**[MS-ASWBXML]:**

**Exchange ActiveSync: WAP Binary XML (WBXML) Algorithm**

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**Revision Summary**

| Date | Revision History | Revision Class | Comments |
| --- | --- | --- | --- |
| 12/3/2008 | 1.0.0 | Major | Initial Release. |
| 4/10/2009 | 2.0.0 | Major | Updated technical content and applicable product releases. |
| 7/15/2009 | 3.0.0 | Major | Revised and edited for technical content. |
| 11/4/2009 | 4.0.0 | Major | Updated and revised the technical content. |
| 2/10/2010 | 5.0.0 | Major | Updated and revised the technical content. |
| 5/5/2010 | 6.0.0 | Major | Updated and revised the technical content. |
| 8/4/2010 | 7.0 | Major | Significantly changed the technical content. |
| 11/3/2010 | 8.0 | Major | Significantly changed the technical content. |
| 3/18/2011 | 8.1 | Minor | Clarified the meaning of the technical content. |
| 8/5/2011 | 9.0 | Major | Significantly changed the technical content. |
| 10/7/2011 | 10.0 | Major | Significantly changed the technical content. |
| 1/20/2012 | 11.0 | Major | Significantly changed the technical content. |
| 4/27/2012 | 11.1 | Minor | Clarified the meaning of the technical content. |
| 7/16/2012 | 12.0 | Major | Significantly changed the technical content. |
| 10/8/2012 | 12.1 | Minor | Clarified the meaning of the technical content. |
| 2/11/2013 | 12.1 | None | No changes to the meaning, language, or formatting of the technical content. |
| 7/26/2013 | 13.0 | Major | Significantly changed the technical content. |
| 11/18/2013 | 13.0 | None | No changes to the meaning, language, or formatting of the technical content. |
| 2/10/2014 | 13.0 | None | No changes to the meaning, language, or formatting of the technical content. |
| 4/30/2014 | 14.0 | Major | Significantly changed the technical content. |
| 7/31/2014 | 14.0 | None | No changes to the meaning, language, or formatting of the technical content. |
| 10/30/2014 | 14.1 | Minor | Clarified the meaning of the technical content. |
| 5/26/2015 | 15.0 | Major | Significantly changed the technical content. |
| 6/30/2015 | 16.0 | Major | Significantly changed the technical content. |
| 9/14/2015 | 17.0 | Major | Significantly changed the technical content. |
| 6/9/2016 | 18.0 | Major | Significantly changed the technical content. |

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# Introduction

The Exchange ActiveSync: WAP Binary XML (WBXML) Algorithm incorporates [**Wireless Application Protocol (WAP) Binary XML (WBXML)**](#gt_46afe83a-7afd-42b3-8e27-07b6ae8d3dbc) functionality into the ActiveSync protocols by mapping ActiveSync [**XML schema**](#gt_bd0ce6f9-c350-4900-827e-951265294067) elements to numeric code page values. This enables ActiveSync clients to encode [**XML**](#gt_982b7f8e-d516-4fd5-8d5e-1a836081ed85) requests into WBXML for transmission to an ActiveSync server.

Sections 1.6 and 2 of this specification are normative. All other sections and examples in this specification are informative.

## Glossary

This document uses the following terms:

**contact**: A person, company, or other entity that is stored in a directory and is associated with one or more unique identifiers and attributes (2), such as an Internet message address or login name.

**Hypertext Transfer Protocol (HTTP)**: An application-level protocol for distributed, collaborative, hypermedia information systems (text, graphic images, sound, video, and other multimedia files) on the World Wide Web.

**Secure Sockets Layer (SSL)**: A security protocol that supports confidentiality and integrity of messages in client and server applications that communicate over open networks. SSL uses two keys to encrypt data-a public key known to everyone and a private or secret key known only to the recipient of the message. SSL supports server and, optionally, client authentication (2) using X.509 certificates (2). For more information, see [[X509]](http://go.microsoft.com/fwlink/?LinkId=90590). The SSL protocol is precursor to Transport Layer Security (TLS). The TLS version 1.0 specification is based on SSL version 3.0 [[SSL3]](http://go.microsoft.com/fwlink/?LinkId=90534).

**WBXML code page**: A map used to convert XML to Wireless Application Protocol (WAP) Binary XML (WBXML) that specifies the one-to-one relationships between the XML tags of a namespace and the tags' numeric representations called WBXML tokens. Each WBXML code page corresponds to an XML namespace.

**WBXML token**: A single-byte code that represents a specific XML tag.

**Wireless Application Protocol (WAP) Binary XML (WBXML)**: A compact binary representation of [**XML**](#gt_982b7f8e-d516-4fd5-8d5e-1a836081ed85) that is designed to reduce the transmission size of XML documents over narrowband communication channels.

**XML**: The Extensible Markup Language, as described in [[XML1.0]](http://go.microsoft.com/fwlink/?LinkId=90599).

**XML namespace**: A collection of names that is used to identify elements, types, and attributes in XML documents identified in a URI reference [[RFC3986]](http://go.microsoft.com/fwlink/?LinkId=90453). A combination of XML namespace and local name allows XML documents to use elements, types, and attributes that have the same names but come from different sources. For more information, see [[XMLNS-2ED]](http://go.microsoft.com/fwlink/?LinkId=90602).

**XML schema**: A description of a type of XML document that is typically expressed in terms of constraints on the structure and content of documents of that type, in addition to the basic syntax constraints that are imposed by [**XML**](#gt_982b7f8e-d516-4fd5-8d5e-1a836081ed85) itself. An XML schema provides a view of a document type at a relatively high level of abstraction.

**MAY, SHOULD, MUST, SHOULD NOT, MUST NOT:** These terms (in all caps) are used as defined in [[RFC2119]](http://go.microsoft.com/fwlink/?LinkId=90317). All statements of optional behavior use either MAY, SHOULD, or SHOULD NOT.

## References

Links to a document in the Microsoft Open Specifications library point to the correct section in the most recently published version of the referenced document. However, because individual documents in the library are not updated at the same time, the section numbers in the documents may not match. You can confirm the correct section numbering by checking the [Errata](http://msdn.microsoft.com/en-us/library/dn781092.aspx).

### Normative References

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

[MS-ASCMD] Microsoft Corporation, "[Exchange ActiveSync: Command Reference Protocol](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASCMD%5d.pdf#Section_1a3490f1afe1418aaa926f630036d65a)".

[MS-ASHTTP] Microsoft Corporation, "[Exchange ActiveSync: HTTP Protocol](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASHTTP%5d.pdf#Section_4cbf28dc287641c69d87ba9db86cd40d)".

[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](http://go.microsoft.com/fwlink/?LinkId=90317)

[WBXML1.2] Martin, B., and Jano, B., Eds., "WAP Binary XML Content Format", W3C Note, June 1999, [http://www.w3.org/1999/06/NOTE-wbxml-19990624](http://go.microsoft.com/fwlink/?LinkId=160492)

### Informative References

[MS-ASAIRS] Microsoft Corporation, "[Exchange ActiveSync: AirSyncBase Namespace Protocol](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASAIRS%5d.pdf#Section_d1ba798741bf483d904596dfe11e3d1c)".

[MS-ASCAL] Microsoft Corporation, "[Exchange ActiveSync: Calendar Class Protocol](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASCAL%5d.pdf#Section_0c4486824a6a459aae662fed0712bef9)".

[MS-ASCNTC] Microsoft Corporation, "[Exchange ActiveSync: Contact Class Protocol](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASCNTC%5d.pdf#Section_a4593b9dd9af4d27bc5c67c4c1b98d54)".

[MS-ASDOC] Microsoft Corporation, "[Exchange ActiveSync: Document Class Protocol](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASDOC%5d.pdf#Section_c503701c0e594beb9b8b038cd69a3443)".

[MS-ASEMAIL] Microsoft Corporation, "[Exchange ActiveSync: Email Class Protocol](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASEMAIL%5d.pdf#Section_f3d27369e0f54164aa5e9b1abda16f5f)".

[MS-ASNOTE] Microsoft Corporation, "[Exchange ActiveSync: Notes Class Protocol](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASNOTE%5d.pdf#Section_21801d6c000e413c859150430a8e9fd9)".

[MS-ASPROV] Microsoft Corporation, "[Exchange ActiveSync: Provisioning Protocol](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASPROV%5d.pdf#Section_449c453b74d74919bfe895972b27048a)".

[MS-ASRM] Microsoft Corporation, "[Exchange ActiveSync: Rights Management Protocol](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASRM%5d.pdf#Section_71e681b7e1784c1096b678df7fa77dfc)".

[MS-ASTASK] Microsoft Corporation, "[Exchange ActiveSync: Tasks Class Protocol](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASTASK%5d.pdf#Section_b8fe266450ba4d00bf6be4deab352c89)".

## Overview

This algorithm maps ActiveSync XML schema elements to numeric code page values for use by the ActiveSync protocols, enabling ActiveSync clients to encode WBXML requests for transmission to an ActiveSync server.

This algorithm provides [**WBXML tokens**](#gt_ec12fbbc-e750-435b-bc6e-919038ba9127) and [**WBXML code pages**](#gt_e4c66ae5-4c5e-4481-9c78-190762a37db1) that allow clients and servers to compress the XML tags in request and response messages. WBXML code pages are hard-coded on the server and cannot be changed by the client. The WBXML code pages correspond to [**XML namespaces**](#gt_485f05b3-df3b-45ac-b8bf-d05f5d185a24).

## Relationship to Protocols and Other Algorithms

The XML namespaces that are used by this algorithm are described in the ActiveSync protocol specifications, as shown in the following table.

The WBXML code page numbers in the table are listed in decimal format.

| WBXML code page | Specification |
| --- | --- |
| WBXML code page 0: AirSync | [[MS-ASCMD]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASCMD%5d.pdf#Section_1a3490f1afe1418aaa926f630036d65a) section 2.2.2.21 |
| WBXML code page 1: Contacts | [[MS-ASCNTC]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASCNTC%5d.pdf#Section_a4593b9dd9af4d27bc5c67c4c1b98d54) |
| WBXML code page 2: Email | [[MS-ASEMAIL]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASEMAIL%5d.pdf#Section_f3d27369e0f54164aa5e9b1abda16f5f) |
| WBXML code page 3: AirNotify | (no longer used) |
| WBXML code page 4: Calendar | [[MS-ASCAL]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASCAL%5d.pdf#Section_0c4486824a6a459aae662fed0712bef9) |
| WBXML code page 5: Move | [MS-ASCMD] section 2.2.2.12 |
| WBXML code page 6: GetItemEstimate | [MS-ASCMD] section 2.2.2.9 |
| WBXML code page 7: FolderHierarchy | [MS-ASCMD] sections 2.2.2.3, 2.2.2.4, 2.2.2.5, 2.2.2.6, and 2.2.2.8 |
| WBXML code page 8: MeetingResponse | [MS-ASCMD] section 2.2.2.11 |
| WBXML code page 9: Tasks | [[MS-ASTASK]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASTASK%5d.pdf#Section_b8fe266450ba4d00bf6be4deab352c89) |
| WBXML code page 10: ResolveRecipients | [MS-ASCMD] section 2.2.2.15 |
| WBXML code page 11: ValidateCert | [MS-ASCMD] section 2.2.2.22 |
| WBXML code page 12: Contacts2 | [MS-ASCNTC] |
| WBXML code page 13: Ping | [MS-ASCMD] section 2.2.2.13 |
| WBXML code page 14: Provision | [[MS-ASPROV]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASPROV%5d.pdf#Section_449c453b74d74919bfe895972b27048a) |
| WBXML code page 15: Search | [MS-ASCMD] section 2.2.2.16 |
| WBXML code page 16: GAL | [MS-ASCMD] section 2.2.2.16 |
| WBXML code page 17: AirSyncBase | [[MS-ASAIRS]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASAIRS%5d.pdf#Section_d1ba798741bf483d904596dfe11e3d1c) |
| WBXML code page 18: Settings | [MS-ASCMD] section 2.2.2.18 |
| WBXML code page 19: DocumentLibrary | [[MS-ASDOC]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASDOC%5d.pdf#Section_c503701c0e594beb9b8b038cd69a3443) |
| WBXML code page 20: ItemOperations | [MS-ASCMD] sections 2.2.2.10 |
| WBXML code page 21: ComposeMail | [MS-ASCMD] sections 2.2.2.17, 2.2.2.19, and 2.2.2.20 |
| WBXML code page 22: Email2 | [MS-ASEMAIL] |
| WBXML code page 23: Notes | [[MS-ASNOTE]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASNOTE%5d.pdf#Section_21801d6c000e413c859150430a8e9fd9) |
| WBXML code page 24: Rights Management | [[MS-ASRM]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASRM%5d.pdf#Section_71e681b7e1784c1096b678df7fa77dfc) |
| WBXML code page 25: Find | [MS-ASCMD] section 2.2.2.2 |

For conceptual background information and overviews of the relationships and interactions between this and other protocols, see [[MS-OXPROTO]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-OXPROTO%5d.pdf#Section_734ab967e43e425babe1974af56c0283).

## Applicability Statement

WBXML is used as a compact transmission format for mobile clients, which typically have little memory and bandwidth. WBXML encoding of XML tags is appropriate for all messages sent and received by using the ActiveSync protocols.

## Standards Assignments

This algorithm uses the global WBXML tokens listed in the following table.

| Token name | Token | Reference |
| --- | --- | --- |
| SWITCH\_PAGE | 0 | [[WBXML1.2]](http://go.microsoft.com/fwlink/?LinkId=160492) |
| END | 1 | [WBXML1.2] |
| ENTITY | 2 | [WBXML1.2] |
| STR\_I | 3 | [WBXML1.2] |
| LITERAL | 4 | [WBXML1.2] |
| EXT\_I\_0 | 40 | [WBXML1.2] |
| EXT\_I\_1 | 41 | [WBXML1.2] |
| EXT\_I\_2 | 42 | [WBXML1.2] |
| PI | 43 | [WBXML1.2] |
| LITERAL\_C | 44 | [WBXML1.2] |
| EXT\_T\_0 | 80 | [WBXML1.2] |
| EXT\_T\_1 | 81 | [WBXML1.2] |
| EXT\_T\_2 | 82 | [WBXML1.2] |
| STR\_T | 83 | [WBXML1.2] |
| LITERAL\_A | 84 | [WBXML1.2] |
| EXT\_0 | C0 | [WBXML1.2] |
| EXT\_1 | C1 | [WBXML1.2] |
| EXT\_2 | C2 | [WBXML1.2] |
| OPAQUE | C3 | [WBXML1.2] |
| LITERAL\_AC | C4 | [WBXML1.2] |

# Algorithm Details

## ActiveSync WBXML Algorithm Details

ActiveSync messages are transported as HTTP **POST** messages, as specified in [[MS-ASHTTP]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASHTTP%5d.pdf#Section_4cbf28dc287641c69d87ba9db86cd40d), where the body of the message contains WBXML formatted data. The WBXML data encodes the XML required by the command being communicated in the message. The ActiveSync commands are specified in [[MS-ASCMD]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASCMD%5d.pdf#Section_1a3490f1afe1418aaa926f630036d65a).

This section specifies the algorithm to encode XML request and response messages into WBXML format and to decode WBXML data into XML request and response messages. This algorithm is used by clients and servers.

### Abstract Data Model

None.

### Initialization

The XML tags in both request and response messages are encoded by using WBXML tokenization, as specified in [[WBXML1.2]](http://go.microsoft.com/fwlink/?LinkId=160492). WBXML uses WBXML code pages to map XML tags to WBXML tokens. WBXML parsers MUST use the WBXML code pages specified in the following sections.

#### Code Pages

This algorithm supports the following WBXML code pages.

| Code page | XML namespace |
| --- | --- |
| 0 | AirSync |
| 1 | Contacts |
| 2 | Email |
| 3 | AirNotify |
| 4 | Calendar |
| 5 | Move |
| 6 | GetItemEstimate |
| 7 | FolderHierarchy |
| 8 | MeetingResponse |
| 9 | Tasks |
| 10 | ResolveRecipients |
| 11 | ValidateCert |
| 12 | Contacts2 |
| 13 | Ping |
| 14 | Provision |
| 15 | Search |
| 16 | Gal |
| 17 | AirSyncBase |
| 18 | Settings |
| 19 | DocumentLibrary |
| 20 | ItemOperations |
| 21 | ComposeMail |
| 22 | Email2 |
| 23 | Notes |
| 24 | RightsManagement |
| 25 | Find |

##### Code Page 0: AirSync

The tags and tokens in WBXML code page 0 are listed in the following table. The ActiveSync protocol versions that support each tag/token are specified in the "Protocol versions" column of the table. For details about the ActiveSync protocol versions that can be used by a client or a server, see [[MS-ASHTTP]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASHTTP%5d.pdf#Section_4cbf28dc287641c69d87ba9db86cd40d).

| Tag name | Token | Protocol versions |
| --- | --- | --- |
| **Sync** | 0x05 | All |
| **Responses** | 0x06 | All |
| **Add** | 0x07 | All |
| **Change** | 0x08 | All |
| **Delete** | 0x09 | All |
| **Fetch** | 0x0A | All |
| **SyncKey** | 0x0B | All |
| **ClientId** | 0x0C | All |
| **ServerId** | 0x0D | All |
| **Status** | 0x0E | All |
| **Collection** | 0x0F | All |
| **Class** | 0x10 | All |
| **CollectionId** | 0x12 | All |
| **GetChanges** | 0x13 | All |
| **MoreAvailable** | 0x14 | All |
| **WindowSize** | 0x15 | All |
| **Commands** | 0x16 | All |
| **Options** | 0x17 | All |
| **FilterType** | 0x18 | All |
| **Truncation** | 0x19 | 2.5 |
| **Conflict** | 0x1B | All |
| **Collections** | 0x1C | All |
| **ApplicationData** | 0x1D | All |
| **DeletesAsMoves** | 0x1E | All |
| **Supported** | 0x20 | All |
| **SoftDelete** | 0x21 | All |
| **MIMESupport** | 0x22 | All |
| **MIMETruncation** | 0x23 | All |
| **Wait** | 0x24 | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Limit** | 0x25 | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Partial** | 0x26 | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **ConversationMode** | 0x27 | 14.0, 14.1, 16.0, 16.1 |
| **MaxItems** | 0x28 | 14.0, 14.1, 16.0, 16.1 |
| **HeartbeatInterval** | 0x29 | 14.0, 14.1, 16.0, 16.1 |

##### Code Page 1: Contacts

The tags and tokens in WBXML code page 1 are listed in the following table. The ActiveSync protocol versions that support each tag/token are specified in the "Protocol versions" column of the table. For details about the ActiveSync protocol versions that can be used by a client or a server, see [[MS-ASHTTP]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASHTTP%5d.pdf#Section_4cbf28dc287641c69d87ba9db86cd40d).

| Tag name | Token | Protocol versions |
| --- | --- | --- |
| **Anniversary** | 0x05 | All |
| **AssistantName** | 0x06 | All |
| **AssistantPhoneNumber** | 0x07 | All |
| **Birthday** | 0x08 | All |
| **Body** — see note 1 following this table | 0x09 | 2.5 |
| **BodySize** | 0x0A | 2.5 |
| **BodyTruncated** | 0x0B | 2.5 |
| **Business2PhoneNumber** | 0x0C | All |
| **BusinessAddressCity** | 0x0D | All |
| **BusinessAddressCountry** | 0x0E | All |
| **BusinessAddressPostalCode** | 0x0F | All |
| **BusinessAddressState** | 0x10 | All |
| **BusinessAddressStreet** | 0x11 | All |
| **BusinessFaxNumber** | 0x12 | All |
| **BusinessPhoneNumber** | 0x13 | All |
| **CarPhoneNumber** | 0x14 | All |
| **Categories** | 0x15 | All |
| **Category** | 0x16 | All |
| **Children** | 0x17 | All |
| **Child** | 0x18 | All |
| **CompanyName** | 0x19 | All |
| **Department** | 0x1A | All |
| **Email1Address** | 0x1B | All |
| **Email2Address** | 0x1C | All |
| **Email3Address** | 0x1D | All |
| **FileAs** | 0x1E | All |
| **FirstName** | 0x1F | All |
| **Home2PhoneNumber** | 0x20 | All |
| **HomeAddressCity** | 0x21 | All |
| **HomeAddressCountry** | 0x22 | All |
| **HomeAddressPostalCode** | 0x23 | All |
| **HomeAddressState** | 0x24 | All |
| **HomeAddressStreet** | 0x25 | All |
| **HomeFaxNumber** | 0x26 | All |
| **HomePhoneNumber** | 0x27 | All |
| **JobTitle** | 0x28 | All |
| **LastName** | 0x29 | All |
| **MiddleName** | 0x2A | All |
| **MobilePhoneNumber** | 0x2B | All |
| **OfficeLocation** | 0x2C | All |
| **OtherAddressCity** | 0x2D | All |
| **OtherAddressCountry** | 0x2E | All |
| **OtherAddressPostalCode** | 0x2F | All |
| **OtherAddressState** | 0x30 | All |
| **OtherAddressStreet** | 0x31 | All |
| **PagerNumber** | 0x32 | All |
| **RadioPhoneNumber** | 0x33 | All |
| **Spouse** | 0x34 | All |
| **Suffix** | 0x35 | All |
| **Title** | 0x36 | All |
| **WebPage** | 0x37 | All |
| **YomiCompanyName** | 0x38 | All |
| **YomiFirstName** | 0x39 | All |
| **YomiLastName** | 0x3A | All |
| **Picture** | 0x3C | All |
| **Alias** | 0x3D | 14.0, 14.1, 16.0, 16.1 |
| **WeightedRank** | 0x3E | 14.0, 14.1, 16.0, 16.1 |

**Note 1:** The **Body** tag in WBXML code page 17 (AirSyncBase) is used instead of the **Body** tag in WBXML code page 1 with protocol versions 12.0, 12.1, 14.0, 14.1, 16.0, and 16.1.

##### Code Page 2: Email

The tags and tokens in WBXML code page 2 are listed in the following table. The ActiveSync protocol versions that support each tag/token are specified in the "Protocol versions" column of the table. For details about the ActiveSync protocol versions that can be used by a client or a server, see [[MS-ASHTTP]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASHTTP%5d.pdf#Section_4cbf28dc287641c69d87ba9db86cd40d).

| Tag name | Token | Protocol versions |
| --- | --- | --- |
| **Attachment** | 0x05 | 2.5 |
| **Attachments** — see note 1 following this table | 0x06 | 2.5 |
| **AttName** | 0x07 | 2.5 |
| **AttSize** | 0x08 | 2.5 |
| **Att0id** | 0x09 | 2.5 |
| **AttMethod** | 0x0A | 2.5 |
| **Body** — see note 2 following this table | 0x0C | 2.5 |
| **BodySize** | 0x0D | 2.5 |
| **BodyTruncated** | 0x0E | 2.5 |
| **DateReceived** | 0x0F | All |
| **DisplayName** | 0x10 | 2.5 |
| **DisplayTo** | 0x11 | All |
| **Importance** | 0x12 | All |
| **MessageClass** | 0x13 | All |
| **Subject** | 0x14 | All |
| **Read** | 0x15 | All |
| **To** | 0x16 | All |
| **Cc** | 0x17 | All |
| **From** | 0x18 | All |
| **ReplyTo** | 0x19 | All |
| **AllDayEvent** | 0x1A | All |
| **Categories** | 0x1B | 14.0, 14.1, 16.0, 16.1 |
| **Category** | 0x1C | 14.0, 14.1, 16.0, 16.1 |
| **DtStamp** | 0x1D | All |
| **EndTime** | 0x1E | All |
| **InstanceType** | 0x1F | All |
| **BusyStatus** | 0x20 | All |
| **Location** — see note 3 following this table | 0x21 | 2.5, 12.0, 12.1, 14.0, 14.1 |
| **MeetingRequest** | 0x22 | All |
| **Organizer** | 0x23 | All |
| **RecurrenceId** | 0x24 | All |
| **Reminder** | 0x25 | All |
| **ResponseRequested** | 0x26 | All |
| **Recurrences** | 0x27 | All |
| **Recurrence** | 0x28 | All |
| **Type** | 0x29 | All |
| **Until** | 0x2A | All |
| **Occurrences** | 0x2B | All |
| **Interval** | 0x2C | All |
| **DayOfWeek** | 0x2D | All |
| **DayOfMonth** | 0x2E | All |
| **WeekOfMonth** | 0x2F | All |
| **MonthOfYear** | 0x30 | All |
| **StartTime** | 0x31 | All |
| **Sensitivity** | 0x32 | All |
| **TimeZone** | 0x33 | All |
| **GlobalObjId** — see note 4 following this table | 0x34 | 2.5, 12.0, 12.1, 14.0, 14.1 |
| **ThreadTopic** | 0x35 | All |
| **MIMEData** | 0x36 | 2.5 |
| **MIMETruncated** | 0x37 | 2.5 |
| **MIMESize** | 0x38 | 2.5 |
| **InternetCPID** | 0x39 | All |
| **Flag** | 0x3A | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Status** | 0x3B | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **ContentClass** | 0x3C | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **FlagType** | 0x3D | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **CompleteTime** | 0x3E | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **DisallowNewTimeProposal** | 0x3F | 14.0, 14.1, 16.0, 16.1 |

**Note 1:** The **Attachments** tag in WBXML code page 17 (AirSyncBase) is used instead of the **Attachments** tag in WBXML code page 2 with protocol versions 12.0, 12.1, 14.0, 14.1, 16.0, and 16.1.

**Note 2:** The **Body** tag in WBXML code page 17 (AirSyncBase) is used instead of the **Body** tag in WBXML code page 2 with protocol versions 12.0, 12.1, 14.0, 14.1, 16.0, and 16.1.

**Note 3:** The **Location** tag in WBXML code page 17 (AirSyncBase) is used instead of the **Location** tag in WBXML code page 2 with protocol version 16.0 and 16.1.

**Note 4:** The **UID** tag in WBXML code page 4 (Calendar) is used instead of the **GlobalObjId** tag in WBXML code page 2 with protocol version 16.0 and 16.1.

##### Code Page 3: AirNotify

WBXML code page 3 is no longer in use.

##### Code Page 4: Calendar

The tags and tokens in WBXML code page 4 are listed in the following table. The ActiveSync protocol versions that support each tag/token are specified in the "Protocol versions" column of the table. For details about the ActiveSync protocol versions that can be used by a client or a server, see [[MS-ASHTTP]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASHTTP%5d.pdf#Section_4cbf28dc287641c69d87ba9db86cd40d).

| Tag name | Token | Protocol versions |
| --- | --- | --- |
| **Timezone** | 0x05 | All |
| **AllDayEvent** | 0x06 | All |
| **Attendees** | 0x07 | All |
| **Attendee** | 0x08 | All |
| **Email** | 0x09 | All |
| **Name** | 0x0A | All |
| **Body** — see note 1 following this table | 0x0B | 2.5 |
| **BodyTruncated** | 0x0C | 2.5 |
| **BusyStatus** | 0x0D | All |
| **Categories** | 0x0E | All |
| **Category** | 0x0F | All |
| **DtStamp** | 0x11 | All |
| **EndTime** | 0x12 | All |
| **Exception** | 0x13 | All |
| **Exceptions** | 0x14 | All |
| **Deleted** | 0x15 | All |
| **ExceptionStartTime** | 0x16 | 2.5, 12.0, 12.1, 14.0, 14.1 |
| **Location** — see note 2 following this table | 0x17 | 2.5, 12.0, 12.1, 14.0, 14.1 |
| **MeetingStatus** | 0x18 | All |
| **OrganizerEmail** | 0x19 | All |
| **OrganizerName** | 0x1A | All |
| **Recurrence** | 0x1B | All |
| **Type** | 0x1C | All |
| **Until** | 0x1D | All |
| **Occurrences** | 0x1E | All |
| **Interval** | 0x1F | All |
| **DayOfWeek** | 0x20 | All |
| **DayOfMonth** | 0x21 | All |
| **WeekOfMonth** | 0x22 | All |
| **MonthOfYear** | 0x23 | All |
| **Reminder** | 0x24 | All |
| **Sensitivity** | 0x25 | All |
| **Subject** | 0x26 | All |
| **StartTime** | 0x27 | All |
| **UID** | 0x28 | All |
| **AttendeeStatus** | 0x29 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **AttendeeType** | 0x2A | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **DisallowNewTimeProposal** | 0x33 | 14.0, 14.1, 16.0, 16.1 |
| **ResponseRequested** | 0x34 | 14.0, 14.1, 16.0, 16.1 |
| **AppointmentReplyTime** | 0x35 | 14.0, 14.1, 16.0, 16.1 |
| **ResponseType** | 0x36 | 14.0, 14.1, 16.0, 16.1 |
| **CalendarType** | 0x37 | 14.0, 14.1, 16.0, 16.1 |
| **IsLeapMonth** | 0x38 | 14.0, 14.1, 16.0, 16.1 |
| **FirstDayOfWeek** | 0x39 | 14.1, 16.0, 16.1 |
| **OnlineMeetingConfLink** | 0x3A | 14.1, 16.0, 16.1 |
| **OnlineMeetingExternalLink** | 0x3B | 14.1, 16.0, 16.1 |
| **ClientUid** | 0x3C | 16.0, 16.1 |

**Note 1:** The **Body** tag in WBXML code page 17 (AirSyncBase) is used instead of the **Body** tag in WBXML code page 4 with protocol versions 12.0, 12.1, 14.0, 14.1, 16.0, and 16.1.

**Note 2:** The **Location** tag in WBXML code page 17 (AirSyncBase) is used instead of the **Location** tag in WBXML code page 4 with protocol version 16.0 and 16.1.

##### Code Page 5: Move

The tags and tokens in WBXML code page 5 are listed in the following table. The ActiveSync protocol versions that support each tag/token are specified in the "Protocol versions" column of the table. For details about the ActiveSync protocol versions that can be used by a client or a server, see [[MS-ASHTTP]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASHTTP%5d.pdf#Section_4cbf28dc287641c69d87ba9db86cd40d).

| Tag name | Token | Protocol versions |
| --- | --- | --- |
| **MoveItems** | 0x05 | All |
| **Move** | 0x06 | All |
| **SrcMsgId** | 0x07 | All |
| **SrcFldId** | 0x08 | All |
| **DstFldId** | 0x09 | All |
| **Response** | 0x0A | All |
| **Status** | 0x0B | All |
| **DstMsgId** | 0x0C | All |

##### Code Page 6: GetItemEstimate

The tags and tokens in WBXML code page 6 are listed in the following table. The ActiveSync protocol versions that support each tag/token are specified in the "Protocol versions" column of the table. For details about the ActiveSync protocol versions that can be used by a client or a server, see [[MS-ASHTTP]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASHTTP%5d.pdf#Section_4cbf28dc287641c69d87ba9db86cd40d).

| Tag name | Token | Protocol versions |
| --- | --- | --- |
| **GetItemEstimate** | 0x05 | All |
| **Collections** | 0x07 | All |
| **Collection** | 0x08 | All |
| **Class** — see note 1 following this table | 0x09 | 2.5, 12.0, 12.1 |
| **CollectionId** | 0x0A | All |
| **Estimate** | 0x0C | All |
| **Response** | 0x0D | All |
| **Status** | 0x0E | All |

**Note 1:** The **Class** tag in WBXML code page 0 (AirSync) is used instead of the **Class** tag in WBXML code page 6 with protocol versions 14.0, 14.1, 16.0, and 16.1.

##### Code Page 7: FolderHierarchy

The tags and tokens in WBXML code page 7 are listed in the following table. The ActiveSync protocol versions that support each tag/token are specified in the "Protocol versions" column of the table. For details about the ActiveSync protocol versions that can be used by a client or a server, see [[MS-ASHTTP]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASHTTP%5d.pdf#Section_4cbf28dc287641c69d87ba9db86cd40d).

| Tag name | Token | Protocol versions |
| --- | --- | --- |
| **Folders** | 0x05 | 2.5, 12.0, 12.1 |
| **Folder** | 0x06 | 2.5, 12.0, 12.1 |
| **DisplayName** | 0x07 | All |
| **ServerId** | 0x08 | All |
| **ParentId** | 0x09 | All |
| **Type** | 0x0A | All |
| **Status** | 0x0C | All |
| **Changes** | 0x0E | All |
| **Add** | 0x0F | All |
| **Delete** | 0x10 | All |
| **Update** | 0x11 | All |
| **SyncKey** | 0x12 | All |
| **FolderCreate** | 0x13 | All |
| **FolderDelete** | 0x14 | All |
| **FolderUpdate** | 0x15 | All |
| **FolderSync** | 0x16 | All |
| **Count** | 0x17 | All |

##### Code Page 8: MeetingResponse

The tags and tokens in WBXML code page 8 are listed in the following table. The ActiveSync protocol versions that support each tag/token are specified in the "Protocol versions" column of the table. For details about the ActiveSync protocol versions that can be used by a client or a server, see [[MS-ASHTTP]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASHTTP%5d.pdf#Section_4cbf28dc287641c69d87ba9db86cd40d).

| Tag name | Token | Protocol versions |
| --- | --- | --- |
| **CalendarId** | 0x05 | All |
| **CollectionId** | 0x06 | All |
| **MeetingResponse** | 0x07 | All |
| **RequestId** | 0x08 | All |
| **Request** | 0x09 | All |
| **Result** | 0x0A | All |
| **Status** | 0x0B | All |
| **UserResponse** | 0x0C | All |
| **InstanceId** | 0x0E | 14.1, 16.0, 16.1 |
| **ProposedStartTime** | 0x10 | 16.1 |
| **ProposedEndTime** | 0x11 | 16.1 |
| **SendResponse** | 0x12 | 16.0, 16.1 |

##### Code Page 9: Tasks

The tags and tokens in WBXML code page 9 are listed in the following table. The ActiveSync protocol versions that support each tag/token are specified in the "Protocol versions" column of the table. For details about the ActiveSync protocol versions that can be used by a client or a server, see [[MS-ASHTTP]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASHTTP%5d.pdf#Section_4cbf28dc287641c69d87ba9db86cd40d).

| Tag name | Token | Protocol versions |
| --- | --- | --- |
| **Body** — see note 1 following this table | 0x05 | 2.5 |
| **BodySize** | 0x06 | 2.5 |
| **BodyTruncated** | 0x07 | 2.5 |
| **Categories** | 0x08 | All |
| **Category** | 0x09 | All |
| **Complete** | 0x0A | All |
| **DateCompleted** | 0x0B | All |
| **DueDate** | 0x0C | All |
| **UtcDueDate** | 0x0D | All |
| **Importance** | 0x0E | All |
| **Recurrence** | 0x0F | All |
| **Type** | 0x10 | All |
| **Start** | 0x11 | All |
| **Until** | 0x12 | All |
| **Occurrences** | 0x13 | All |
| **Interval** | 0x14 | All |
| **DayOfMonth** | 0x15 | All |
| **DayOfWeek** | 0x16 | All |
| **WeekOfMonth** | 0x17 | All |
| **MonthOfYear** | 0x18 | All |
| **Regenerate** | 0x19 | All |
| **DeadOccur** | 0x1A | All |
| **ReminderSet** | 0x1B | All |
| **ReminderTime** | 0x1C | All |
| **Sensitivity** | 0x1D | All |
| **StartDate** | 0x1E | All |
| **UtcStartDate** | 0x1F | All |
| **Subject** | 0x20 | All |
| **OrdinalDate** | 0x22 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **SubOrdinalDate** | 0x23 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **CalendarType** | 0x24 | 14.0, 14.1, 16.0, 16.1 |
| **IsLeapMonth** | 0x25 | 14.0, 14.1, 16.0, 16.1 |
| **FirstDayOfWeek** | 0x26 | 14.1, 16.0, 16.1 |

**Note 1:** The **Body** tag in WBXML code page 17 (AirSyncBase) is used instead of the **Body** tag in WBXML code page 9 with protocol versions 12.0, 12.1, 14.0, 14.1, 16.0, and 16.1.

##### Code Page 10: ResolveRecipients

The tags and tokens in WBXML code page 10 are listed in the following table. The ActiveSync protocol versions that support each tag/token are specified in the "Protocol versions" column of the table. For details about the ActiveSync protocol versions that can be used by a client or a server, see [[MS-ASHTTP]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASHTTP%5d.pdf#Section_4cbf28dc287641c69d87ba9db86cd40d).

| Tag name | Token | Protocol versions |
| --- | --- | --- |
| **ResolveRecipients** | 0x05 | All |
| **Response** | 0x06 | All |
| **Status** | 0x07 | All |
| **Type** | 0x08 | All |
| **Recipient** | 0x09 | All |
| **DisplayName** | 0x0A | All |
| **EmailAddress** | 0x0B | All |
| **Certificates** | 0x0C | All |
| **Certificate** | 0x0D | All |
| **MiniCertificate** | 0x0E | All |
| **Options** | 0x0F | All |
| **To** | 0x10 | All |
| **CertificateRetrieval** | 0x11 | All |
| **RecipientCount** | 0x12 | All |
| **MaxCertificates** | 0x13 | All |
| **MaxAmbiguousRecipients** | 0x14 | All |
| **CertificateCount** | 0x15 | All |
| **Availability** | 0x16 | 14.0, 14.1, 16.0, 16.1 |
| **StartTime** | 0x17 | 14.0, 14.1, 16.0, 16.1 |
| **EndTime** | 0x18 | 14.0, 14.1, 16.0, 16.1 |
| **MergedFreeBusy** | 0x19 | 14.0, 14.1, 16.0, 16.1 |
| **Picture** | 0x1A | 14.1, 16.0, 16.1 |
| **MaxSize** | 0x1B | 14.1, 16.0, 16.1 |
| **Data** | 0x1C | 14.1, 16.0, 16.1 |
| **MaxPictures** | 0x1D | 14.1, 16.0, 16.1 |

##### Code Page 11: ValidateCert

The tags and tokens in WBXML code page 11 are listed in the following table. The ActiveSync protocol versions that support each tag/token are specified in the "Protocol versions" column of the table. For details about the ActiveSync protocol versions that can be used by a client or a server, see [[MS-ASHTTP]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASHTTP%5d.pdf#Section_4cbf28dc287641c69d87ba9db86cd40d).

| Tag name | Token | Protocol versions |
| --- | --- | --- |
| **ValidateCert** | 0x05 | All |
| **Certificates** | 0x06 | All |
| **Certificate** | 0x07 | All |
| **CertificateChain** | 0x08 | All |
| **CheckCRL** | 0x09 | All |
| **Status** | 0x0A | All |

##### Code Page 12: Contacts2

The tags and tokens in WBXML code page 12 are listed in the following table. The ActiveSync protocol versions that support each tag/token are specified in the "Protocol versions" column of the table. For details about the ActiveSync protocol versions that can be used by a client or a server, see [[MS-ASHTTP]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASHTTP%5d.pdf#Section_4cbf28dc287641c69d87ba9db86cd40d).

| Tag name | Token | Protocol versions |
| --- | --- | --- |
| **CustomerId** | 0x05 | All |
| **GovernmentId** | 0x06 | All |
| **IMAddress** | 0x07 | All |
| **IMAddress2** | 0x08 | All |
| **IMAddress3** | 0x09 | All |
| **ManagerName** | 0x0A | All |
| **CompanyMainPhone** | 0x0B | All |
| **AccountName** | 0x0C | All |
| **NickName** | 0x0D | All |
| **MMS** | 0x0E | All |

##### Code Page 13: Ping

The tags and tokens in WBXML code page 13 are listed in the following table. The ActiveSync protocol versions that support each tag/token are specified in the "Protocol versions" column of the table. For details about the ActiveSync protocol versions that can be used by a client or a server, see [[MS-ASHTTP]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASHTTP%5d.pdf#Section_4cbf28dc287641c69d87ba9db86cd40d).

| Tag name | Token | Protocol versions |
| --- | --- | --- |
| **Ping** | 0x05 | All |
| **Status** | 0x07 | All |
| **HeartbeatInterval** | 0x08 | All |
| **Folders** | 0x09 | All |
| **Folder** | 0x0A | All |
| **Id** | 0x0B | All |
| **Class** | 0x0C | All |
| **MaxFolders** | 0x0D | All |

##### Code Page 14: Provision

The tags and tokens in WBXML code page 14 are listed in the following table. The ActiveSync protocol versions that support each tag/token are specified in the "Protocol versions" column of the table. For details about the ActiveSync protocol versions that can be used by a client or a server, see [[MS-ASHTTP]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASHTTP%5d.pdf#Section_4cbf28dc287641c69d87ba9db86cd40d).

| Tag name | Token | Protocol versions |
| --- | --- | --- |
| **Provision** | 0x05 | All |
| **Policies** | 0x06 | All |
| **Policy** | 0x07 | All |
| **PolicyType** | 0x08 | All |
| **PolicyKey** | 0x09 | All |
| **Data** | 0x0A | All |
| **Status** | 0x0B | All |
| **RemoteWipe** | 0x0C | All |
| **EASProvisionDoc** | 0x0D | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **DevicePasswordEnabled** | 0x0E | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **AlphanumericDevicePasswordRequired** | 0x0F | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **RequireStorageCardEncryption** | 0x10 | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **PasswordRecoveryEnabled** | 0x11 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **AttachmentsEnabled** | 0x13 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **MinDevicePasswordLength** | 0x14 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **MaxInactivityTimeDeviceLock** | 0x15 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **MaxDevicePasswordFailedAttempts** | 0x16 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **MaxAttachmentSize** | 0x17 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **AllowSimpleDevicePassword** | 0x18 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **DevicePasswordExpiration** | 0x19 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **DevicePasswordHistory** | 0x1A | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **AllowStorageCard** | 0x1B | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **AllowCamera** | 0x1C | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **RequireDeviceEncryption** | 0x1D | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **AllowUnsignedApplications** | 0x1E | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **AllowUnsignedInstallationPackages** | 0x1F | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **MinDevicePasswordComplexCharacters** | 0x20 | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **AllowWiFi** | 0x21 | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **AllowTextMessaging** | 0x22 | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **AllowPOPIMAPEmail** | 0x23 | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **AllowBluetooth** | 0x24 | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **AllowIrDA** | 0x25 | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **RequireManualSyncWhenRoaming** | 0x26 | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **AllowDesktopSync** | 0x27 | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **MaxCalendarAgeFilter** | 0x28 | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **AllowHTMLEmail** | 0x29 | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **MaxEmailAgeFilter** | 0x2A | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **MaxEmailBodyTruncationSize** | 0x2B | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **MaxEmailHTMLBodyTruncationSize** | 0x2C | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **RequireSignedSMIMEMessages** | 0x2D | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **RequireEncryptedSMIMEMessages** | 0x2E | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **RequireSignedSMIMEAlgorithm** | 0x2F | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **RequireEncryptionSMIMEAlgorithm** | 0x30 | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **AllowSMIMEEncryptionAlgorithmNegotiation** | 0x31 | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **AllowSMIMESoftCerts** | 0x32 | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **AllowBrowser** | 0x33 | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **AllowConsumerEmail** | 0x34 | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **AllowRemoteDesktop** | 0x35 | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **AllowInternetSharing** | 0x36 | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **UnapprovedInROMApplicationList** | 0x37 | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **ApplicationName** | 0x38 | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **ApprovedApplicationList** | 0x39 | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Hash** | 0x3A | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **AccountOnlyRemoteWipe** | 0x3B | 16.1 |

##### Code Page 15: Search

The tags and tokens in WBXML code page 15 are listed in the following table. The ActiveSync protocol versions that support each tag/token are specified in the "Protocol versions" column of the table. For details about the ActiveSync protocol versions that can be used by a client or a server, see [[MS-ASHTTP]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASHTTP%5d.pdf#Section_4cbf28dc287641c69d87ba9db86cd40d).

| Tag name | Token | Protocol versions |
| --- | --- | --- |
| **Search** | 0x05 | All |
| **Store** | 0x07 | All |
| **Name** | 0x08 | All |
| **Query** | 0x09 | All |
| **Options** | 0x0A | All |
| **Range** | 0x0B | All |
| **Status** | 0x0C | All |
| **Response** | 0x0D | All |
| **Result** | 0x0E | All |
| **Properties** | 0x0F | All |
| **Total** | 0x10 | All |
| **EqualTo** | 0x11 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Value** | 0x12 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **And** | 0x13 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Or** | 0x14 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **FreeText** | 0x15 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **DeepTraversal** | 0x17 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **LongId** | 0x18 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **RebuildResults** | 0x19 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **LessThan** | 0x1A | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **GreaterThan** | 0x1B | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **UserName** | 0x1E | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Password** | 0x1F | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **ConversationId** | 0x20 | 14.0, 14.1, 16.0, 16.1 |
| **Picture** | 0x21 | 14.1, 16.0, 16.1 |
| **MaxSize** | 0x22 | 14.1, 16.0, 16.1 |
| **MaxPictures** | 0x23 | 14.1, 16.0, 16.1 |

##### Code Page 16: GAL

The tags and tokens in WBXML code page 16 are listed in the following table. The ActiveSync protocol versions that support each tag/token are specified in the "Protocol versions" column of the table. For details about the ActiveSync protocol versions that can be used by a client or a server, see [[MS-ASHTTP]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASHTTP%5d.pdf#Section_4cbf28dc287641c69d87ba9db86cd40d).

| Tag name | Token | Protocol versions |
| --- | --- | --- |
| **DisplayName** | 0x05 | All |
| **Phone** | 0x06 | All |
| **Office** | 0x07 | All |
| **Title** | 0x08 | All |
| **Company** | 0x09 | All |
| **Alias** | 0x0A | All |
| **FirstName** | 0x0B | All |
| **LastName** | 0x0C | All |
| **HomePhone** | 0x0D | All |
| **MobilePhone** | 0x0E | All |
| **EmailAddress** | 0x0F | All |
| **Picture** | 0x10 | 14.1, 16.0, 16.1 |
| **Status** | 0x11 | 14.1, 16.0, 16.1 |
| **Data** | 0x12 | 14.1, 16.0, 16.1 |

##### Code Page 17: AirSyncBase

The tags and tokens in WBXML code page 17 are listed in the following table. The ActiveSync protocol versions that support each tag/token are specified in the "Protocol versions" column of the table. For details about the ActiveSync protocol versions that can be used by a client or a server, see [[MS-ASHTTP]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASHTTP%5d.pdf#Section_4cbf28dc287641c69d87ba9db86cd40d).

| Tag name | Token | Protocol versions |
| --- | --- | --- |
| **BodyPreference** | 0x05 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Type** | 0x06 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **TruncationSize** | 0x07 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **AllOrNone** | 0x08 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Body** | 0x0A | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Data** | 0x0B | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **EstimatedDataSize** | 0x0C | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Truncated** | 0x0D | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Attachments** | 0x0E | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Attachment** | 0x0F | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **DisplayName** | 0x10 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **FileReference** | 0x11 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Method** | 0x12 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **ContentId** | 0x13 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **ContentLocation** | 0x14 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **IsInline** | 0x15 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **NativeBodyType** | 0x16 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **ContentType** | 0x17 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Preview** | 0x18 | 14.0, 14.1, 16.0, 16.1 |
| **BodyPartPreference** | 0x19 | 14.1, 16.0, 16.1 |
| **BodyPart** | 0x1A | 14.1, 16.0, 16.1 |
| **Status** | 0x1B | 14.1, 16.0, 16.1 |
| **Add** | 0x1C | 16.0, 16.1 |
| **Delete** | 0x1D | 16.0, 16.1 |
| **ClientId** | 0x1E | 16.0, 16.1 |
| **Content** | 0x1F | 16.0, 16.1 |
| **Location** | 0x20 | 16.0, 16.1 |
| **Annotation** | 0x21 | 16.0, 16.1 |
| **Street** | 0x22 | 16.0, 16.1 |
| **City** | 0x23 | 16.0, 16.1 |
| **State** | 0x24 | 16.0, 16.1 |
| **Country** | 0x25 | 16.0, 16.1 |
| **PostalCode** | 0x26 | 16.0, 16.1 |
| **Latitude** | 0x27 | 16.0, 16.1 |
| **Longitude** | 0x28 | 16.0, 16.1 |
| **Accuracy** | 0x29 | 16.0, 16.1 |
| **Altitude** | 0x2A | 16.0, 16.1 |
| **AltitudeAccuracy** | 0x2B | 16.0, 16.1 |
| **LocationUri** | 0x2C | 16.0, 16.1 |
| **InstanceId** | 0x2D | 16.0, 16.1 |

##### Code Page 18: Settings

The tags and tokens in WBXML code page 18 are listed in the following table. The ActiveSync protocol versions that support each tag/token are specified in the "Protocol versions" column of the table. For details about the ActiveSync protocol versions that can be used by a client or a server, see [[MS-ASHTTP]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASHTTP%5d.pdf#Section_4cbf28dc287641c69d87ba9db86cd40d).

| Tag name | Token | Protocol versions |
| --- | --- | --- |
| **Settings** | 0x05 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Status** | 0x06 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Get** | 0x07 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Set** | 0x08 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Oof** | 0x09 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **OofState** | 0x0A | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **StartTime** | 0x0B | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **EndTime** | 0x0C | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **OofMessage** | 0x0D | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **AppliesToInternal** | 0x0E | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **AppliesToExternalKnown** | 0x0F | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **AppliesToExternalUnknown** | 0x10 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Enabled** | 0x11 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **ReplyMessage** | 0x12 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **BodyType** | 0x13 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **DevicePassword** | 0x14 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Password** | 0x15 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **DeviceInformation** | 0x16 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Model** | 0x17 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **IMEI** | 0x18 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **FriendlyName** | 0x19 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **OS** | 0x1A | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **OSLanguage** | 0x1B | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **PhoneNumber** | 0x1C | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **UserInformation** | 0x1D | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **EmailAddresses** | 0x1E | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **SMTPAddress** | 0x1F | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **UserAgent** | 0x20 | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **EnableOutboundSMS** | 0x21 | 14.0, 14.1, 16.0, 16.1 |
| **MobileOperator** | 0x22 | 14.0, 14.1, 16.0, 16.1 |
| **PrimarySmtpAddress** | 0x23 | 14.1, 16.0, 16.1 |
| **Accounts** | 0x24 | 14.1, 16.0, 16.1 |
| **Account** | 0x25 | 14.1, 16.0, 16.1 |
| **AccountId** | 0x26 | 14.1, 16.0, 16.1 |
| **AccountName** | 0x27 | 14.1, 16.0, 16.1 |
| **UserDisplayName** | 0x28 | 14.1, 16.0, 16.1 |
| **SendDisabled** | 0x29 | 14.1, 16.0, 16.1 |
| **RightsManagementInformation** | 0x2B | 14.1, 16.0, 16.1 |

##### Code Page 19: DocumentLibrary

The tags and tokens in WBXML code page 19 are listed in the following table. The ActiveSync protocol versions that support each tag/token are specified in the "Protocol versions" column of the table. For details about the ActiveSync protocol versions that can be used by a client or a server, see [[MS-ASHTTP]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASHTTP%5d.pdf#Section_4cbf28dc287641c69d87ba9db86cd40d).

| Tag name | Token | Protocol versions |
| --- | --- | --- |
| **LinkId** | 0x05 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **DisplayName** | 0x06 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **IsFolder** | 0x07 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **CreationDate** | 0x08 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **LastModifiedDate** | 0x09 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **IsHidden** | 0x0A | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **ContentLength** | 0x0B | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **ContentType** | 0x0C | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |

##### Code Page 20: ItemOperations

The tags and tokens in WBXML code page 20 are listed in the following table. The ActiveSync protocol versions that support each tag/token are specified in the "Protocol versions" column of the table. For details about the ActiveSync protocol versions that can be used by a client or a server, see [[MS-ASHTTP]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASHTTP%5d.pdf#Section_4cbf28dc287641c69d87ba9db86cd40d).

| Tag name | Token | Protocol versions |
| --- | --- | --- |
| **ItemOperations** | 0x05 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Fetch** | 0x06 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Store** | 0x07 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Options** | 0x08 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Range** | 0x09 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Total** | 0x0A | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Properties** | 0x0B | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Data** | 0x0C | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Status** | 0x0D | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Response** | 0x0E | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Version** | 0x0F | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Schema** | 0x10 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Part** | 0x11 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **EmptyFolderContents** | 0x12 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **DeleteSubFolders** | 0x13 | 12.0, 12.1, 14.0, 14.1, 16.0, 16.1 |
| **UserName** | 0x14 | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Password** | 0x15 | 12.1, 14.0, 14.1, 16.0, 16.1 |
| **Move** | 0x16 | 14.0, 14.1, 16.0, 16.1 |
| **DstFldId** | 0x17 | 14.0, 14.1, 16.0, 16.1 |
| **ConversationId** | 0x18 | 14.0, 14.1, 16.0, 16.1 |
| **MoveAlways** | 0x19 | 14.0, 14.1, 16.0, 16.1 |

##### Code Page 21: ComposeMail

The tags and tokens in WBXML code page 21 are listed in the following table. The ActiveSync protocol versions that support each tag/token are specified in the "Protocol versions" column of the table. For details about the ActiveSync protocol versions that can be used by a client or a server, see [[MS-ASHTTP]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASHTTP%5d.pdf#Section_4cbf28dc287641c69d87ba9db86cd40d).

| Tag name | Token | Protocol versions |
| --- | --- | --- |
| **SendMail** | 0x05 | 14.0, 14.1, 16.0, 16.1 |
| **SmartForward** | 0x06 | 14.0, 14.1, 16.0, 16.1 |
| **SmartReply** | 0x07 | 14.0, 14.1, 16.0, 16.1 |
| **SaveInSentItems** | 0x08 | 14.0, 14.1, 16.0, 16.1 |
| **ReplaceMime** | 0x09 | 14.0, 14.1, 16.0, 16.1 |
| **Source** | 0x0B | 14.0, 14.1, 16.0, 16.1 |
| **FolderId** | 0x0C | 14.0, 14.1, 16.0, 16.1 |
| **ItemId** | 0x0D | 14.0, 14.1, 16.0, 16.1 |
| **LongId** | 0x0E | 14.0, 14.1, 16.0, 16.1 |
| **InstanceId** | 0x0F | 14.0, 14.1, 16.0, 16.1 |
| **Mime** | 0x10 | 14.0, 14.1, 16.0, 16.1 |
| **ClientId** | 0x11 | 14.0, 14.1, 16.0, 16.1 |
| **Status** | 0x12 | 14.0, 14.1, 16.0, 16.1 |
| **AccountId** | 0x13 | 14.1, 16.0, 16.1 |
| **Forwardees** | 0x15 | 16.0, 16.1 |
| **Forwardee** | 0x16 | 16.0, 16.1 |
| **ForwardeeName** | 0x17 | 16.0, 16.1 |
| **ForwardeeEmail** | 0x18 | 16.0, 16.1 |

##### Code Page 22: Email2

The tags and tokens in WBXML code page 22 are listed in the following table. The ActiveSync protocol versions that support each tag/token are specified in the "Protocol versions" column of the table. For details about the ActiveSync protocol versions that can be used by a client or a server, see [[MS-ASHTTP]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASHTTP%5d.pdf#Section_4cbf28dc287641c69d87ba9db86cd40d).

| Tag name | Token | Protocol versions |
| --- | --- | --- |
| **UmCallerID** | 0x05 | 14.0, 14.1, 16.0, 16.1 |
| **UmUserNotes** | 0x06 | 14.0, 14.1, 16.0, 16.1 |
| **UmAttDuration** | 0x07 | 14.0, 14.1, 16.0, 16.1 |
| **UmAttOrder** | 0x08 | 14.0, 14.1, 16.0, 16.1 |
| **ConversationId** | 0x09 | 14.0, 14.1, 16.0, 16.1 |
| **ConversationIndex** | 0x0A | 14.0, 14.1, 16.0, 16.1 |
| **LastVerbExecuted** | 0x0B | 14.0, 14.1, 16.0, 16.1 |
| **LastVerbExecutionTime** | 0x0C | 14.0, 14.1, 16.0, 16.1 |
| **ReceivedAsBcc** | 0x0D | 14.0, 14.1, 16.0, 16.1 |
| **Sender** | 0x0E | 14.0, 14.1, 16.0, 16.1 |
| **CalendarType** | 0x0F | 14.0, 14.1, 16.0, 16.1 |
| **IsLeapMonth** | 0x10 | 14.0, 14.1, 16.0, 16.1 |
| **AccountId** | 0x11 | 14.1, 16.0, 16.1 |
| **FirstDayOfWeek** | 0x12 | 14.1, 16.0, 16.1 |
| **MeetingMessageType** | 0x13 | 14.1, 16.0, 16.1 |
| **IsDraft** | 0x15 | 16.0, 16.1 |
| **Bcc** | 0x16 | 16.0, 16.1 |
| **Send** | 0x17 | 16.0, 16.1 |

##### Code Page 23: Notes

The tags and tokens in WBXML code page 23 are listed in the following table. The ActiveSync protocol versions that support each tag/token are specified in the "Protocol versions" column of the table. For details about the ActiveSync protocol versions that can be used by a client or a server, see [[MS-ASHTTP]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASHTTP%5d.pdf#Section_4cbf28dc287641c69d87ba9db86cd40d).

| Tag name | Token | Protocol versions |
| --- | --- | --- |
| **Subject** | 0x05 | 14.0, 14.1, 16.0, 16.1 |
| **MessageClass** | 0x06 | 14.0, 14.1, 16.0, 16.1 |
| **LastModifiedDate** | 0x07 | 14.0, 14.1, 16.0, 16.1 |
| **Categories** | 0x08 | 14.0, 14.1, 16.0, 16.1 |
| **Category** | 0x09 | 14.0, 14.1, 16.0, 16.1 |

##### Code Page 24: RightsManagement

The tags and tokens in WBXML code page 24 are listed in the following table. The ActiveSync protocol versions that support each tag/token are specified in the "Protocol versions" column of the table. For details about the ActiveSync protocol versions that can be used by a client or a server, see [[MS-ASHTTP]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASHTTP%5d.pdf#Section_4cbf28dc287641c69d87ba9db86cd40d).

| Tag name | Token | Protocol versions |
| --- | --- | --- |
| **RightsManagementSupport** | 0x05 | 14.1, 16.0, 16.1 |
| **RightsManagementTemplates** | 0x06 | 14.1, 16.0, 16.1 |
| **RightsManagementTemplate** | 0x07 | 14.1, 16.0, 16.1 |
| **RightsManagementLicense** | 0x08 | 14.1, 16.0, 16.1 |
| **EditAllowed** | 0x09 | 14.1, 16.0, 16.1 |
| **ReplyAllowed** | 0x0A | 14.1, 16.0, 16.1 |
| **ReplyAllAllowed** | 0x0B | 14.1, 16.0, 16.1 |
| **ForwardAllowed** | 0x0C | 14.1, 16.0, 16.1 |
| **ModifyRecipientsAllowed** | 0x0D | 14.1, 16.0, 16.1 |
| **ExtractAllowed** | 0x0E | 14.1, 16.0, 16.1 |
| **PrintAllowed** | 0x0F | 14.1, 16.0, 16.1 |
| **ExportAllowed** | 0x10 | 14.1, 16.0, 16.1 |
| **ProgrammaticAccessAllowed** | 0x11 | 14.1, 16.0, 16.1 |
| **Owner** | 0x12 | 14.1, 16.0, 16.1 |
| **ContentExpiryDate** | 0x13 | 14.1, 16.0, 16.1 |
| **TemplateID** | 0x14 | 14.1, 16.0, 16.1 |
| **TemplateName** | 0x15 | 14.1, 16.0, 16.1 |
| **TemplateDescription** | 0x16 | 14.1, 16.0, 16.1 |
| **ContentOwner** | 0x17 | 14.1, 16.0, 16.1 |
| **RemoveRightsManagementProtection** | 0x18 | 14.1, 16.0, 16.1 |

##### Code Page 25: Find

The tags and tokens in WBXML code page 25 are listed in the following table. The ActiveSync protocol versions that support each tag/token are specified in the "Protocol versions" column of the table. For details about the ActiveSync protocol versions that can be used by a client or a server, see [[MS-ASHTTP]](file:///E:\Target\Exchange\Published\Books\MS-ASWBXML\%5bMS-ASHTTP%5d.pdf#Section_4cbf28dc287641c69d87ba9db86cd40d).

| Tag name | Token | Protocol versions |
| --- | --- | --- |
| **Find** | 0x05 | 16.1 |
| **SearchId** | 0x06 | 16.1 |
| **ExecuteSearch** | 0x07 | 16.1 |
| **MailBoxSearchCriterion** | 0x08 | 16.1 |
| **Query** | 0x09 | 16.1 |
| **Status** | 0x0A | 16.1 |
| **FreeText** | 0x0B | 16.1 |
| **Options** | 0x0C | 16.1 |
| **Range** | 0x0D | 16.1 |
| **DeepTraversal** | 0x0E | 16.1 |
| **Response** | 0x11 | 16.1 |
| **Result** | 0x12 | 16.1 |
| **Properties** | 0x13 | 16.1 |
| **Preview** | 0x14 | 16.1 |
| **HasAttachments** | 0x15 | 16.1 |
| **Total** | 0x16 | 16.1 |
| **DisplayCc** | 0x17 | 16.1 |
| **DisplayBcc** | 0x18 | 16.1 |

### Processing Rules

The processing rules for this algorithm are specified in [[WBXML1.2]](http://go.microsoft.com/fwlink/?LinkId=160492).

This algorithm uses the following features that are specified in [WBXML1.2]:

* WBXML tokens to encode XML tags
* WBXML code pages to support multiple XML namespaces
* Inline strings
* Opaque data

This algorithm does not use the following features that are specified in [WBXML1.2]:

* String tables
* Entities
* Processing instructions
* Attribute encoding

# Algorithm Examples

The following example shows the WBXML encoding of a server response that contains a new [**contact**](#gt_48d3e923-3081-4b1c-a8b4-db07cc022128) and provides a byte-by-byte description of the encoding.

The following XML represents a server response to a request to create a new contact.

1. <?xml version="1.0" encoding="utf-8"?>
2. <Sync xmlns="AirSync" xmlns:airsyncbase="AirSyncBase" xmlns:contacts="Contacts">
3. <Collections>
4. <Collection>
5. <Class>Contacts</Class>
6. <SyncKey>2</SyncKey>
7. <CollectionId>2</CollectionId>
8. <Status>1</Status>
9. <Commands>
10. <Add>
11. <ServerId>2:1</ServerId>
12. <ApplicationData>
13. <airsyncbase:Body>
14. <airsyncbase:Type>1</airsyncbase:Type>
15. <airsyncbase:EstimatedDataSize>0</airsyncbase:EstimatedDataSize>
16. <airsyncbase:Truncated>1</airsyncbase:Truncated>
17. </airsyncbase:Body>
18. <contacts:FileAs>Funk, Don</contacts:FileAs>
19. <contacts:FirstName>Don</contacts:FirstName>
20. <contacts:LastName>Funk</contacts:LastName>
21. <airsyncbase:NativeBodyType>1</airsyncbase:NativeBodyType>
22. </ApplicationData>
23. </Add>
24. </Commands>
25. </Collection>
26. </Collections>
27. </Sync>

The Exchange ActiveSync: WAP Binary XML (WBXML) Algorithm encodes this XML as the following WBXML encoding.

1. 03 01 6A 00 45 5C 4F 50 03 43 6F 6E 74 61 63 74 73 00 01 4B 03 32 00 01 52 03 32 00 01 4E 03 31 00 01 56 47 4D 03 32 3A 31 00 01 5D 00 11 4A 46 03 31 00 01 4C 03 30 00 01 4D 03 31 00 01 01 00 01 5E 03 46 75 6E 6B 2C 20 44 6F 6E 00 01 5F 03 44 6F 6E 00 01 69 03 46 75 6E 6B 00 01 00 11 56 03 31 00 01 01 01 01 01 01 01

The following table explains each byte in the WBXML encoding.

| Bytes | Description |
| --- | --- |
| 03 | Version number – WBXML version 1.3 |
| 01 | Unknown public identifier |
| 6A | Charset = UTF-8 |
| 00 | String table length |
| 45 | <airsync:Sync>, with content (0x05 + 0x40) |
| 5C | <airsync:Collections>, with content |
| 4F | <airsync:Collection>, with content |
| 50 | <airsync:Class>, with content |
| 03 | Inline string follows |
| 43 6F 6E 74 61 63 74 73 00 | "contacts" (the 00 is the end of the string) |
| 01 | </airsync:Class> |
| 4B | <airsync:SyncKey>, with content |
| 03 | Inline string follows |
| 32 00 | "2" |
| 01 | </airsync:SyncKey> |
| 52 | <airsync:CollectionID>, with content |
| 03 | Inline string follows |
| 32 00 | "2" |
| 01 | </airsync:CollectionID> |
| 4E | <airsync:Status>, with content |
| 03 | Inline string follows |
| 31 00 | "1" |
| 01 | </airsync:Status> |
| 56 | <airsync:Commands>, with content |
| 47 | <airsync:Add>, with content |
| 4D | <airsync:ServerId>, with content |
| 03 | Inline string follows |
| 32 3A 31 00 | "2:1" |
| 01 | </airsync:ServerId> |
| 5D | <airsync:ApplicationData>, with content |
| 00 11 | Select WBXML code page 17 (AirSyncBase) |
| 4A | <airsyncbase:Body>, with content |
| 46 | <airsyncbase:Type>, with content |
| 03 | Inline string follows |
| 31 00 | "1" |
| 01 | </airsyncbase:Type> |
| 4C | <airsyncbase:EstimatedDataSize>, with content |
| 03 | Inline string follows |
| 30 00 | "0" |
| 01 | </airsyncbase:EstimatedDataSize> |
| 4D | <airsyncbase:Truncated>, with content |
| 03 | Inline string follows |
| 31 00 | "1" |
| 01 | </airsyncbase:Truncated> |
| 01 | </airsyncbase:Body> |
| 00 01 | Select WBXML code page 1 (Contacts) |
| 5E | <contacts:FileAs>, with content |
| 03 | Inline string follows |
| 46 75 6E 6B 2C 20 44 6F 6E 00 | "Funk, Don" |
| 01 | </contacts:FileAs> |
| 5F | <contacts:FirstName>, with content |
| 03 | Inline string follows |
| 44 6F 6E 00 | "Don" |
| 01 | </contacts:FirstName> |
| 69 | <contacts:LastName>, with content |
| 03 | Inline string follows |
| 46 75 6E 6B 00 | "Funk" |
| 01 | </contacts:LastName> |
| 00 11 | Select WBXML code page 17 (AirSyncBase) |
| 56 | <airsyncbase:NativeBodyType>, with content |
| 03 | Inline string follows |
| 31 00 | "1" |
| 01 | </airsyncbase:NativeBodyType> |
| 01 | </airsync:ApplicationData> |
| 01 | </airsync:Add> |
| 01 | </airsync:Commands> |
| 01 | </airsync:Collection> |
| 01 | </airsync:Collections> |
| 01 | </airsync:Sync> |

# Security

## Security Considerations for Implementers

In most cases, all communication between the client and server happens across an [**HTTP**](#gt_d72f1494-4917-4e9e-a9fd-b8f1b2758dcd) connection secured by the [**Secure Sockets Layer (SSL)**](#gt_d7ef66a9-f154-4d88-bda9-98bdf7235352) protocol. The SSL connection is assumed to be secure enough to transmit confidential data, such as user credentials and sensitive e-mail. The SSL certificate on the server is assumed to be trusted by the client application.

## Index of Security Parameters

None.

# 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
* Microsoft Exchange Server 2016
* Windows 8.1
* Windows Communication Apps
* Windows 10 operating system

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.

# Change Tracking

This section identifies changes that were made to this document since the last release. Changes are classified as New, Major, Minor, Editorial, or No change.

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

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

* A document revision that incorporates changes to interoperability requirements or functionality.
* The removal of a document from the documentation set.

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

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

The revision class **No change** means that no new technical changes were introduced. Minor editorial and formatting changes may have been made, but the technical content of the document is identical to the last released version.

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

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

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

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

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

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

| Section | Tracking number (if applicable) and description | Major change (Y or N) | Change type |
| --- | --- | --- | --- |
| [1.4](#Section_2e57ccd4cf3845a0bb1195304bd1180d) Relationship to Protocols and Other Algorithms | Added codepage for Find which is being introduced in EAS 16.1 | Y | New content added. |
| [2.1.2.1](#Section_bc8358747de1452cabd5de5e4709626c) Code Pages | Updated code page tables in sections 2.1.2.1.1 through 2.1.2.1.25 for Exchange ActiveSync protocol version 16.0. | Y | Content update. |
| 2.1.2.1 Code Pages | Updated the table to include the WBXML code page for Find. | Y | Content update. |
| 2.1.2.1 Code Pages | Updated the tables and descriptions throughout the code page sections to include protocol version 16.1. | Y | Content update. |
| 2.1.2.1 Code Pages | Added codepage for Find which is being introduced in EAS 16.1 | Y | New content added. |
| [2.1.2.1.9](#Section_2ec6eb75d7a54208a700474a83d8fe38) Code Page 8: MeetingResponse | Added codepage for ProposedStartTime and ProposedEndTime which are new elements introduced in EAS 16.1 | Y | New content added. |
| [2.1.2.1.15](#Section_b8df45bc802d49448ca509e9244c0969) Code Page 14: Provision | Updated the table to include the AccountOnlyRemoteWipe tag. | Y | Content update. |
| [2.1.2.1.26](#Section_2b4c3367835245b6a5f45ca3db0e33e0) Code Page 25: Find | Added codepage for Find in EAS 16.1 | Y | New content added. |
| [5](#Section_68b22e0e6b9f48b2819cd2e6c7462f5c) Appendix A: Product Behavior | Updated list of supported products. | Y | Content updated due to protocol revision. |

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