[MS-ASDOC]:
ActiveSync Document Class Protocol Specification

Revision Summary

Date	Revision History	Revision Class	Comments
12/03/2008	1.0.0	Major	Initial Release.
02/04/2009	1.0.1	Editorial	Revised and edited technical content.
03/04/2009	1.0.2	Editorial	Revised and edited technical content.
04/10/2009	2.0.0	Major	Updated applicable product releases.
07/15/2009	3.0.0	Major	Revised and edited for technical content.
11/04/2009	4.0.0	Major	Updated and revised the technical content.
02/10/2010	5.0.0	Major	Updated and revised the technical content.
05/05/2010	6.0.0	Major	Updated and revised the technical content.
08/04/2010	6.0.0	No change	No changes to the meaning, language, or formatting of the technical content.
11/03/2010	6.1	Minor	Clarified the meaning of the technical content.

Contents

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]:

> **base64 encoding**
> **class**
> **collection**
> **Coordinated Universal Time (UTC)**
> **folder**
> **header**
> **Multipurpose Internet Mail Extensions (MIME)**
> **Uniform Resource Identifier (URI)**
> **Wireless Application Protocol (WAP) Binary XML (WBXML)**
> **XML**
> **XML namespace**
> **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. 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.

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

[XML] World Wide Web Consortium, "Extensible Markup Language (XML) 1.0 (Fourth Edition)", W3C Recommendation, 16 August 2006, edited in place 29 September 2006, http://www.w3.org/TR/2006/REC-xml-20060816/

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

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

1.2.2 Informative References

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

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 for use in communicating document data using the commands specified in [MS-ASCMD]. This set of elements 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 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.

Release: Tuesday, October 26, 2010

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 elements of the Document class are defined in two namespaces: DocumentLibrary and AirSyncBase. All of the Document class elements are specified in this document; however, 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 **Wireless Application Protocol (WAP) Binary XML (WBXML)**. For more details, see [MS-ASWBXML].

The XML schema definition for the Document class in ActiveSync is as follows, in accordance with the rules specified in [XMLSCHEMA1]

```
<?xml version="1.0" ?><xs:schema xmlns:tns="DocumentLibrary:"
attributeFormDefault="unqualified" elementFormDefault="qualified"
targetNamespace="DocumentLibrary:" xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns:airsyncbase="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 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 is not significant for interoperability.

Prefix	Namespace URI	Reference
None	DocumentLibrary	
airsyncbase	AirSyncBase	[MS-ASAIRS]

Prefix	Namespace URI	Reference
itemoperations	ItemOperations	[MS-ASCMD] section 2.2.2.8
search	Search	[MS-ASCMD] section 2.2.2.14
xs	http://www.w3.org/2001/XMLSchema	[XMLSCHEMA1]

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
LinkId	The link to the document, specified as a **Uniform Resource Identifier (URI)**.
DisplayName	The name of the document, as displayed by the client.
IsFolder	Specifies whether the item is a **folder** or a document.
CreationDate	The date and time when the document was first created.
LastModifiedDate	The date and time when the document or its properties was last modified.
IsHidden	Specifies whether this is a hidden object.
ContentLength	The estimated size of the document, in bytes.
ContentType	The **Multipurpose Internet Mail Extension (MIME)** type of the binary- or **base64-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 2.3.

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 2.3.

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 2.7.

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.

Because 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 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 not included in an **ItemOperations** command response ([MS-ASCMD] section 2.2.2.8). It is required in a **Search** command response ([MS-ASCMD] section 2.2.2.14).

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 **itemoperations:Fetch** element. An **ItemOperations** command can contain multiple <itemoperations:Fetch> elements.

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 <itemoperations: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 <itemoperations:Data> element is specified in [MS-ASCMD] section 2.2.2.8.3.1.2.3.6.3.

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 <itemoperations:Fetch> element. An **ItemOperations** request can contain multiple <itemoperations:Fetch> elements.

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 is transmitted as a child of the <itemoperations:Fetch> element ([MS-ASCMD] section 2.2.2.8.2.1.2).

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 2.2.2.8.1.

The **ItemOperations** command is specified in [MS-ASCMD] section 2.2.2.8.

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 <search:EqualTo> element ([MS-ASCMD] section 2.2.2.14.1.1.1.2.2). The <search:Value> element ([MS-ASCMD] section 2.2.2.14.1.1.1.2.1.5.2) can also be included as a child of the <search:EqualTo> element. The value of the <search: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 4.22.1.

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 2.2.2.14.

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 <itemoperations:Fetch> element. An **ItemOperations** command can contain multiple <itemoperations:Fetch> elements. 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 either as base64-encoded text in the <itemoperations:Data> element of the response or as binary text in multiple parts if the command request was a multi-part request. The <itemoperations:Data> element is specified in [MS-ASCMD] section 2.2.2.8.3.1.2.3.6.3.

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 <itemoperations:Fetch> element. An **ItemOperations** request can contain multiple <itemoperations: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 2.2.2.8.2.1.2).

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 <itemoperations:Data> element ([MS-ASCMD] section 2.2.2.8.3.1.2.3.6.3). The behavior of content delivery for documents is specified in [MS-ASCMD] section 2.2.2.8.1.

ItemOperations is specified in [MS-ASCMD] section 2.2.2.8.

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 <search:Properties> element ([MS-ASCMD] section 2.2.2.14.2.1.2.1.2.4).

Search is specified in [MS-ASCMD] section 2.2.2.14.

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:documentlibrary="DocumentLibrary:" >
  <Status>1 Success</Status>
  <Response>
    <Store>
      <Status>1 Success</Status>
      <Result>
        <Properties>
          <documentlibrary:LinkId>\\exch-d-
810\DocumentShare\document.txt</documentlibrary:LinkId>
          <documentlibrary:DisplayName>document.txt</documentlibrary:DisplayName>
          <documentlibrary:IsFolder>0</documentlibrary:IsFolder>
          <documentlibrary:CreationDate>2009-11-
11T17:07:08.156Z</documentlibrary:CreationDate>
```

```
            <documentlibrary:LastModifiedDate>2009-11-
11T17:07:17.613Z</documentlibrary:LastModifiedDate>
            <documentlibrary:IsHidden>0</documentlibrary:IsHidden>
            <documentlibrary:ContentLength>13</documentlibrary:ContentLength>
            <documentlibrary:ContentType>text/plain</documentlibrary: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 2.2.2.8). (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:documentlibrary="DocumentLibrary:"
>
  <Status>1</Status>
  <Response>
    <Fetch>
      <Status>1</Status>
      <documentlibrary:LinkId>\\EXCH-D-810\DocumentShare\Word
Document.docx</documentlibrary:LinkId>
```

```
        <Properties>

<Data>UEsDBBQABgAIAAAAIQDd/+ImYzsKNchci+VLqQHEkJU4+RzBv1jKu6vsf0VwOamabaWQ1pZ+9AtcdYNl/WDl03G
n4KZu/Yy4kVyAdhb9kuYipsSc
ZyjWop9SwabDDPJZ2RYqwKNuBpotX1RP9fi46FLAmhCYnP83x1nANaXg902aJ5x687HyFZLBZ9e/tDg7MvaD4BAAD//wM
AUEsDBBQABgAIAAAAIQDWZLNR
+gAAADEDAAAcAAgBd29yZC9fcmVVscy9kb2N1bWVudC54bWwucmVscyCiBAEooAABAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAA...</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:documentlibrary="DocumentLibrary:">
  <Store>
    <Name>DocumentLibrary</Name>
    <Query>
      <EqualTo>
        <documentlibrary: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:documentlibrary="DocumentLibrary:">
  <Status>1</Status>
```

```
   <Response>
     <Store>
       <Status>1</Status>
       <Result>
         <Properties>
           <documentlibrary:LinkId>\\myserver\myshare</documentlibrary:LinkId>
           <documentlibrary:DisplayName>d$</documentlibrary:DisplayName>
           <documentlibrary:IsFolder>1</documentlibrary:IsFolder>
           <documentlibrary:CreationDate>2007-10-
02T00:34:28.686Z</documentlibrary:CreationDate>
           <documentlibrary:LastModifiedDate>2009-11-
13T21:48:20.919Z</documentlibrary:LastModifiedDate>
           <documentlibrary:IsHidden>1</documentlibrary:IsHidden>
         </Properties>
       </Result>
       <Result>
         <Properties>
           <documentlibrary:LinkId\\myserver\myshare\blah.txt</documentlibrary:LinkId>
           <documentlibrary:DisplayName>blah.txt</documentlibrary:DisplayName>
           <documentlibrary:IsFolder>0</documentlibrary:IsFolder>
           <documentlibrary:CreationDate>2007-10-
02T18:26:52.265Z</documentlibrary:CreationDate>
           <documentlibrary:LastModifiedDate>2009-04-
02T02:57:55.843Z</documentlibrary:LastModifiedDate>
           <documentlibrary:IsHidden>1</documentlibrary:IsHidden>
         </Properties>
       </Result>
       <Result>
         <Properties>
           <documentlibrary:LinkId>\\myserver\myshare\foo</documentlibrary:LinkId>
           <documentlibrary:DisplayName>foo</documentlibrary:DisplayName>
           <documentlibrary:IsFolder>1</documentlibrary:IsFolder>
           <documentlibrary:CreationDate>2009-10-
13T00:43:44.660Z</documentlibrary:CreationDate>
           <documentlibrary:LastModifiedDate>2009-10-
13T00:46:17.421Z</documentlibrary:LastModifiedDate>
           <documentlibrary:IsHidden>0</documentlibrary: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 Microsoft products:

- Microsoft® Exchange Server 2007 Service Pack 1 (SP1)

- 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. 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 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 that were made to the [MS-ASDOC] protocol document between the August 2010 and November 2010 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.

- Changes made for template compliance.

- Removal of a document from the documentation set.

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

The revision class **Editorial** means that the 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 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.

The changes made to this document are listed in the following table. For more information, please contact protocol@microsoft.com.

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change Type
6 Appendix A: Product Behavior	58901 Changed Exchange 2007 SP3 to Exchange 2007 SP1.	N	Content updated.

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