November 2008, <http://www.w3.org/TR/REC-xml/>

### **1.2.2 Informative References**

None.

### **1.3 Overview**

The Document class protocol specifies the **XML** representation of documents used for client and server communication as specified in [\[MS-ASCMD\]](#).

### **1.4 Relationship to Other Protocols**

The Document class protocol specifies the XML representation of documents that are used by commands specified in [\[MS-ASCMD\]](#). The protocol governing the transmission of these commands between the client and the server is specified in [\[MS-ASCMD\]](#).

All simple data types in this document conform to the data type definitions specified in [\[MS-ASDTYPE\]](#).

### **1.5 Prerequisites/Preconditions**

None.

### **1.6 Applicability Statement**

This protocol specifies a set of elements and complex types for use in communicating document data using the commands specified in [\[MS-ASCMD\]](#). This set of elements and complex types is applicable when communicating document data such as the document's name, location, estimated size, and visibility between a mobile device and a server. These elements and complex types are not applicable when sending calendar, e-mail, note, contact, or task data between a mobile device and a server.

### **1.7 Versioning and Capability Negotiation**

None.

### **1.8 Vendor-Extensible Fields**

None.

### **1.9 Standards Assignments**

None.

## 2 Messages

### 2.1 Transport

The Document class consists of a series of XML elements that are embedded inside of a command or a **collection** sent in accordance with [\[MS-ASCMD\]](#). The XML block containing the class elements is transmitted in either the request body of a request, or the response body of a response.

The types and elements of the Document class are defined in two namespaces: Doc and AirSyncBase. All of the Document class types and elements are specified in this document; however, complex types and elements defined in the AirSyncBase namespace are further specified in [\[MS-ASAIRS\]](#).

The parent element of the Document class elements depends upon the ActiveSync protocol command used to retrieve the class data. Commands and parent elements for the Document class **XML schema** are specified in section [3.1.5](#).

### 2.2 Message Syntax

The markup MUST be well-formed XML, as specified in [\[XML\]](#).

The XML markup that constitutes the request body or the response body is transmitted between the client and the server using **WAP Binary XML (WBXML)**. For more details, see [\[MS-ASWBXML\]](#).

The XML schema definition for the Document class in ActiveSync is as follows.

```
<?xml version="1.0" ?><xs:schema xmlns:tns="DOC:" attributeFormDefault="unqualified"
elementFormDefault="qualified"
targetNamespace="DOC:" xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:A="AirSyncBase:">
  <xs:import namespace="AirSyncBase" />
  <xs:element name="LinkId" type="xs:string" />
  <xs:element name="DisplayName" type="xs:string" />
  <xs:element name="IsFolder" type="xs:unsignedByte" />
  <xs:element name="CreationDate" type="xs:dateTime" />
  <xs:element name="LastModifiedDate" type="xs:dateTime" />
  <xs:element name="IsHidden" type="xs:unsignedByte" />
  <xs:element name="ContentLength" type="xs:unsignedByte" />
  <xs:element name="ContentType" type="xs:unsignedByte" />
</xs:schema>
```

#### 2.2.1 Complex Types

There are no complex types defined for the **document** class.

#### 2.2.2 Elements

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

Value	Description
<a href="#">LinkId</a>	The link to the document, specified as a <b>Uniform Resource Identifier (URI)</b> .

Value	Description
<a href="#">DisplayName</a>	The name of the document, as displayed by the client.
<a href="#">IsFolder</a>	Specifies whether the item is a <b>folder</b> or a document.
<a href="#">CreationDate</a>	The date and time when the document was first created.
<a href="#">LastModifiedDate</a>	The date and time when the document or its <b>properties</b> was last modified.
<a href="#">IsHidden</a>	Specifies whether this is a hidden object.
<a href="#">ContentLength</a>	The estimated size of the document, in bytes.
<a href="#">ContentType</a>	The <b>Multipurpose Internet Mail Extension (MIME)</b> type of the binary- or base-64-encoded content.

### 2.2.2.1 LinkId

The <LinkId> element is a required element that specifies the link to the document in the form of a **URI**.

### 2.2.2.2 DisplayName

The <DisplayName> element is an element that specifies the name of the document as it is displayed to the user.

The <DisplayName> element is not included in a command request. If this element is included in a command request, then the server **MUST** respond with a protocol error.

A **Search** command response has a minimum of one <DisplayName> element per response. For more information on the **Search** command, see section [3.2.5.2](#).

### 2.2.2.3 IsFolder

The <IsFolder> element is an element that specifies whether the item is a folder.

The <IsFolder> element **MUST NOT** be included in a command request. If it is included in a command request, then the server **MUST** return a protocol error.

The <IsFolder> element is required in a **Search** command response. For more information on the **Search** command, see section [3.2.5.2](#).

Valid values for this element are as follows.

Value	Description
0	The item is not a folder.
1	The item is a folder.

### 2.2.2.4 CreationDate

The <CreationDate> element is an element that specifies the date and time when the document was first created.

The <CreationDate> element MUST NOT be included in a server request. If it is included in a server request, then the server MUST respond with a protocol error.

The <CreationDate> element is required in a **Search** command server response. The **Search** command response is specified section [3.2.5.2](#).

The value of this element is in **Coordinated Universal Time (UTC)** format, as specified in [\[MS-ASDTYPE\]](#) section 2.6.

### 2.2.2.5 LastModifiedDate

The <LastModifiedDate> element is an element that specifies the date and time that the document or its properties was last modified.

The <LastModifiedDate> element MUST NOT be included in a command request. If it is included, then the server MUST respond with a protocol error.

The <LastModifiedDate> element is required in a **Search** command response. For more information, see section [3.2.5.2](#).

The value of this element is in UTC format, as specified in [\[MS-ASDTYPE\]](#) section 2.6.

### 2.2.2.6 IsHidden

The <IsHidden> element is an element that specifies that the document or folder is a hidden object.

The <IsHidden> element MUST NOT be included in a command request. When it is included, the server MUST return a protocol error.

The <IsHidden> element is required in a **Search** command response.

The <IsHidden> element is an unsigned byte, as specified in [\[MS-ASDTYPE\]](#) section 2.10.

The value of the <IsHidden> element MUST be one of the following.

Value	Description
0	Is not hidden.
1	Is hidden.

### 2.2.2.7 ContentLength

The <ContentLength> element specifies the estimated size, in bytes, of the document.

The <ContentLength> element MUST NOT be included in a command request. If the element is included in a command request, the server MUST respond with a protocol error.

The <ContentLength> element is required in a **Search** command response. The **Search** command response is specified in section [3.2.5.2](#).

Since documents accessed using the ActiveSync protocol can be shared across a network, the value of the <ContentLength> element may differ between the time the document description is retrieved and the time the document itself is accessed.

### **2.2.2.8 ContentType**

The <ContentType> element is an element that specifies the MIME type of the binary- or base64-encoded document, if known.

The <ContentType> element **MUST NOT** be included in a command request. If it is included in a command request, then the server **MUST** return a protocol error.

The <ContentType> element is optional in a command response.

## 3 Protocol Details

### 3.1 Client Details

#### 3.1.1 Abstract Data Model

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

Document class: A structured XML text block that adheres to the XML schema defined in section [2.2](#). It is returned by the server as part of a full XML response to the client commands specified in section [3.1.5](#).

Command request: A WBXML formatted message that adheres to the command schemas specified in [\[MS-ASCMD\]](#).

#### 3.1.2 Timers

None.

#### 3.1.3 Initialization

None.

#### 3.1.4 Higher-Layer Triggered Events

##### 3.1.4.1 Searching for Documents

A client searches for Document class data on a server by sending a **Search** command request.

##### 3.1.4.2 Requesting Details for a Specific Document

Document class data for one or more individual documents is requested by the client sending an **ItemOperations** command request, which is a wrapper for the **Fetch** command. An **ItemOperations** command can contain multiple **Fetch** commands.

##### 3.1.4.3 Requesting the Document Body from the Server

The body of the document is not returned in the Document class. A client submits the value of the <LinkID> element (section [2.2.2.1](#)) in a separate **ItemOperations** request to obtain the body of the document as either base64-encoded text in the <Data> element of the response or as binary data, depending on the content type requested. Content type requests for the **ItemOperations** command are specified in section [3.1.5.1](#). The <Data> element is specified in [\[MS-ASCMD\]](#) section 2.2.1.8.3.13.

#### 3.1.5 Message Processing Events and Sequencing Rules

The following sections define how various elements of the document class are used in the context of specific commands. For more details about the commands themselves, see [\[MS-ASCMD\]](#).

### 3.1.5.1 ItemOperations Command Request

A client uses the <ItemOperations> command to retrieve specific documents items from the server using the <Fetch> command. An **ItemOperations** request can contain multiple <Fetch> command.

The <LinkId> element (section [2.2.2.1](#)) is the only Document class element that can be included in an **ItemOperations** command request. The <LinkId> element (section [2.2.2.1](#)) is transmitted as a child of the <Fetch> element ([\[MS-ASCMD\]](#) section 2.2.1.8.2.2).

A client can use the HTTP header **MS-ASAcceptMultiPart: T** to specify that the server return the document data in multipart binary format. Otherwise, the document is returned as text. This header is specified in [\[MS-ASCMD\]](#) section 2.2.1.8.1.

The **ItemOperations** command is specified in [\[MS-ASCMD\]](#) section 2.2.1.8.

### 3.1.5.2 Search Command Request

A client uses the **Search** command to retrieve document class items that match the criteria specified by the client.

The <LinkId> element (section [2.2.2.1](#)) is required in a document search request. The <LinkId> element (section [2.2.2.1](#)) is transmitted as a child of the **EqualTo** type ([\[MS-ASCMD\]](#) section 2.2.1.14.1.12). The <Value> element ([\[MS-ASCMD\]](#) section 2.2.1.14.1.15) can also be included as a child of the **EqualTo** type ([\[MS-ASCMD\]](#) section 2.2.1.14.1.12). The value of the <Value> element is a string describing the **uniform naming convention (UNC)** path of a file on a file share. A full example of this usage is provided in [\[MS-ASCMD\]](#) section 4.12.1.

If the <LinkId> element is not included in a **Search** command request, then the server MUST respond with protocol error 2.

**Search** is specified in [\[MS-ASCMD\]](#) section 2.2.1.14.

### 3.1.6 Timer Events

None.

### 3.1.7 Other Local Events

None.

## 3.2 Server Details

### 3.2.1 Abstract Data Model

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

**Document class:** A structured XML text block that adheres to the XML schema defined in section [2.2](#). It is returned by the server as part of a full XML response to the client commands specified in section [3.1.5](#).

**Command response:** A WBXML formatted **Message** that adheres to the command schemas specified in [\[MS-ASCMD\]](#). The server MUST return a document class XML block for every item that matches

the criteria specified in the client command request. The server can return zero or more document class blocks in its response, depending on how many document items match the criteria specified in the client command request.

### 3.2.2 Timers

None.

### 3.2.3 Initialization

None.

### 3.2.4 Higher-Layered Triggered Events

#### 3.2.4.1 Searching for Documents

A client searches for document class data on a server by sending a **Search** command request. The server responds with a **Search** command response.

#### 3.2.4.2 Requesting Details for a Specific Document

Document class data for one or more individual documents is requested by the client sending an **ItemOperations** command request, which is a wrapper for the **Fetch** command. An **ItemOperations** command can contain multiple **Fetch** commands. The server responds with an **ItemOperations** command response.

#### 3.2.4.3 Requesting the Document Body from the Server

The body of the document is not returned in the document class. A client can submit the value of the [LinkID](#) element in a separate **ItemOperations** request to obtain the body of the document. The server responds with an **ItemOperations** command response, which returns the body of the document as either base64-encoded text in the <Data> element of the response, or as binary text in multiple parts if the command request was a multi-part request. The <Data> element is specified in [\[MS-ASCMD\]](#) section 2.2.1.8.3.13.

### 3.2.5 Message Processing Events and Sequencing Rules

The following sections define how various elements of the document class are used in the context of specific commands. For more details about the commands themselves, see [\[MS-ASCMD\]](#).

#### 3.2.5.1 ItemOperations Command Response

A client uses the **ItemOperations** command to retrieve specific document items from the server using the <Fetch> element. An **ItemOperations** request can contain multiple <Fetch> elements.

The <LinkId> element (section [2.2.2.1](#)) is the only Document class element returned in an **ItemOperations** command response.

Document class elements are returned as children of the <Fetch> element ([\[MS-ASCMD\]](#) section 2.2.1.8.2.2).

If an **ItemOperations** command request for the body of the document was made using the **MS-ASAcceptMultiPart: T** header, then the server MUST respond by providing the document body as binary data in multiple parts. Otherwise, the server MUST transmit the document as base64-

encoded data within the [Data](#) type. The behavior of content delivery for documents is specified in [\[MS-ASCMD\]](#) section 2.2.1.8.1

**ItemOperations** is specified in [\[MS-ASCMD\]](#) section 2.2.1.8.

### 3.2.5.2 Search Command Response

A client uses the **Search** command to retrieve document class items that match the criteria specified by the client.

Any of the elements for the document class can be included in a **Search** command response.

Document class elements are returned as children of the **Properties** type ([\[MS-ASCMD\]](#) section 2.2.1.14.2.2).

**Search** is specified in [\[MS-ASCMD\]](#) section 2.2.1.14.

### 3.2.6 Timer Events

None.

### 3.2.7 Other Local Events

None.

## 4 Protocol Examples

### 4.1 Searching for a Document by LinkID

The following example demonstrates searching for a document by matching its <LinkId> element (section [2.2.2.1](#)), which in this example is the **Uniform Naming Convention (UNC)** path of the document.

Request:

```
POST /Microsoft-Server-ActiveSync?Cmd=Search&User=deviceuser1&DeviceId=Device1&DeviceType=SmartPhone HTTP/1.1
Content-Type: application/vnd.ms-sync.wbxml
MS-ASProtocolVersion: 14.0
User-Agent: ASOM
Host: mail.contoso.com
Content-Length: 92
```

```
<?xml version="1.0" encoding="utf-8"?>
<Search xmlns="Search:" xmlns:A="DocumentLibrary:" >
  <Store>
    <Name>DocumentLibrary</Name>
    <Query>
      <EqualTo>
        <A:LinkId/>
        <Value>\\EXCH-D-810\DocumentShare\document.txt</Value>
      </EqualTo>
    </Query>
    <Options>
      <Range>0-999</Range>
    </Options>
  </Store>
</Search>
```

Response:

```
HTTP/1.1 200 OK
Content-Type: application/vnd.ms-sync.wbxml
Date: Wed, 11 Nov 2009 18:07:38 GMT
Content-Length: 187
```

```
<?xml version="1.0" encoding="utf-8"?>
<Search xmlns:A0="AirSync:" xmlns:A1="POOMCONTACTS:" xmlns:A2="POOMMAIL:"
xmlns:A3="AirNotify:" xmlns:A4="POOMCAL:"
xmlns:A5="Move:" xmlns:A6="GetItemEstimate:" xmlns:A7="FolderHierarchy:"
xmlns:A8="MeetingResponse:"
xmlns:A9="POOMTASKS:" xmlns:A10="ResolveRecipients:" xmlns:A11="ValidateCert:"
xmlns:A12="POOMCONTACTS2:"
xmlns:A13="Ping:" xmlns:A14="Provision:" xmlns:A16="Gal:" xmlns:A17="AirSyncBase:"
xmlns:A18="Settings:"
xmlns:A19="DocumentLibrary:" xmlns:A20="ItemOperations:" xmlns:A21="ComposeMail:"
xmlns:A22="POOMMAIL2:"
xmlns:A23="Notes:" xmlns="Search:" >
  <Status>1 Success</Status>
  <Response>
    <Store>
      <Status>1 Success</Status>
```

```

</Result>
  <Properties>
    <A19:LinkId>\\exch-d-810\DocumentShare\document.txt</A19:LinkId>
    <A19:DisplayName>document.txt</A19:DisplayName>
    <A19:IsFolder>0</A19:IsFolder>
    <A19:CreationDate>2009-11-11T17:07:08.156Z</A19:CreationDate>
    <A19:LastModifiedDate>2009-11-11T17:07:17.613Z</A19:LastModifiedDate>
    <A19:IsHidden>0</A19:IsHidden>
    <A19:ContentLength>13</A19:ContentLength>
    <A19:ContentType>text/plain</A19:ContentType>
  </Properties>
</Result>
<Range>0-0</Range>
<Total>1</Total>
</Store>
</Response>
</Search>

```

## 4.2 Retrieving the Text of Document Using ItemOperations Command

The following example demonstrates the client requesting the data for a Microsoft Word document using the **ItemOperations** command ([\[MS-ASCMD\]](#) section 2.2.1.8). (Note that, in the XML Response below, the value of the <Data> element has been truncated for the sake of brevity.)

Request:

```

POST /Microsoft-Server-ActiveSync?Cmd=ItemOperations&User=deviceuser1&DeviceId=Device1&DeviceType=SmartPhone
HTTP/1.1
Content-Type: application/vnd.ms-sync.wbxml
MS-ASProtocolVersion: 14.0
User-Agent: ASOM
Host: mail.contoso.com
Content-Length: 80

<?xml version="1.0" encoding="utf-8"?>
<ItemOperations xmlns:documentlibrary="DocumentLibrary:" xmlns="ItemOperations:">
  <Fetch>
    <Store>DocumentLibrary</Store>
    <documentlibrary:LinkId>\\EXCH-D-810\DocumentShare\Word
Document.docx</documentlibrary:LinkId>
  </Fetch>
</ItemOperations>

```

Response:

```

HTTP/1.1 200 OK
Content-Type: application/vnd.ms-sync.wbxml
Date: Wed, 11 Nov 2009 19:16:21 GMT
Content-Length: 13373

<?xml version="1.0" encoding="utf-8"?>
<ItemOperations xmlns:A0="AirSync:" xmlns:A1="POOMCONTACTS:" xmlns:A2="POOMMAIL:"
xmlns:A3="AirNotify:"
xmlns:A4="POOMCAL:" xmlns:A5="Move:" xmlns:A6="GetItemEstimate:" xmlns:A7="FolderHierarchy:"
xmlns:A8="MeetingResponse:"

```

```

xmlns:A9="POOMTASKS:" xmlns:A10="ResolveRecipients:" xmlns:A11="ValidateCert:"
xmlns:A12="POOMCONTACTS2:"
xmlns:A13="Ping:" xmlns:A14="Provision:" xmlns:A15="Search:" xmlns:A16="Gal:"
xmlns:A17="AirSyncBase:"
xmlns:A18="Settings:" xmlns:A19="DocumentLibrary:" xmlns:A21="ComposeMail:"
xmlns:A22="POOMMAIL2:" xmlns:A23="Notes:"
xmlns="ItemOperations:">
  <Status>1</Status>
  <Response>
    <Fetch>
      <Status>1</Status>
      <A19:LinkId>\\EXCH-D-810\DocumentShare\Word Document.docx</A19:LinkId>
      <Properties>

<Data>UEsDBBQABgAIAAAAIQDd/+ImYzsKNchci+VLqQHEkJU4+RzBv1jKu6vsf0VwOamabaWQ1pZ+9AtcdYN1/WD103G
n4KZu/Yy4kVyAdhb9kuYipsSc
ZyjWop9SwabDDPJZ2RYqwkNubpotX1RP9fi46FLAmhCYnP83x1nANaXg902aJ5x687HyFZLBZ9e/tDg7MvaD4BAAD//wM
AUEsDBBQABgAIAAAAIQDWZLNR
+gAAADEDAACAAgBd29yZC9fcmVscy9kb2N1bWVudC54bWwucmVscyCiBAEooAABAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAA...</Data>
      <Version>2009-11-11T19:15:45.177Z</Version>
    </Properties>
  </Fetch>
</Response>
</ItemOperations>

```

### 4.3 Browsing a Document Folder

The following example demonstrates browsing a folder on a remote share. The client submits a request for a folder to view, and the server responds with a list of the folder's contents.

Request:

```

POST /Microsoft-Server-
ActiveSync?Cmd=Search&User=deviceuser1&DeviceId=Device1&DeviceType=SmartPhone HTTP/1.1
Content-Type: application/vnd.ms-sync.wbxml
MS-ASProtocolVersion: 14.0
User-Agent: ASOM
Host: mail.contoso.com
Content-Length: 316

<?xml version="1.0" encoding="utf-8"?>
<Search xmlns="Search:" xmlns:A="DocumentLibrary:">
  <Store>
    <Name>DocumentLibrary</Name>
    <Query>
      <EqualTo>
        <A:LinkId/>
        <Value>\\myserver\myshare</Value>
      </EqualTo>
    </Query>
    <Options>
      <Range>0-999</Range>
    </Options>
  </Store>
</Search>

```

## Response:

```
HTTP/1.1 200 OK
Content-Type: application/vnd.ms-sync.wbxml
Date: Wed, 11 Nov 2009 18:07:38 GMT
Content-Length: 1383

<?xml version="1.0" encoding="utf-8"?>
<Search xmlns="Search:" xmlns:A="DocumentLibrary:">
  <Status>1</Status>
  <Response>
    <Store>
      <Status>1</Status>
      <Result>
        <Properties>
          <A:LinkId>\\myserver\myshare</A:LinkId>
          <A:DisplayName>d$</A:DisplayName>
          <A:IsFolder>1</A:IsFolder>
          <A:CreationDate>2007-10-02T00:34:28.686Z</A:CreationDate>
          <A:LastModifiedDate>2009-11-13T21:48:20.919Z</A:LastModifiedDate>
          <A:IsHidden>1</A:IsHidden>
        </Properties>
      </Result>
      <Result>
        <Properties>
          <A:LinkId>\\myserver\myshare\blah.txt</A:LinkId>
          <A:DisplayName>blah.txt</A:DisplayName>
          <A:IsFolder>0</A:IsFolder>
          <A:CreationDate>2007-10-02T18:26:52.265Z</A:CreationDate>
          <A:LastModifiedDate>2009-04-02T02:57:55.843Z</A:LastModifiedDate>
          <A:IsHidden>1</A:IsHidden>
        </Properties>
      </Result>
      <Result>
        <Properties>
          <A:LinkId>\\myserver\myshare\foo</A:LinkId>
          <A:DisplayName>foo</A:DisplayName>
          <A:IsFolder>1</A:IsFolder>
          <A:CreationDate>2009-10-13T00:43:44.660Z</A:CreationDate>
          <A:LastModifiedDate>2009-10-13T00:46:17.421Z</A:LastModifiedDate>
          <A:IsHidden>0</A:IsHidden>
        </Properties>
      </Result>
      <Range>0-2</Range>
      <Total>3</Total>
    </Store>
  </Response>
</Search>
```

## **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 product versions. References to product versions include released service packs.

- Microsoft® Exchange Server 2007
- Microsoft® Exchange Server 2010

Exceptions, if any, are noted below. If a service pack number appears with the product version, behavior changed in that service pack. The new behavior also applies to subsequent service packs of the product unless otherwise specified.

Unless otherwise specified, any statement of optional behavior in this specification 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 product does not follow the prescription.

## 7 Change Tracking

This section identifies changes made to [MS-ASDOC] protocol documentation between February 2010 and May 2010 releases. Changes are classed as major, minor, or editorial.

**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.
- A protocol is deprecated.
- The removal of a document from the documentation set.
- Changes made for template compliance.

**Minor** changes do not affect protocol interoperability or implementation. Examples are updates to fix technical accuracy or ambiguity at the sentence, paragraph, or table level.

**Editorial** changes apply to grammatical, formatting, and style issues.

**No changes** means that the document is identical to its last release.

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

- New content added.
- Content update.
- 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 always have the revision type "Editorially updated."

Some important terms used in revision 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.

Changes are listed in the following table. If you need further information, please contact [protocol@microsoft.com](mailto:protocol@microsoft.com).

Section	Tracking number (if applicable) and description	Major change (Y or N)	Revision Type
<a href="#">1.3 Overview</a>	Updated the section title.	N	Content updated for template compliance.
<a href="#">2.2.2 Elements</a>	54559 Removed paragraph prescribing that document class elements not have child elements, as this duplicates earlier normative statements about using well-formed XML.	N	Content removed.
<a href="#">2.2.2 Elements</a>	Changed acronym "URL" to "URI."	N	Content update.
<a href="#">2.2.2.1 LinkId</a>	54479 Changed description of element from optional to required.	Y	Content update.
<a href="#">2.2.2.2 DisplayName</a>	54487 Specified the server response when the client includes this element in a command request.	N	New content added.
<a href="#">2.2.2.3 IsFolder</a>	54485 Specified the server response when a client includes this element in a command request.	N	New content added.
<a href="#">2.2.2.4 CreationDate</a>	54491 Clarified that this element is only required in a Search command response.	Y	Content update.
<a href="#">2.2.2.4 CreationDate</a>	54490 Specified the server response when a client includes this element in a command request.	Y	New content added.
<a href="#">2.2.2.5 LastModifiedDate</a>	54493 Clarified server behavior when a client includes this element in a command request.	N	Content update.

<b>Section</b>	<b>Tracking number (if applicable) and description</b>	<b>Major change (Y or N)</b>	<b>Revision Type</b>
<a href="#">2.2.2.7 ContentLength</a>	Clarified that element is only required in the Search command.	Y	Content update.
<a href="#">2.2.2.7 ContentLength</a>	54495 Specified the server response when the client includes this element in a command request.	N	New content added.
<a href="#">2.2.2.8 ContentType</a>	54506 Added information about this element's use in command requests and responses.	Y	New content added.
<a href="#">3.1.5.1 ItemOperations Command Request</a>	54555 Changed "return the document data in binary format" to "return the document data in multipart binary format."	N	Content update.
<a href="#">3.1.5.1 ItemOperations Command Request</a>	54539 Clarified that the LinkId element is the only Document class element included in an ItemOperations command request.	N	Content update.
<a href="#">3.1.5.2 Search Command Request</a>	54510 Specified how the server responds when the client fails to include the LinkId element in the client request.	Y	New content added.
<a href="#">3.2.1 Abstract Data Model</a>	54529 Changed "e-mail" to "item" in the final paragraph.	N	Content update.
<a href="#">3.2.4.3 Requesting the Document Body from the Server</a>	54555 Changed "or as binary text" to "or as binary text in multiple parts."	N	Content update.
<a href="#">3.2.5.1 ItemOperations Command Response</a>	54537 Removed description of Properties type as a parent of this element.	Y	Content removed.
<a href="#">3.2.5.1 ItemOperations Command Response</a>	54539 Clarified that the LinkId element is the only Document class element returned in an ItemOperations command response.	Y	Content update.

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