

## [MS-ASCMD]:

# Exchange ActiveSync: Command Reference Protocol

---

### Intellectual Property Rights Notice for Open Specifications Documentation

- **Technical Documentation.** Microsoft publishes Open Specifications documentation ("this documentation") for protocols, file formats, data portability, computer languages, and standards support. Additionally, overview documents cover inter-protocol relationships and interactions.
- **Copyrights.** This documentation is covered by Microsoft copyrights. Regardless of any other terms that are contained in the terms of use for the Microsoft website that hosts this documentation, you can make copies of it in order to develop implementations of the technologies that are described in this documentation and can distribute portions of it in your implementations that use these technologies or in your documentation as necessary to properly document the implementation. You can also distribute in your implementation, with or without modification, any schemas, IDLs, or code samples that are included in the documentation. This permission also applies to any documents that are referenced in the Open Specifications documentation.
- **No Trade Secrets.** Microsoft does not claim any trade secret rights in this documentation.
- **Patents.** Microsoft has patents that might cover your implementations of the technologies described in the Open Specifications documentation. Neither this notice nor Microsoft's delivery of this documentation grants any licenses under those patents or any other Microsoft patents. However, a given Open Specifications document might be covered by the Microsoft [Open Specifications Promise](#) or the [Microsoft Community Promise](#). If you would prefer a written license, or if the technologies described in this documentation are not covered by the Open Specifications Promise or Community Promise, as applicable, patent licenses are available by contacting [iplg@microsoft.com](mailto:iplg@microsoft.com).
- **Trademarks.** The names of companies and products contained in this documentation might be covered by trademarks or similar intellectual property rights. This notice does not grant any licenses under those rights. For a list of Microsoft trademarks, visit [www.microsoft.com/trademarks](http://www.microsoft.com/trademarks).
- **Fictitious Names.** The example companies, organizations, products, domain names, email addresses, logos, people, places, and events that are depicted in this documentation are fictitious. No association with any real company, organization, product, domain name, email address, logo, person, place, or event is intended or should be inferred.

**Reservation of Rights.** All other rights are reserved, and this notice does not grant any rights other than as specifically described above, whether by implication, estoppel, or otherwise.

**Tools.** The Open Specifications documentation does not require the use of Microsoft programming tools or programming environments in order for you to develop an implementation. If you have access to Microsoft programming tools and environments, you are free to take advantage of them. Certain Open Specifications documents are intended for use in conjunction with publicly available standards specifications and network programming art and, as such, assume that the reader either is familiar with the aforementioned material or has immediate access to it.

## Revision Summary

| Date       | Revision History | Revision Class | Comments   |
|------------|------------------|----------------|--|
| 12/3/2008  | 1.0.0            | Major          | Initial Release.   |
| 1/15/2009  | 1.01             | Editorial      | Revised and edited technical content.  |
| 3/4/2009   | 1.02             | Editorial      | Revised and edited technical content.  |
| 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  | 9.0              | Major          | Significantly changed the technical content.                                 |
| 8/5/2011   | 10.0             | Major          | Significantly changed the technical content.                                 |
| 10/7/2011  | 10.1             | Minor          | Clarified the meaning of 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  | 13.0             | Major          | Significantly changed the technical content.                                 |
| 2/11/2013  | 14.0             | Major          | Significantly changed the technical content.                                 |
| 7/26/2013  | 15.0             | Major          | Significantly changed the technical content.                                 |
| 11/18/2013 | 15.0             | None           | No changes to the meaning, language, or formatting of the technical content. |
| 2/10/2014  | 15.0             | None           | No changes to the meaning, language, or formatting of the technical content. |
| 4/30/2014  | 16.0             | Major          | Significantly changed the technical content.                                 |
| 7/31/2014  | 17.0             | Major          | Significantly changed the technical content.                                 |
| 10/30/2014 | 18.0             | Major          | Significantly changed the technical content.                                 |
| 5/26/2015  | 19.0             | Major          | Significantly changed the technical content.                                 |
| 6/30/2015  | 20.0             | Major          | Significantly changed the technical content.                                 |
| 9/14/2015  | 21.0             | Major          | Significantly changed the technical content.                                 |
| 6/9/2016   | 22.0             | Major          | Significantly changed the technical content.                                 |
| 2/28/2017  | 23.0             | Major          | Significantly changed the technical content.                                 |

# Table of Contents

|                |   |           |
|----------------|---|-----------|
| <b>1</b>       | <b>Introduction .....</b>                           | <b>15</b> |
| 1.1            | Glossary .....                                      | 15        |
| 1.2            | References .....                                    | 19        |
| 1.2.1          | Normative References .....                          | 19        |
| 1.2.2          | Informative References .....                        | 21        |
| 1.3            | Overview .....                                      | 21        |
| 1.4            | Relationship to Other Protocols .....               | 21        |
| 1.5            | Prerequisites/Preconditions .....                   | 22        |
| 1.6            | Applicability Statement .....                       | 22        |
| 1.7            | Versioning and Capability Negotiation .....         | 22        |
| 1.8            | Vendor-Extensible Fields .....                      | 22        |
| 1.9            | Standards Assignments.....                          | 22        |
| <b>2</b>       | <b>Messages.....</b>                                | <b>23</b> |
| 2.1            | Transport .....                                     | 23        |
| 2.2            | Message Syntax .....                                | 23        |
| 2.2.1          | Commands .....                                      | 23        |
| 2.2.1.1        | Autodiscover .....                                  | 23        |
| 2.2.1.2        | Find .....  | 25        |
| 2.2.1.3        | FolderCreate .....                                  | 28        |
| 2.2.1.4        | FolderDelete.....                                   | 29        |
| 2.2.1.5        | FolderSync .....                                    | 30        |
| 2.2.1.6        | FolderUpdate.....                                   | 31        |
| 2.2.1.7        | GetAttachment .....                                 | 32        |
| 2.2.1.8        | GetHierarchy .....                                  | 33        |
| 2.2.1.9        | GetItemEstimate.....                                | 34        |
| 2.2.1.10       | ItemOperations.....                                 | 35        |
| 2.2.1.10.1     | Delivery of Content Requested by Fetch .....        | 37        |
| 2.2.1.10.1.1   | MultiPartResponse.....                              | 37        |
| 2.2.1.10.1.1.1 | PartMetaData .....                                  | 38        |
| 2.2.1.11       | MeetingResponse .....                               | 38        |
| 2.2.1.12       | MoveItems .....                                     | 40        |
| 2.2.1.13       | Ping .....  | 41        |
| 2.2.1.14       | Provision.....                                      | 42        |
| 2.2.1.15       | ResolveRecipients .....                             | 42        |
| 2.2.1.16       | Search.....   | 44        |
| 2.2.1.17       | SendMail.....                                       | 48        |
| 2.2.1.18       | Settings.....                                       | 49        |
| 2.2.1.19       | SmartForward .....                                  | 52        |
| 2.2.1.20       | SmartReply .....                                    | 54        |
| 2.2.1.21       | Sync.....   | 56        |
| 2.2.1.21.1     | Empty Sync Request.....                             | 59        |
| 2.2.1.21.2     | Empty Sync Response.....                            | 59        |
| 2.2.1.22       | ValidateCert .....                                  | 59        |
| 2.2.2          | Common Status Codes .....                           | 60        |
| 2.2.3          | Elements .....                                      | 67        |
| 2.2.3.1        | AcceptableResponseSchema .....                      | 67        |
| 2.2.3.2        | Account .....                                       | 68        |
| 2.2.3.3        | AccountId .....                                     | 68        |
| 2.2.3.3.1      | AccountId (SendMail, SmartForward, SmartReply)..... | 69        |
| 2.2.3.3.2      | AccountId (Settings).....                           | 70        |
| 2.2.3.4        | AccountName .....                                   | 70        |
| 2.2.3.5        | Accounts.....                                       | 71        |
| 2.2.3.6        | Action.....   | 72        |
| 2.2.3.7        | Add.....  | 73        |

|            |  |     |
|------------|--|-----|
| 2.2.3.7.1  | Add (FolderSync).....                                  | 73  |
| 2.2.3.7.2  | Add (Sync) .....                                       | 73  |
| 2.2.3.8    | airsyncbase:FileReference .....                        | 75  |
| 2.2.3.9    | Alias.....   | 76  |
| 2.2.3.9.1  | Alias (Find) .....                                     | 76  |
| 2.2.3.9.2  | Alias (Search) .....                                   | 77  |
| 2.2.3.10   | And.....   | 77  |
| 2.2.3.11   | ApplicationData .....                                  | 78  |
| 2.2.3.12   | AppliesToExternalKnown .....                           | 80  |
| 2.2.3.13   | AppliesToExternalUnknown .....                         | 81  |
| 2.2.3.14   | AppliesToInternal .....                                | 82  |
| 2.2.3.15   | Autodiscover .....                                     | 83  |
| 2.2.3.16   | Availability .....                                     | 83  |
| 2.2.3.17   | BodyType.....  | 84  |
| 2.2.3.18   | CalendarId .....                                       | 85  |
| 2.2.3.19   | Certificate .....                                      | 86  |
| 2.2.3.19.1 | Certificate (ResolveRecipients) .....                  | 86  |
| 2.2.3.19.2 | Certificate (ValidateCert) .....                       | 87  |
| 2.2.3.20   | CertificateChain .....                                 | 88  |
| 2.2.3.21   | CertificateCount .....                                 | 89  |
| 2.2.3.22   | CertificateRetrieval.....                              | 90  |
| 2.2.3.23   | Certificates.....                                      | 90  |
| 2.2.3.23.1 | Certificates (ResolveRecipients).....                  | 91  |
| 2.2.3.23.2 | Certificates (ValidateCert) .....                      | 91  |
| 2.2.3.24   | Change.....  | 92  |
| 2.2.3.25   | Changes .....  | 94  |
| 2.2.3.26   | CheckCRL .....   | 95  |
| 2.2.3.27   | Class .....  | 96  |
| 2.2.3.27.1 | Class (Find) .....                                     | 96  |
| 2.2.3.27.2 | Class (GetItemEstimate) .....                          | 97  |
| 2.2.3.27.3 | Class (ItemOperations) .....                           | 98  |
| 2.2.3.27.4 | Class (Ping) .....                                     | 99  |
| 2.2.3.27.5 | Class (Search) .....                                   | 100 |
| 2.2.3.27.6 | Class (Sync) .....                                     | 101 |
| 2.2.3.28   | ClientId .....   | 103 |
| 2.2.3.28.1 | ClientId (SendMail, SmartForward, and SmartReply)..... | 103 |
| 2.2.3.28.2 | ClientId (Sync).....                                   | 104 |
| 2.2.3.29   | Collection.....  | 105 |
| 2.2.3.29.1 | Collection (GetItemEstimate) .....                     | 105 |
| 2.2.3.29.2 | Collection (Sync) .....                                | 106 |
| 2.2.3.30   | CollectionId.....                                      | 108 |
| 2.2.3.30.1 | CollectionId (Find) .....                              | 108 |
| 2.2.3.30.2 | CollectionId (GetItemEstimate) .....                   | 109 |
| 2.2.3.30.3 | CollectionId (ItemOperations) .....                    | 110 |
| 2.2.3.30.4 | CollectionId (MeetingResponse) .....                   | 111 |
| 2.2.3.30.5 | CollectionId (Search) .....                            | 112 |
| 2.2.3.30.6 | CollectionId (Sync) .....                              | 113 |
| 2.2.3.31   | Collections .....                                      | 113 |
| 2.2.3.31.1 | Collections (GetItemEstimate).....                     | 114 |
| 2.2.3.31.2 | Collections (Sync) .....                               | 114 |
| 2.2.3.32   | Commands.....  | 115 |
| 2.2.3.33   | Company .....  | 116 |
| 2.2.3.33.1 | Company (Find) .....                                   | 116 |
| 2.2.3.33.2 | Company (Search) .....                                 | 117 |
| 2.2.3.34   | Conflict .....   | 118 |
| 2.2.3.35   | ConversationId .....                                   | 119 |
| 2.2.3.35.1 | ConversationId (ItemOperations) .....                  | 119 |
| 2.2.3.35.2 | ConversationId (Search) .....                          | 120 |



|            |  |     |
|------------|--|-----|
| 2.2.3.36   | ConversationMode.....                            | 120 |
| 2.2.3.36.1 | ConversationMode (GetItemEstimate) .....         | 121 |
| 2.2.3.36.2 | ConversationMode (Sync) .....                    | 122 |
| 2.2.3.37   | Count .....                                      | 123 |
| 2.2.3.38   | Culture .....                                    | 123 |
| 2.2.3.39   | Data.....  | 124 |
| 2.2.3.39.1 | Data (Find).....                                 | 124 |
| 2.2.3.39.2 | Data (ItemOperations) .....                      | 125 |
| 2.2.3.39.3 | Data (ResolveRecipients).....                    | 126 |
| 2.2.3.39.4 | Data (Search) .....                              | 126 |
| 2.2.3.40   | DebugData.....                                   | 127 |
| 2.2.3.41   | DeepTraversal .....                              | 127 |
| 2.2.3.41.1 | DeepTraversal (Find) .....                       | 128 |
| 2.2.3.41.2 | DeepTraversal (Search).....                      | 128 |
| 2.2.3.42   | Delete .....                                     | 129 |
| 2.2.3.42.1 | Delete (FolderSync) .....                        | 129 |
| 2.2.3.42.2 | Delete (Sync).....                               | 130 |
| 2.2.3.43   | DeletesAsMoves.....                              | 131 |
| 2.2.3.44   | DeleteSubFolders .....                           | 132 |
| 2.2.3.45   | DeviceInformation.....                           | 133 |
| 2.2.3.46   | DevicePassword .....                             | 134 |
| 2.2.3.47   | DisplayBcc .....                                 | 135 |
| 2.2.3.48   | DisplayCc.....                                   | 136 |
| 2.2.3.49   | DisplayName .....                                | 136 |
| 2.2.3.49.1 | DisplayName (Autodiscover) .....                 | 137 |
| 2.2.3.49.2 | DisplayName (Find) .....                         | 137 |
| 2.2.3.49.3 | DisplayName (FolderCreate and FolderUpdate)..... | 138 |
| 2.2.3.49.4 | DisplayName (FolderSync).....                    | 139 |
| 2.2.3.49.5 | DisplayName (GetHierarchy).....                  | 139 |
| 2.2.3.49.6 | DisplayName (ResolveRecipients) .....            | 140 |
| 2.2.3.49.7 | DisplayName (Search) .....                       | 141 |
| 2.2.3.50   | documentlibrary:LinkId.....                      | 142 |
| 2.2.3.51   | DstFldId.....                                    | 143 |
| 2.2.3.51.1 | DstFldId (ItemOperations).....                   | 143 |
| 2.2.3.51.2 | DstFldId (MoveItems) .....                       | 143 |
| 2.2.3.52   | DstMsgId .....                                   | 144 |
| 2.2.3.53   | Email.....                                       | 145 |
| 2.2.3.54   | email:DateReceived .....                         | 146 |
| 2.2.3.55   | EmailAddress.....                                | 147 |
| 2.2.3.55.1 | EmailAddress (Find).....                         | 147 |
| 2.2.3.55.2 | EmailAddress (ResolveRecipients) .....           | 147 |
| 2.2.3.55.3 | EmailAddress (Search) .....                      | 148 |
| 2.2.3.56   | EMailAddress.....                                | 149 |
| 2.2.3.57   | EmailAddresses .....                             | 150 |
| 2.2.3.58   | EmptyFolderContents .....                        | 151 |
| 2.2.3.59   | Enabled .....                                    | 152 |
| 2.2.3.60   | EnableOutboundSMS .....                          | 152 |
| 2.2.3.61   | EndTime .....                                    | 153 |
| 2.2.3.61.1 | EndTime (ResolveRecipients) .....                | 153 |
| 2.2.3.61.2 | EndTime (Settings).....                          | 154 |
| 2.2.3.62   | EqualTo .....                                    | 155 |
| 2.2.3.63   | Error .....                                      | 156 |
| 2.2.3.64   | ErrorCode .....                                  | 157 |
| 2.2.3.65   | Estimate .....                                   | 158 |
| 2.2.3.66   | ExecuteSearch.....                               | 158 |
| 2.2.3.67   | Fetch.....                                       | 159 |
| 2.2.3.67.1 | Fetch (ItemOperations) .....                     | 159 |
| 2.2.3.67.2 | Fetch (Sync) .....                               | 161 |

|            |  |     |
|------------|--|-----|
| 2.2.3.68   | FilterType .....                               | 162 |
| 2.2.3.68.1 | FilterType (GetItemEstimate).....              | 162 |
| 2.2.3.68.2 | FilterType (Sync).....                         | 164 |
| 2.2.3.69   | Find .....                                     | 165 |
| 2.2.3.70   | FirstName .....                                | 166 |
| 2.2.3.70.1 | FirstName (Find) .....                         | 166 |
| 2.2.3.70.2 | FirstName (Search) .....                       | 167 |
| 2.2.3.71   | Folder.....                                    | 168 |
| 2.2.3.71.1 | Folder (GetHierarchy) .....                    | 168 |
| 2.2.3.71.2 | Folder (Ping).....                             | 169 |
| 2.2.3.72   | FolderCreate .....                             | 170 |
| 2.2.3.73   | FolderDelete.....                              | 171 |
| 2.2.3.74   | FolderId .....                                 | 171 |
| 2.2.3.75   | Folders .....                                  | 172 |
| 2.2.3.75.1 | Folders (GetHierarchy) .....                   | 172 |
| 2.2.3.75.2 | Folders (Ping) .....                           | 173 |
| 2.2.3.76   | FolderSync .....                               | 174 |
| 2.2.3.77   | FolderUpdate.....                              | 175 |
| 2.2.3.78   | Forwarder.....                                 | 175 |
| 2.2.3.79   | Forwardees .....                               | 176 |
| 2.2.3.80   | FreeText .....                                 | 177 |
| 2.2.3.80.1 | FreeText (Find) .....                          | 177 |
| 2.2.3.80.2 | FreeText (Search) .....                        | 178 |
| 2.2.3.81   | FriendlyName .....                             | 179 |
| 2.2.3.82   | GALSearchCriterion .....                       | 180 |
| 2.2.3.83   | Get .....                                      | 180 |
| 2.2.3.84   | GetChanges .....                               | 182 |
| 2.2.3.85   | GetItemEstimate.....                           | 183 |
| 2.2.3.86   | GreaterThan .....                              | 184 |
| 2.2.3.87   | HasAttachments .....                           | 184 |
| 2.2.3.88   | HeartbeatInterval.....                         | 185 |
| 2.2.3.88.1 | HeartbeatInterval (Ping).....                  | 185 |
| 2.2.3.88.2 | HeartbeatInterval (Sync).....                  | 186 |
| 2.2.3.89   | HomePhone.....                                 | 187 |
| 2.2.3.89.1 | HomePhone (Find).....                          | 187 |
| 2.2.3.89.2 | HomePhone (Search) .....                       | 188 |
| 2.2.3.90   | Id .....                                       | 189 |
| 2.2.3.91   | IMEI.....                                      | 189 |
| 2.2.3.92   | InstanceId .....                               | 190 |
| 2.2.3.92.1 | InstanceId (MeetingResponse) .....             | 190 |
| 2.2.3.92.2 | InstanceId (SmartForward and SmartReply) ..... | 191 |
| 2.2.3.93   | ItemId.....                                    | 192 |
| 2.2.3.94   | ItemOperations.....                            | 193 |
| 2.2.3.95   | LastName .....                                 | 194 |
| 2.2.3.95.1 | LastName (Find).....                           | 194 |
| 2.2.3.95.2 | LastName (Search).....                         | 195 |
| 2.2.3.96   | LessThan .....                                 | 196 |
| 2.2.3.97   | Limit .....                                    | 197 |
| 2.2.3.98   | LongId.....                                    | 198 |
| 2.2.3.98.1 | LongId (ItemOperations).....                   | 198 |
| 2.2.3.98.2 | LongId (MeetingResponse) .....                 | 199 |
| 2.2.3.98.3 | LongId (Search) .....                          | 199 |
| 2.2.3.98.4 | LongId (SmartForward and SmartReply) .....     | 200 |
| 2.2.3.99   | MailBoxSearchCriterion .....                   | 201 |
| 2.2.3.100  | MaxAmbiguousRecipients .....                   | 202 |
| 2.2.3.101  | MaxCertificates .....                          | 202 |
| 2.2.3.102  | MaxFolders.....                                | 203 |
| 2.2.3.103  | MaxItems.....                                  | 204 |

|             |                                 |     |
|-------------|---------------------------------|-----|
| 2.2.3.103.1 | MaxItems (GetItemEstimate)      | 204 |
| 2.2.3.103.2 | MaxItems (Sync)                 | 205 |
| 2.2.3.104   | MaxPictures                     | 206 |
| 2.2.3.104.1 | MaxPictures (Find)              | 206 |
| 2.2.3.104.2 | MaxPictures (ResolveRecipients) | 207 |
| 2.2.3.104.3 | MaxPictures (Search)            | 207 |
| 2.2.3.105   | MaxSize                         | 208 |
| 2.2.3.105.1 | MaxSize (Find)                  | 208 |
| 2.2.3.105.2 | MaxSize (ResolveRecipients)     | 209 |
| 2.2.3.105.3 | MaxSize (Search)                | 210 |
| 2.2.3.106   | MeetingResponse                 | 211 |
| 2.2.3.107   | MergedFreeBusy                  | 211 |
| 2.2.3.108   | Message                         | 213 |
| 2.2.3.109   | Mime                            | 214 |
| 2.2.3.110   | MIMESupport                     | 215 |
| 2.2.3.110.1 | MIMESupport (ItemOperations)    | 215 |
| 2.2.3.110.2 | MIMESupport (Search)            | 216 |
| 2.2.3.110.3 | MIMESupport (Sync)              | 218 |
| 2.2.3.111   | MIMETruncation                  | 219 |
| 2.2.3.112   | MiniCertificate                 | 220 |
| 2.2.3.113   | MobileOperator                  | 221 |
| 2.2.3.114   | MobilePhone                     | 222 |
| 2.2.3.114.1 | MobilePhone (Find)              | 222 |
| 2.2.3.114.2 | MobilePhone (Search)            | 223 |
| 2.2.3.115   | Model                           | 223 |
| 2.2.3.116   | MoreAvailable                   | 224 |
| 2.2.3.117   | Move                            | 225 |
| 2.2.3.117.1 | Move (ItemOperations)           | 225 |
| 2.2.3.117.2 | Move (MoveItems)                | 226 |
| 2.2.3.118   | MoveAlways                      | 227 |
| 2.2.3.119   | MoveItems                       | 228 |
| 2.2.3.120   | Name                            | 229 |
| 2.2.3.120.1 | Name (Autodiscover)             | 229 |
| 2.2.3.120.2 | Name (Search)                   | 229 |
| 2.2.3.120.3 | Name (SmartForward and Sync)    | 230 |
| 2.2.3.121   | Office                          | 231 |
| 2.2.3.121.1 | Office (Find)                   | 231 |
| 2.2.3.121.2 | Office (Search)                 | 232 |
| 2.2.3.122   | Oof                             | 233 |
| 2.2.3.123   | OofMessage                      | 234 |
| 2.2.3.124   | OofState                        | 236 |
| 2.2.3.125   | Options                         | 237 |
| 2.2.3.125.1 | Options (Find)                  | 237 |
| 2.2.3.125.2 | Options (GetItemEstimate)       | 238 |
| 2.2.3.125.3 | Options (ItemOperations)        | 239 |
| 2.2.3.125.4 | Options (ResolveRecipients)     | 241 |
| 2.2.3.125.5 | Options (Search)                | 242 |
| 2.2.3.125.6 | Options (Sync)                  | 243 |
| 2.2.3.126   | Or                              | 245 |
| 2.2.3.127   | OS                              | 245 |
| 2.2.3.128   | OSLanguage                      | 246 |
| 2.2.3.129   | ParentId                        | 247 |
| 2.2.3.129.1 | ParentId (FolderCreate)         | 247 |
| 2.2.3.129.2 | ParentId (FolderSync)           | 248 |
| 2.2.3.129.3 | ParentId (FolderUpdate)         | 249 |
| 2.2.3.129.4 | ParentId (GetHierarchy)         | 250 |
| 2.2.3.130   | Part                            | 250 |
| 2.2.3.131   | Partial                         | 251 |

|             |                                   |     |
|-------------|-----------------------------------|-----|
| 2.2.3.132   | Password .....                    | 252 |
| 2.2.3.132.1 | Password (ItemOperations) .....   | 252 |
| 2.2.3.132.2 | Password (Search).....            | 253 |
| 2.2.3.132.3 | Password (Settings).....          | 254 |
| 2.2.3.133   | Phone.....                        | 254 |
| 2.2.3.133.1 | Phone (Find).....                 | 255 |
| 2.2.3.133.2 | Phone (Search) .....              | 255 |
| 2.2.3.134   | PhoneNumber.....                  | 256 |
| 2.2.3.135   | Picture.....                      | 257 |
| 2.2.3.135.1 | Picture (Find).....               | 257 |
| 2.2.3.135.2 | Picture (ResolveRecipients).....  | 258 |
| 2.2.3.135.3 | Picture (Search) .....            | 259 |
| 2.2.3.136   | Ping .....                        | 260 |
| 2.2.3.137   | Preview .....                     | 260 |
| 2.2.3.138   | PrimarySmtpAddress.....           | 261 |
| 2.2.3.139   | Properties .....                  | 262 |
| 2.2.3.139.1 | Properties (Find) .....           | 262 |
| 2.2.3.139.2 | Properties (ItemOperations) ..... | 264 |
| 2.2.3.139.3 | Properties (Search).....          | 265 |
| 2.2.3.140   | ProposedEndTime .....             | 266 |
| 2.2.3.141   | ProposedStartTime.....            | 267 |
| 2.2.3.142   | Query .....                       | 268 |
| 2.2.3.142.1 | Query (Find).....                 | 268 |
| 2.2.3.142.2 | Query (Search) .....              | 269 |
| 2.2.3.143   | Range.....                        | 270 |
| 2.2.3.143.1 | Range (Find).....                 | 271 |
| 2.2.3.143.2 | Range (ItemOperations).....       | 272 |
| 2.2.3.143.3 | Range (Search) .....              | 273 |
| 2.2.3.144   | RebuildResults.....               | 274 |
| 2.2.3.145   | Recipient .....                   | 275 |
| 2.2.3.146   | RecipientCount .....              | 276 |
| 2.2.3.147   | Redirect.....                     | 277 |
| 2.2.3.148   | ReplaceMime .....                 | 277 |
| 2.2.3.149   | ReplyMessage.....                 | 278 |
| 2.2.3.150   | Request .....                     | 279 |
| 2.2.3.150.1 | Request (Autodiscover).....       | 279 |
| 2.2.3.150.2 | Request (MeetingResponse).....    | 280 |
| 2.2.3.151   | RequestId .....                   | 281 |
| 2.2.3.152   | ResolveRecipients .....           | 282 |
| 2.2.3.153   | Response .....                    | 283 |
| 2.2.3.153.1 | Response (Autodiscover).....      | 283 |
| 2.2.3.153.2 | Response (Find) .....             | 284 |
| 2.2.3.153.3 | Response (GetItemEstimate) .....  | 285 |
| 2.2.3.153.4 | Response (ItemOperations) .....   | 286 |
| 2.2.3.153.5 | Response (MoveItems).....         | 286 |
| 2.2.3.153.6 | Response (ResolveRecipients)..... | 287 |
| 2.2.3.153.7 | Response (Search) .....           | 288 |
| 2.2.3.154   | Responses.....                    | 289 |
| 2.2.3.155   | Result.....                       | 290 |
| 2.2.3.155.1 | Result (Find).....                | 290 |
| 2.2.3.155.2 | Result (MeetingResponse) .....    | 291 |
| 2.2.3.155.3 | Result (Search) .....             | 292 |
| 2.2.3.156   | RightsManagementInformation ..... | 293 |
| 2.2.3.157   | SaveInSentItems .....             | 294 |
| 2.2.3.158   | Schema .....                      | 295 |
| 2.2.3.159   | Search.....                       | 296 |
| 2.2.3.160   | SearchId.....                     | 296 |
| 2.2.3.161   | SendDisabled .....                | 297 |

|              |  |     |
|--------------|--|-----|
| 2.2.3.162    | SendMail.....  | 298 |
| 2.2.3.163    | SendResponse.....  | 299 |
| 2.2.3.164    | Server.....  | 299 |
| 2.2.3.165    | ServerData.....  | 300 |
| 2.2.3.166    | ServerId .....   | 301 |
| 2.2.3.166.1  | ServerId (Find) .....  | 301 |
| 2.2.3.166.2  | ServerId (FolderCreate) .....                                | 302 |
| 2.2.3.166.3  | ServerId (FolderDelete).....                                 | 303 |
| 2.2.3.166.4  | ServerId (FolderSync).....                                   | 303 |
| 2.2.3.166.5  | ServerId (FolderUpdate).....                                 | 304 |
| 2.2.3.166.6  | ServerId (GetHierarchy) .....                                | 305 |
| 2.2.3.166.7  | ServerId (ItemOperations) .....                              | 306 |
| 2.2.3.166.8  | ServerId (Sync) .....  | 307 |
| 2.2.3.167    | Set.....   | 308 |
| 2.2.3.168    | Settings.....  | 310 |
| 2.2.3.168.1  | Settings (Autodiscover).....                                 | 310 |
| 2.2.3.168.2  | Settings (Settings) .....                                    | 310 |
| 2.2.3.169    | SmartForward .....   | 311 |
| 2.2.3.170    | SmartReply .....   | 312 |
| 2.2.3.171    | SMTPAddress.....   | 313 |
| 2.2.3.172    | SoftDelete.....  | 314 |
| 2.2.3.173    | Source.....  | 315 |
| 2.2.3.174    | SrcFldId .....   | 316 |
| 2.2.3.175    | SrcMsgId .....   | 317 |
| 2.2.3.176    | StartTime.....   | 317 |
| 2.2.3.176.1  | StartTime (ResolveRecipients) .....                          | 317 |
| 2.2.3.176.2  | StartTime (Settings) .....                                   | 318 |
| 2.2.3.177    | Status .....   | 319 |
| 2.2.3.177.1  | Status (Autodiscover) .....                                  | 320 |
| 2.2.3.177.2  | Status (Find) .....  | 321 |
| 2.2.3.177.3  | Status (FolderCreate) .....                                  | 322 |
| 2.2.3.177.4  | Status (FolderDelete).....                                   | 324 |
| 2.2.3.177.5  | Status (FolderSync) .....                                    | 325 |
| 2.2.3.177.6  | Status (FolderUpdate).....                                   | 326 |
| 2.2.3.177.7  | Status (GetItemEstimate).....                                | 328 |
| 2.2.3.177.8  | Status (ItemOperations) .....                                | 329 |
| 2.2.3.177.9  | Status (MeetingResponse) .....                               | 331 |
| 2.2.3.177.10 | Status (MoveItems) .....                                     | 332 |
| 2.2.3.177.11 | Status (Ping) .....  | 334 |
| 2.2.3.177.12 | Status (ResolveRecipients) .....                             | 336 |
| 2.2.3.177.13 | Status (Search).....   | 338 |
| 2.2.3.177.14 | Status (SendMail).....                                       | 340 |
| 2.2.3.177.15 | Status (Settings).....                                       | 341 |
| 2.2.3.177.16 | Status (SmartForward and SmartReply) .....                   | 343 |
| 2.2.3.177.17 | Status (Sync).....   | 344 |
| 2.2.3.177.18 | Status (ValidateCert) .....                                  | 346 |
| 2.2.3.178    | Store.....   | 349 |
| 2.2.3.178.1  | Store (Find).....  | 349 |
| 2.2.3.178.2  | Store (ItemOperations) .....                                 | 350 |
| 2.2.3.178.3  | Store (Search) .....   | 350 |
| 2.2.3.179    | Supported.....   | 351 |
| 2.2.3.180    | Sync.....  | 354 |
| 2.2.3.181    | SyncKey .....  | 354 |
| 2.2.3.181.1  | SyncKey (FolderCreate, FolderDelete, and FolderUpdate) ..... | 355 |
| 2.2.3.181.2  | SyncKey (FolderSync) .....                                   | 356 |
| 2.2.3.181.3  | SyncKey (GetItemEstimate).....                               | 357 |
| 2.2.3.181.4  | SyncKey (Sync).....  | 358 |
| 2.2.3.182    | Title .....  | 359 |

|             |   |            |
|-------------|---|------------|
| 2.2.3.182.1 | Title (Find)  | 359        |
| 2.2.3.182.2 | Title (Search)  | 360        |
| 2.2.3.183   | To  | 360        |
| 2.2.3.184   | Total   | 362        |
| 2.2.3.184.1 | Total (Find)  | 362        |
| 2.2.3.184.2 | Total (ItemOperations)  | 363        |
| 2.2.3.184.3 | Total (Search)  | 363        |
| 2.2.3.185   | Truncation  | 364        |
| 2.2.3.186   | Type  | 366        |
| 2.2.3.186.1 | Type (Autodiscover)   | 366        |
| 2.2.3.186.2 | Type (FolderCreate)   | 367        |
| 2.2.3.186.3 | Type (FolderSync)   | 368        |
| 2.2.3.186.4 | Type (GetHierarchy)   | 369        |
| 2.2.3.186.5 | Type (ResolveRecipients)  | 370        |
| 2.2.3.187   | Update  | 371        |
| 2.2.3.188   | Url   | 372        |
| 2.2.3.189   | User  | 372        |
| 2.2.3.190   | UserAgent   | 373        |
| 2.2.3.191   | UserDisplayName   | 374        |
| 2.2.3.192   | UserInfo  | 375        |
| 2.2.3.193   | UserName  | 376        |
| 2.2.3.193.1 | UserName (ItemOperations)   | 376        |
| 2.2.3.193.2 | UserName (Search)   | 376        |
| 2.2.3.194   | UserResponse  | 377        |
| 2.2.3.195   | ValidateCert  | 378        |
| 2.2.3.196   | Value   | 379        |
| 2.2.3.197   | Version   | 380        |
| 2.2.3.198   | Wait  | 380        |
| 2.2.3.199   | WindowSize  | 381        |
| 2.2.4       | Namespaces  | 383        |
| <b>3</b>    | <b>Protocol Details</b>   | <b>385</b> |
| 3.1         | Common Details  | 385        |
| 3.1.1       | Abstract Data Model   | 385        |
| 3.1.2       | Timers  | 385        |
| 3.1.3       | Initialization  | 385        |
| 3.1.4       | Higher-Layer Triggered Events   | 385        |
| 3.1.5       | Message Processing Events and Sequencing Rules                                | 385        |
| 3.1.5.1     | Downloading Policy Settings   | 385        |
| 3.1.5.2     | Setting Device Information  | 386        |
| 3.1.5.3     | Synchronizing a Folder Hierarchy  | 387        |
| 3.1.5.4     | Synchronizing Inbox, Calendar, Contacts, and Tasks Folders                    | 387        |
| 3.1.5.5     | Creating a Meeting or Appointment   | 390        |
| 3.1.5.6     | Receiving and Accepting Meeting Requests                                      | 390        |
| 3.1.5.6.1   | Substitute Meeting Invitation Email   | 391        |
| 3.1.5.7     | Receiving and Forwarding Meeting Requests                                     | 393        |
| 3.1.5.8     | Monitoring Folders for New Items  | 393        |
| 3.1.5.9     | Handling Status Errors  | 394        |
| 3.1.5.10    | Limiting Size of Command Requests   | 394        |
| 3.1.6       | Timer Events  | 395        |
| 3.1.7       | Other Local Events  | 395        |
| <b>4</b>    | <b>Protocol Examples</b>  | <b>396</b> |
| 4.1         | Downloading the Current Server Security Policy by Using the Provision Command | 396        |
| 4.2         | Discovering Account Settings by Using the Autodiscover Command                | 396        |
| 4.2.1       | Request   | 397        |
| 4.2.2       | Response - Case Error   | 397        |
| 4.2.3       | Response - Case Redirect  | 397        |
| 4.2.4       | Response - Case Server Settings   | 398        |

|          |   |     |
|----------|---|-----|
| 4.2.5    | Response - Case Framework Error .....                                   | 398 |
| 4.2.6    | Response - Case Framework Default.....                                  | 399 |
| 4.3      | Setting Device Information by Using the Settings Command.....           | 399 |
| 4.3.1    | Request.....  | 399 |
| 4.3.2    | Response.....   | 400 |
| 4.4      | Synchronizing Folders by Using the FolderSync Command.....              | 400 |
| 4.4.1    | Request.....  | 400 |
| 4.4.2    | Response.....   | 400 |
| 4.5      | Synchronizing Data by Using the Sync Command.....                       | 402 |
| 4.5.1    | Downloading Current Information from the Server.....                    | 402 |
| 4.5.1.1  | Request .....   | 402 |
| 4.5.1.2  | Response .....  | 402 |
| 4.5.2    | Fetching an Email by Using the ServerId .....                           | 403 |
| 4.5.2.1  | Request .....   | 403 |
| 4.5.2.2  | Response .....  | 403 |
| 4.5.3    | Uploading New ApplicationData to the Server.....                        | 403 |
| 4.5.3.1  | Request .....   | 404 |
| 4.5.3.2  | Response .....  | 404 |
| 4.5.4    | Updating ApplicationData on the Server.....                             | 404 |
| 4.5.4.1  | Request .....   | 404 |
| 4.5.4.2  | Response .....  | 405 |
| 4.5.5    | Deleting an Item from the Server .....                                  | 405 |
| 4.5.5.1  | Request .....   | 405 |
| 4.5.5.2  | Response .....  | 406 |
| 4.5.6    | Identifying Acceptance of Partial Collections.....                      | 406 |
| 4.5.7    | Identifying Acceptance of MIME Content .....                            | 406 |
| 4.5.7.1  | Sync Request With Support for MIME Content.....                         | 406 |
| 4.5.7.2  | Sync Response with MIME Content .....                                   | 407 |
| 4.5.7.3  | Sync Request with BodyPreference and MIME Support.....                  | 407 |
| 4.5.7.4  | Sync Response with MIME Support.....                                    | 408 |
| 4.5.8    | Identifying That More Content is Ready for Download.....                | 409 |
| 4.5.9    | Synchronizing the Calendar Folder.....                                  | 409 |
| 4.5.9.1  | Initial Request .....   | 409 |
| 4.5.9.2  | Initial Response .....  | 410 |
| 4.5.9.3  | Second Request .....  | 410 |
| 4.5.9.4  | Second Response .....   | 410 |
| 4.5.10   | Empty Sync Request and Response.....                                    | 412 |
| 4.5.11   | Receiving a Substitute Meeting Invitation Email Message.....            | 413 |
| 4.6      | Sending Email Messages by Using the SendMail Command .....              | 414 |
| 4.6.1    | Request.....  | 414 |
| 4.6.2    | Response.....   | 414 |
| 4.7      | Replying to Email Messages by Using the SmartReply Command .....        | 414 |
| 4.7.1    | Request.....  | 415 |
| 4.7.2    | Response.....   | 415 |
| 4.8      | Pinging the Server for Updates by Using the Ping Command.....           | 415 |
| 4.8.1    | Ping Command Request.....   | 415 |
| 4.8.2    | Ping Command Response.....  | 416 |
| 4.8.2.1  | Typical Response .....  | 416 |
| 4.8.2.2  | Response - Changes Found.....   | 416 |
| 4.8.2.3  | Response - HeartbeatInterval Error.....                                 | 416 |
| 4.8.2.4  | Response - Folder Error.....  | 416 |
| 4.9      | Retrieving Item Estimates by Using the GetItemEstimate Command.....     | 417 |
| 4.9.1    | Request.....  | 417 |
| 4.9.2    | Response.....   | 417 |
| 4.10     | Fetching Email and Attachments by Using the ItemOperations Command..... | 418 |
| 4.10.1   | Fetching an Email Item.....   | 418 |
| 4.10.1.1 | Request .....   | 418 |
| 4.10.1.2 | Response .....  | 418 |

|          |  |     |
|----------|--|-----|
| 4.10.2   | Fetching a MIME Email Item.....  | 419 |
| 4.10.2.1 | Request .....  | 419 |
| 4.10.2.2 | Response .....   | 420 |
| 4.10.3   | Fetching an Email Item with a LongId .....                             | 421 |
| 4.10.3.1 | Search Request .....   | 421 |
| 4.10.3.2 | Search Response .....  | 421 |
| 4.10.3.3 | ItemOperations Request .....   | 422 |
| 4.10.3.4 | ItemOperations Response .....  | 423 |
| 4.10.4   | Fetching an Attachment.....  | 423 |
| 4.10.4.1 | Sync Request .....   | 424 |
| 4.10.4.2 | Sync Response .....  | 424 |
| 4.10.4.3 | ItemOperation Request.....   | 425 |
| 4.10.4.4 | ItemOperation Response.....  | 425 |
| 4.10.5   | Fetching an Email Item With a Multipart Response.....                  | 426 |
| 4.10.5.1 | Request .....  | 426 |
| 4.10.5.2 | Response .....   | 426 |
| 4.11     | Searching for an Item by Using the Find Command .....                  | 428 |
| 4.11.1   | Keyword Search using a Property Restriction.....                       | 428 |
| 4.11.1.1 | Request .....  | 428 |
| 4.11.1.2 | Response .....   | 429 |
| 4.12     | Searching for an Item in the Mailbox by Using the Search Command ..... | 429 |
| 4.12.1   | Keyword Search .....   | 429 |
| 4.12.1.1 | Request .....  | 430 |
| 4.12.1.2 | Response .....   | 430 |
| 4.12.2   | Forward a Search Result.....   | 431 |
| 4.12.2.1 | Request .....  | 431 |
| 4.12.2.2 | Response .....   | 431 |
| 4.12.3   | Keyword Search with MIMESupport.....                                   | 431 |
| 4.12.3.1 | Request .....  | 432 |
| 4.12.3.2 | Response .....   | 432 |
| 4.13     | Searching the Global Address List by Using the Search Command .....    | 433 |
| 4.13.1   | Request.....   | 433 |
| 4.13.2   | Response.....  | 433 |
| 4.14     | Working with Folders .....   | 434 |
| 4.14.1   | Creating Folders by Using the FolderCreate Command.....                | 434 |
| 4.14.1.1 | Request .....  | 434 |
| 4.14.1.2 | Response .....   | 435 |
| 4.14.2   | Deleting Folders by Using the FolderDelete Command .....               | 435 |
| 4.14.2.1 | Request .....  | 435 |
| 4.14.2.2 | Response .....   | 435 |
| 4.14.3   | Updating Folders by Using the FolderUpdate Command .....               | 436 |
| 4.14.3.1 | Request .....  | 436 |
| 4.14.3.2 | Response .....   | 436 |
| 4.14.4   | Emptying Folder Contents by Using the ItemOperations Command .....     | 436 |
| 4.14.4.1 | Request .....  | 436 |
| 4.14.4.2 | Response .....   | 437 |
| 4.15     | Moving Items to Another Folder by Using the MoveItems Command .....    | 437 |
| 4.15.1   | Request.....   | 437 |
| 4.15.2   | Response.....  | 437 |
| 4.16     | Creating Meetings .....  | 438 |
| 4.16.1   | Uploading a Meeting to the Server .....                                | 438 |
| 4.16.1.1 | Request .....  | 438 |
| 4.16.1.2 | Response .....   | 438 |
| 4.16.2   | Sending Meeting Requests .....   | 439 |
| 4.16.2.1 | Request .....  | 439 |
| 4.16.2.2 | Response .....   | 441 |
| 4.16.3   | Adding a Meeting Request to the Attendee's Inbox Folder .....          | 441 |
| 4.16.3.1 | Request .....  | 441 |



|          |   |            |
|----------|---|------------|
| 4.16.3.2 | Response .....  | 441        |
| 4.16.4   | Adding a Meeting to the Attendee's Calendar Folder .....  | 442        |
| 4.16.4.1 | Request .....   | 443        |
| 4.16.4.2 | Response .....  | 443        |
| 4.17     | Responding to Meeting Requests by Using the MeetingResponse Command .....                         | 444        |
| 4.17.1   | Request .....   | 444        |
| 4.17.2   | Response .....  | 444        |
| 4.18     | Resolving Recipients and Retrieving Free/Busy Data by Using the ResolveRecipients Command .....   | 445        |
| 4.18.1   | Request .....   | 445        |
| 4.18.2   | Response for a GAL Entry .....  | 445        |
| 4.18.3   | Response for a Contact Entry .....  | 446        |
| 4.18.4   | Retrieving Free/Busy Data By Using the ResolveRecipients Command .....                            | 446        |
| 4.18.4.1 | Request to Retrieve Free/Busy Data .....  | 446        |
| 4.18.4.2 | Response with MergedFreeBusy Data .....   | 447        |
| 4.19     | Retrieving and Changing OOF Settings by Using the Settings Command .....                          | 448        |
| 4.19.1   | Retrieving OOF Settings .....   | 448        |
| 4.19.1.1 | Request .....   | 448        |
| 4.19.1.2 | Response .....  | 449        |
| 4.19.2   | Turning On the OOF Message .....  | 449        |
| 4.19.2.1 | Request .....   | 449        |
| 4.19.2.2 | Response .....  | 450        |
| 4.19.3   | Turning Off the OOF Message .....   | 450        |
| 4.19.3.1 | Request .....   | 450        |
| 4.19.3.2 | Response .....  | 451        |
| 4.20     | Validating Certificates by Using the ValidateCert Command .....                                   | 451        |
| 4.20.1   | Request .....   | 451        |
| 4.20.2   | Response .....  | 451        |
| 4.21     | Retrieving User Information by Using the Settings Command .....                                   | 452        |
| 4.21.1   | Request .....   | 452        |
| 4.21.2   | Response .....  | 452        |
| 4.22     | Setting a Device Password by Using the Settings Command .....                                     | 452        |
| 4.22.1   | Request .....   | 452        |
| 4.22.2   | Response .....  | 453        |
| 4.23     | Accessing Documents on File Shares and URIs by Using the Search and ItemOperations Commands ..... | 453        |
| 4.23.1   | Issuing a Search for Item Metadata .....  | 454        |
| 4.23.1.1 | Request .....   | 454        |
| 4.23.1.2 | Response .....  | 455        |
| 4.23.2   | Fetching an Item Based on Metadata .....  | 456        |
| 4.23.2.1 | Request .....   | 456        |
| 4.23.2.2 | Response .....  | 456        |
| 4.24     | Using the Supported Element and Ghosted Elements in the Sync Command .....                        | 456        |
| 4.24.1   | Modifying a Contact with no Ghosted Elements .....  | 457        |
| 4.24.2   | Modifying a Contact with Ghosted Elements .....   | 459        |
| 4.25     | Moving a Conversation by Using the ItemOperations Command .....                                   | 462        |
| 4.25.1   | Request .....   | 462        |
| 4.25.2   | Response .....  | 462        |
| <b>5</b> | <b>Security .....</b>   | <b>464</b> |
| 5.1      | Security Considerations for Implementers .....  | 464        |
| 5.2      | Index of Security Parameters .....  | 464        |
| <b>6</b> | <b>Appendix A: Full XML Schema .....</b>  | <b>465</b> |
| 6.1      | AirSync Namespace Schema .....  | 466        |
| 6.2      | Autodiscover MobileSync Namespace Schema .....  | 469        |
| 6.3      | Autodiscover Request Schema .....   | 470        |
| 6.4      | Autodiscover Response Schema .....  | 470        |
| 6.5      | ComposeMail Namespace Schema .....  | 471        |

|          |   |            |
|----------|---|------------|
| 6.6      | Find Namespace Schema .....               | 472        |
| 6.7      | Find Request Schema .....                 | 473        |
| 6.8      | Find Response Schema .....                | 474        |
| 6.9      | FolderCreate Request Schema .....         | 475        |
| 6.10     | FolderCreate Response Schema .....        | 476        |
| 6.11     | FolderDelete Request Schema .....         | 476        |
| 6.12     | FolderDelete Response Schema .....        | 477        |
| 6.13     | FolderHierarchy Namespace Schema .....    | 477        |
| 6.14     | FolderSync Request Schema .....           | 478        |
| 6.15     | FolderSync Response Schema .....          | 478        |
| 6.16     | FolderUpdate Request Schema .....         | 479        |
| 6.17     | FolderUpdate Response Schema .....        | 479        |
| 6.18     | GAL Namespace Schema .....                | 480        |
| 6.19     | GetHierarchy Response Schema .....        | 480        |
| 6.20     | GetItemEstimate Request Schema .....      | 481        |
| 6.21     | GetItemEstimate Response Schema .....     | 481        |
| 6.22     | ItemOperations Namespace Schema .....     | 482        |
| 6.23     | ItemOperations Request Schema .....       | 484        |
| 6.24     | ItemOperations Response Schema .....      | 485        |
| 6.25     | MeetingResponse Request Schema .....      | 487        |
| 6.26     | MeetingResponse Response Schema .....     | 488        |
| 6.27     | MoveItems Request Schema .....            | 489        |
| 6.28     | MoveItems Response Schema .....           | 489        |
| 6.29     | Ping Request Schema .....                 | 490        |
| 6.30     | Ping Response Schema .....                | 491        |
| 6.31     | ResolveRecipients Request Schema .....    | 491        |
| 6.32     | ResolveRecipients Response Schema .....   | 492        |
| 6.33     | Search Namespace Schema .....             | 493        |
| 6.34     | Search Request Schema .....               | 496        |
| 6.35     | Search Response Schema .....              | 496        |
| 6.36     | SendMail Request Schema .....             | 500        |
| 6.37     | SendMail Response Schema .....            | 500        |
| 6.38     | Settings Namespace Schema .....           | 500        |
| 6.39     | Settings Request Schema .....             | 502        |
| 6.40     | Settings Response Schema .....            | 503        |
| 6.41     | SmartForward Request Schema .....         | 505        |
| 6.42     | SmartForward Response Schema .....        | 505        |
| 6.43     | SmartReply Request Schema .....           | 506        |
| 6.44     | SmartReply Response Schema .....          | 506        |
| 6.45     | Sync Request Schema .....                 | 507        |
| 6.46     | Sync Response Schema .....                | 511        |
| 6.47     | ValidateCert Request Schema .....         | 514        |
| 6.48     | ValidateCert Response Schema .....        | 515        |
| <b>7</b> | <b>Appendix B: Product Behavior .....</b> | <b>516</b> |
| <b>8</b> | <b>Change Tracking .....</b>              | <b>519</b> |
| <b>9</b> | <b>Index .....</b>                        | <b>525</b> |

# 1 Introduction

The Exchange ActiveSync: Command Reference Protocol enables a client, typically a mobile device, to synchronize and exchange objects with a server. These objects include email messages, **Short Message Service (SMS)** messages, attachments, folders, **contact (2)** information, **meetings**, **calendar** data, tasks, notes and documents.

Sections 1.5, 1.8, 1.9, 2, and 3 of this specification are normative. All other sections and examples in this specification are informative.

## 1.1 Glossary

This document uses the following terms:

**Active Directory:** A general-purpose network directory service. **Active Directory** also refers to the Windows implementation of a directory service. **Active Directory** stores information about a variety of objects in the network. Importantly, user accounts, computer accounts, groups, and all related credential information used by the Windows implementation of Kerberos are stored in **Active Directory**. **Active Directory** is either deployed as Active Directory Domain Services (AD DS) or Active Directory Lightweight Directory Services (AD LDS). [\[MS-ADTS\]](#) describes both forms. For more information, see [\[MS-AUTHSOD\]](#) section 1.1.1.5.2, Lightweight Directory Access Protocol (LDAP) versions 2 and 3, Kerberos, and **DNS**.

**address book:** A collection of Address Book objects, each of which are contained in any number of **address lists**.

**address list:** A collection of distinct Address Book objects.

**alias:** An alternate name that can be used to reference an object or element.

**ambiguous name resolution (ANR):** A search algorithm that permits a client to search multiple naming-related attributes (2) on objects by way of a single clause of the form "(anr=value)" in a Lightweight Directory Access Protocol (LDAP) search filter. This permits a client to query for an object when the client possesses some identifying material related to the object but does not know which attribute of the object contains that identifying material.

**ASCII:** The American Standard Code for Information Interchange (ASCII) is an 8-bit character-encoding scheme based on the English alphabet. ASCII codes represent text in computers, communications equipment, and other devices that work with text. ASCII refers to a single 8-bit ASCII character or an array of 8-bit ASCII characters with the high bit of each character set to zero.

**Augmented Backus-Naur Form (ABNF):** A modified version of Backus-Naur Form (BNF), commonly used by Internet specifications. ABNF notation balances compactness and simplicity with reasonable representational power. ABNF differs from standard BNF in its definitions and uses of naming rules, repetition, alternatives, order-independence, and value ranges. For more information, see [\[RFC5234\]](#).

**Autodiscover server:** A server in a managed environment that makes setup and configuration information available to Autodiscover clients. The location of Autodiscover servers is made available via the Autodiscover HTTP Service Protocol, as described in [\[MS-OXDISCO\]](#).

**base64 encoding:** A binary-to-text encoding scheme whereby an arbitrary sequence of bytes is converted to a sequence of printable **ASCII** characters, as described in [\[RFC4648\]](#).

**binary large object (BLOB):** A discrete packet of data that is stored in a database and is treated as a sequence of uninterpreted bytes.

**blind carbon copy (Bcc) recipient:** An addressee on a Message object that is not visible to recipients of the Message object.

**calendar:** A date range that shows availability, **meetings**, and appointments for one or more users or **resources**. See also **Calendar object**.

**Calendar folder:** A Folder object that contains **Calendar objects**.

**Calendar object:** A Message object that represents an event, which can be a one-time event or a recurring event. The Calendar object includes properties that specify event details such as description, organizer, date and time, and status.

**certificate revocation list (CRL):** A list of certificates (1) that have been revoked by the **certification authority (CA)** that issued them (that have not yet expired of their own accord). The list must be cryptographically signed by the **CA** that issues it. Typically, the certificates are identified by serial number. In addition to the serial number for the revoked certificates, the CRL contains the revocation reason for each certificate and the time the certificate was revoked. As described in [\[RFC3280\]](#), two types of CRLs commonly exist in the industry. Base CRLs keep a complete list of revoked certificates, while delta CRLs maintain only those certificates that have been revoked since the last issuance of a base CRL. For more information, see [\[X509\]](#) section 7.3, [\[MSFT-CRL\]](#), and [\[RFC3280\]](#) section 5.

**certification authority (CA):** A third party that issues public key certificates (1). Certificates serve to bind public keys to a user identity. Each user and certification authority (CA) can decide whether to trust another user or CA for a specific purpose, and whether this trust should be transitive. For more information, see [\[RFC3280\]](#).

**character set:** The range of characters used to represent textual data within a **MIME** body part, as described in [\[RFC2046\]](#).

**condition:** A logical expression comparing one or more properties in all incoming Message objects against a set of clauses. This logical expression can evaluate to TRUE or FALSE.

**contact:** (1) An object of the contact class that represents a company or person whom a user can contact.

(2) 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.

**Contacts folder:** A Folder object that contains Contact objects.

**conversation:** A single representation of a send/response series of email messages. A conversation appears in the Inbox as one unit and allows the user to view and read the series of related email messages in a single effort.

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

**Deleted Items folder:** A **special folder** that is the default location for objects that have been deleted.

**distribution list:** A collection of users, computers, contacts, or other groups that is used only for email distribution, and addressed as a single recipient.

**domain:** A set of users and computers sharing a common namespace and management infrastructure. At least one computer member of the set must act as a domain controller (DC) and host a member list that identifies all members of the domain, as well as optionally hosting

the **Active Directory** service. The domain controller provides authentication (2) of members, creating a unit of trust for its members. Each domain has an identifier that is shared among its members. For more information, see [MS-AUTHSOD] section 1.1.1.5 and [MS-ADTS].

**Domain Name System (DNS):** A hierarchical, distributed database that contains mappings of domain names (1) to various types of data, such as IP addresses. DNS enables the location of computers and services by user-friendly names, and it also enables the discovery of other information stored in the database.

**Drafts folder:** A **special folder** that is the default location for Message objects that have been saved but not sent.

**Email Text Body:** The textual portion of a message that is displayed, by convention, by industry standard email clients. The Internet mail format, as described in [\[RFC822\]](#), allowed only text messages to be transmitted. The concept of transmitting content other than text was not codified until **MIME** was standardized. Handling of entities other than the textual portion of a message, such as attachments, varies by implementation in email clients.

**ghosted:** A property that is not deleted by the server if the element is not included in a Sync <Change> request message.

**Global Address List (GAL):** An **address list** that conceptually represents the default address list for an **address book**.

**globally unique identifier (GUID):** A term used interchangeably with universally unique identifier (UUID) in Microsoft protocol technical documents (TDs). Interchanging the usage of these terms does not imply or require a specific algorithm or mechanism to generate the value. Specifically, the use of this term does not imply or require that the algorithms described in [\[RFC4122\]](#) or [\[C706\]](#) must be used for generating the **GUID**. See also universally unique identifier (UUID).

**Hypertext Markup Language (HTML):** An application of the Standard Generalized Markup Language (SGML) that uses tags to mark elements in a document, as described in [\[HTML\]](#).

**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.

**Inbox folder:** A **special folder** that is the default location for Message objects received by a user or resource.

**locale:** A collection of rules and data that are specific to a language and a geographical area. A locale can include information about sorting rules, date and time formatting, numeric and monetary conventions, and character classification.

**mailbox:** A **message store** that contains email, calendar items, and other Message objects for a single recipient.

**meeting:** An event with attendees.

**meeting request:** An instance of a Meeting Request object.

**message body:** The main message text of an email message. A few properties of a Message object represent its message body, with one property containing the text itself and others defining its code page and its relationship to alternative body formats.

**message store:** A unit of containment for a single hierarchy of Folder objects, such as a mailbox or public folders.

**Multipurpose Internet Mail Extensions (MIME):** A set of extensions that redefines and expands support for various types of content in email messages, as described in [\[RFC2045\]](#), [\[RFC2046\]](#), and [\[RFC2047\]](#).

**named property:** A property that is identified by both a GUID and either a string name or a 32-bit identifier.

**OOF message:** A message that is sent in response to incoming messages and indicates that the user is currently **Out of Office (OOF)**.

**organizer:** The owner or creator of a **meeting** or appointment.

**Out of Office (OOF):** One of the possible values for the free/busy status on an appointment. It indicates that the user will not be in the office during the appointment.

**Outbox folder:** A **special folder** that contains Message objects that are submitted to be sent.

**Personal Information Manager (PIM):** A category of software packages for managing commonly used types of personal information, including contacts, email messages, calendar appointments, and meetings.

**plain text:** Text that does not have markup. See also plain text message body.

**recipient:** An entity that can receive email messages.

**recipient information cache:** An information store that contains a list of the **contacts (2)** with whom a user has interacted most often and most recently, and with whom the user is likely to interact again.

**recurrence instance:** A single calendar event generated by the recurrence pattern of a recurring series. Also referred to as an instance. If properties on the instance have changed after the instance was generated, the instance can also be known as an Exception object.

**resource:** Any component that a computer can access where data can be read, written, or processed. This resource could be an internal component such as a disk drive, or another computer on a network that is used to access a file.

**Root folder:** The **special folder** that is the top-level folder in a message store hierarchy. It contains all other Folder objects in that message store.

**S/MIME (Secure/Multipurpose Internet Mail Extensions):** A set of cryptographic security services, as described in [\[RFC5751\]](#).

**search folder:** A Folder object that provides a means of querying for items that match certain criteria. The search folder includes the search folder definition message and the search folder container.

**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]. The SSL protocol is precursor to Transport Layer Security (TLS). The TLS version 1.0 specification is based on SSL version 3.0 [\[SSL3\]](#).

**Sent Items folder:** A **special folder** that is the default location for storing copies of Message objects after they are submitted or sent.

**Short Message Service (SMS):** A communications protocol that is designed for sending text messages between mobile phones.

**Simple Mail Transfer Protocol (SMTP):** A member of the TCP/IP suite of protocols that is used to transport Internet messages, as described in [\[RFC5321\]](#).

**special folder:** One of a default set of Folder objects that can be used by an implementation to store and retrieve user data objects.

**Transport Neutral Encapsulation Format (TNEF):** A binary type-length-value encoding that is used to encode properties for transport, as described in [\[MS-OXTNEF\]](#).

**Uniform Resource Identifier (URI):** A string that identifies a resource. The URI is an addressing mechanism defined in Internet Engineering Task Force (IETF) Uniform Resource Identifier (URI): Generic Syntax [\[RFC3986\]](#).

**Uniform Resource Locator (URL):** A string of characters in a standardized format that identifies a document or resource on the World Wide Web. The format is as specified in [\[RFC1738\]](#).

**Universal Naming Convention (UNC):** A string format that specifies the location of a resource. For more information, see [\[MS-DTYP\]](#) section 2.2.57.

**UTF-8:** A byte-oriented standard for encoding Unicode characters, defined in the Unicode standard. Unless specified otherwise, this term refers to the UTF-8 encoding form specified in [\[UNICODE5.0.0/2007\]](#) section 3.9.

**Wireless Application Protocol (WAP) Binary XML (WBXML):** A compact binary representation of **XML** that is designed to reduce the transmission size of XML documents over narrowband communication channels.

**XML:** The Extensible Markup Language, as described in [\[XML1.0\]](#).

**XML namespace:** A collection of names that is used to identify elements, types, and attributes in XML documents identified in a URI reference [\[RFC3986\]](#). A combination of XML namespace and local name allows XML documents to use elements, types, and attributes that have the same names but come from different sources. For more information, see [\[XMLNS-2ED\]](#).

**XML schema:** A description of a type of XML document that is typically expressed in terms of constraints on the structure and content of documents of that type, in addition to the basic syntax constraints that are imposed by **XML** itself. An XML schema provides a view of a document type at a relatively high level of abstraction.

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

## 1.2 References

Links to a document in the Microsoft Open Specifications library point to the correct section in the most recently published version of the referenced document. However, because individual documents in the library are not updated at the same time, the section numbers in the documents may not match. You can confirm the correct section numbering by checking the [Errata](#).

### 1.2.1 Normative References

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

[MS-ASAIRS] Microsoft Corporation, "[Exchange ActiveSync: AirSyncBase Namespace Protocol](#)".

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



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

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

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

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

[MS-ASEMAIL] Microsoft Corporation, "[Exchange ActiveSync: Email Class Protocol](#)".

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

[MS-ASMS] Microsoft Corporation, "[Exchange ActiveSync: Short Message Service \(SMS\) Protocol](#)".

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

[MS-ASPROV] Microsoft Corporation, "[Exchange ActiveSync: Provisioning Protocol](#)".

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

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

[MS-ASWBXML] Microsoft Corporation, "[Exchange ActiveSync: WAP Binary XML \(WBXML\) Algorithm](#)".

[MS-KQL] Microsoft Corporation, "[Keyword Query Language Structure Protocol](#)".

[MS-OXCICAL] Microsoft Corporation, "[iCalendar to Appointment Object Conversion Algorithm](#)".

[MS-OXDISCO] Microsoft Corporation, "[Autodiscover HTTP Service Protocol](#)".

[MS-OXOSFLD] Microsoft Corporation, "[Special Folders Protocol](#)".

[MS-OXTNEF] Microsoft Corporation, "[Transport Neutral Encapsulation Format \(TNEF\) Data Algorithm](#)".

[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>

[RFC2447] Dawson, F., Mansour, S., and Silverberg, S., "iCalendar Message-Based Interoperability Protocol (iMIP)", RFC 2447, November 1998, <http://www.rfc-editor.org/rfc/rfc2447.txt>

[RFC3986] Berners-Lee, T., Fielding, R., and Masinter, L., "Uniform Resource Identifier (URI): Generic Syntax", STD 66, RFC 3986, January 2005, <http://www.rfc-editor.org/rfc/rfc3986.txt>

[RFC5234] Crocker, D., Ed., and Overell, P., "Augmented BNF for Syntax Specifications: ABNF", STD 68, RFC 5234, January 2008, <http://www.rfc-editor.org/rfc/rfc5234.txt>

[RFC5751] Ramsdell, B., and Turner, S., "Secure/Multipurpose Internet Mail Extensions (S/MIME) Version 3.2 Message Specification", RFC 5751, January 2010, <http://www.rfc-editor.org/rfc/rfc5751.txt>

[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>

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

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



## 1.2.2 Informative References

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

[MSDN-ADDP] Microsoft Corporation, "Establishing an ActiveSync Desktop-Device Partnership", <http://msdn.microsoft.com/en-us/library/aa917378.aspx>

[MSFT-AUTODISCOVER] Masterson, J., Turick, J., Smith IV, R., "White Paper: Exchange 2007 Autodiscover Service", [http://technet.microsoft.com/en-us/library/bb332063\(EXCHG.80\).aspx](http://technet.microsoft.com/en-us/library/bb332063(EXCHG.80).aspx)

[MSFT-DNS-SRV] Microsoft Corporation, "A new feature is available that enables Outlook 2007 to use DNS Service Location (SRV) records to locate the Exchange Autodiscover service", <http://support.microsoft.com/?kbid=940881>

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

## 1.3 Overview

This protocol consists of a set of **XML**-based commands that are used by a client device to synchronize and exchange its email, files, and data with a server.

The client first uses the **Autodiscover** command (section [2.2.1.1](#)) to get a user's account configuration. The client can then view and modify server data related to that account, including email messages and attachments, folders, contacts, and **calendar** requests.

The client then uses the **Provision** command (section [2.2.1.14](#)) to send device information to the server and to get and subsequently acknowledge security policy settings from the server. Next, the client uses the **FolderSync** command (section [2.2.1.5](#)) to retrieve the folder hierarchy of the user.

Next, the client typically uses the **GetItemEstimate** command (section [2.2.1.9](#)) to retrieve the number of changes that need to be downloaded to the client via the first **Sync** command (section [2.2.1.21](#)) request. This is immediately followed by the **Sync** command, to get a synchronization key and then messages from the server. Optionally, the **Ping** command (section [2.2.1.13](#)) or **Sync** command can then be issued to keep the device up-to-date on any server changes.

The client processes outgoing email using the **SendMail** (section [2.2.1.17](#)), **SmartReply** (section [2.2.1.20](#)), and **SmartForward** (section [2.2.1.19](#)) commands. For incoming messages, the client can call the **ItemOperations** command (section [2.2.1.10](#)) to fetch the message, and then use the **MoveItems** command (section [2.2.1.12](#)). **S/MIME** messages are processed with the **ResolveRecipients** (section [2.2.1.15](#)) and **ValidateCert** (section [2.2.1.22](#)) commands.

The client uses the **FolderSync**, **FolderCreate** (section [2.2.1.3](#)), **FolderUpdate** (section [2.2.1.6](#)), and **FolderDelete** (section [2.2.1.4](#)) commands to update, create, and delete **mailbox** folders on the server.

For **meeting requests**, the client uses the **MeetingResponse** command (section [2.2.1.11](#)).

The client can set and request server parameters by using the **Settings** command (section [2.2.1.18](#)).

The client can use the **Find** command (section [2.2.1.2](#)) or the **Search** command (section [2.2.1.16](#)) to find particular items on the server.

## 1.4 Relationship to Other Protocols

The ActiveSync commands described in this document are sent and received over a **Hypertext Transfer Protocol (HTTP)** connection, as described in [\[RFC2616\]](#) in an HTTP **POST** method. The information contained in the HTTP **POST** header is described in [\[MS-ASHTTP\]](#). The information contained in the HTTP message is sent and received in **Wireless Application Protocol (WAP)**

**Binary XML (WBXML)** format, as described in [\[MS-ASWBXML\]](#), where the content of the WBXML adheres to the commands described in this document.

Some of the ActiveSync commands described in this document are used to synchronize or retrieve more than one class of content. For example, the **Ping** command (section [2.2.1.13](#)) can be used to monitor changes to the email, note, contact, **calendar**, or task classes. The elements included in the **Ping** command change depending on which content class is being monitored. Because each content class is used by multiple commands, each content class is described by an individual protocol. The content class protocols are described in [\[MS-ASEMAIL\]](#), [\[MS-ASCNTC\]](#), [\[MS-ASDOC\]](#), [\[MS-ASCAL\]](#), [\[MS-ASNOTE\]](#), [\[MS-ASMS\]](#), and [\[MS-ASTASK\]](#).

Another protocol that contains elements used by multiple commands is [\[MS-ASAIRS\]](#). [MS-ASAIRS] describes the **AirSyncBase** namespace, which is used by multiple commands to specify the formatting preference of body content, truncation sizes, and other commonly used elements.

This document describes all of the ActiveSync commands except for the **Provision** command, which is described in [\[MS-ASPROV\]](#) section 2.2.2.44.

The **Autodiscover** command (section [2.2.1.1](#)) is described in this document, but more information about Autodiscover publishing and lookup are available in [\[MS-OXDCLI\]](#).

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

For information about how to control the view of related email messages or conversations, see [\[MS-ASCON\]](#).

For information about how outbound **Short Message Service (SMS)** email messages are sent from mobile devices, see [MS-ASMS].

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

## 1.5 Prerequisites/Preconditions

This protocol assumes that authentication has been performed by the underlying protocols.

## 1.6 Applicability Statement

This protocol is applicable in scenarios where a client has to synchronize its messages and files with a server.

## 1.7 Versioning and Capability Negotiation

None.

## 1.8 Vendor-Extensible Fields

None.

## 1.9 Standards Assignments

None.

## 2 Messages

### 2.1 Transport

This protocol consists of a series of **XML** elements contained in request or response messages between a client and server. The encoded XML block containing the command and parameter elements is transmitted in either the request body of a request, or in the response body of a response. The request body and request response are always preceded by the HTTP header, as specified in [\[MS-ASHTTP\]](#), except for the Autodiscover command [<1>](#).

All command messages are encoded as **WBXML**, except for the **Autodiscover** command, which uses plain XML. For more details about WBXML, see [\[MS-ASWBXML\]](#).

### 2.2 Message Syntax

#### 2.2.1 Commands

##### 2.2.1.1 Autodiscover

The **Autodiscover** command facilitates the discovery of core account configuration information by using the user's **Simple Mail Transfer Protocol (SMTP)** address as the primary input. For information about the **Autodiscover** service, see [\[MSFT-AUTODISCOVER\]](#). For more details about the Autodiscover HTTP Service, see [\[MS-OXDISCO\]](#).

The **Autodiscover** command request and response messages are sent in **XML** format, not **WBXML** format.

When sending an **Autodiscover** command request, the Content-Type header value MUST be set to text/xml. [<2>](#) For more details about the Content-Type header, see [\[MS-ASHTTP\]](#) section 2.2.1.1.2.3.

The client SHOULD use the **Autodiscover** command as an initial response to common **HTTP** errors. Common HTTP errors are specified in [\[MS-ASHTTP\]](#) section 2.2.2.1.1. **Autodiscover** has the ability to retrieve an updated **URL** when a mailbox has been moved, a user is trying to connect to a server that cannot access the user's mailbox, or when there is a more efficient server to use to reach the user's mailbox.

After a successful **Autodiscover** command response, the client sends an HTTP **Options** command to the server identified in the **Autodiscover** command response. The HTTP **Options** command returns the newly supported protocol versions and commands if they changed due to the **Autodiscover** command.

The <http://schemas.microsoft.com/exchange/autodiscover/mobilesync/requestschem/2006> namespace is the primary namespace for the **Autodiscover** command and this section of the specification. Elements referenced in this section that are not defined in the <http://schemas.microsoft.com/exchange/autodiscover/mobilesync/requestschem/2006> namespace use the namespace prefixes defined in section [2.2.4](#).

The following table lists the elements that are used in **Autodiscover** command requests and responses.

| Element name        | Scope                | Reference                           |
|---------------------|----------------------|-------------------------------------|
| <b>Autodiscover</b> | Request and Response | section <a href="#">2.2.3.15</a>    |
| <b>Request</b>      | Request              | section <a href="#">2.2.3.150.1</a> |

| Element name                    | Scope                | Reference                           |
|---------------------------------|----------------------|-------------------------------------|
| <b>EEmailAddress</b>            | Request and Response | section <a href="#">2.2.3.56</a>    |
| <b>AcceptableResponseSchema</b> | Request              | section <a href="#">2.2.3.1</a>     |
| <b>Response</b>                 | Response             | section <a href="#">2.2.3.153.1</a> |
| <b>Culture</b>                  | Response             | section <a href="#">2.2.3.38</a>    |
| <b>User</b>                     | Response             | section <a href="#">2.2.3.189</a>   |
| <b>DisplayName</b>              | Response             | section <a href="#">2.2.3.49.1</a>  |
| <b>Action</b>                   | Response             | section <a href="#">2.2.3.6</a>     |
| <b>Redirect</b>                 | Response             | section <a href="#">2.2.3.147</a>   |
| <b>Settings</b>                 | Response             | section <a href="#">2.2.3.168.1</a> |
| <b>Server</b>                   | Response             | section <a href="#">2.2.3.164</a>   |
| <b>Type</b>                     | Response             | section <a href="#">2.2.3.186.1</a> |
| <b>Url</b>                      | Response             | section <a href="#">2.2.3.188</a>   |
| <b>Name</b>                     | Response             | section <a href="#">2.2.3.120.1</a> |
| <b>ServerData</b>               | Response             | section <a href="#">2.2.3.165</a>   |
| <b>Error</b>                    | Response             | section <a href="#">2.2.3.63</a>    |
| <b>Status</b>                   | Response             | section <a href="#">2.2.3.177.1</a> |
| <b>Message</b>                  | Response             | section <a href="#">2.2.3.108</a>   |
| <b>DebugData</b>                | Response             | section <a href="#">2.2.3.40</a>    |
| <b>ErrorCode</b>                | Response             | section <a href="#">2.2.3.64</a>    |

The **XML schema** for the **Autodiscover** command request is described in section [6.3](#). The XML schema for the **Autodiscover** command response is described in section [6.4](#).

## Protocol Versions

The following table specifies the protocol versions that support this command. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Command support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |

| Protocol version | Command support |
|------------------|-----------------|
| 16.1             | Yes             |

### 2.2.1.2 Find

The **Find** command uses the Keyword Query Language (KQL) syntax to construct property restriction based searches for entries in a mailbox.

The **Find** namespace is the primary namespace for this section. Elements referenced in this section that are not defined in the Find namespace use the namespace prefixes defined in section [2.2.4](#).

The following table lists the elements that are used in **Find** command requests and responses.

| Element name                  | Scope                | Reference                                       |
|-------------------------------|----------------------|---|
| <b>Find</b>                   | Request and Response | section <a href="#">2.2.3.69</a>                |
| <b>SearchId</b>               | Request              | section <a href="#">2.2.3.160</a>               |
| <b>ExecuteSearch</b>          | Request              | section <a href="#">2.2.3.66</a>                |
| <b>MailBoxSearchCriterion</b> | Request              | section <a href="#">2.2.3.99</a>                |
| <b>GALSearchCriterion</b>     | Request              | section <a href="#">2.2.3.82</a>                |
| <b>Query</b>                  | Request              | section <a href="#">2.2.3.142.1</a>             |
| <b>FreeText</b>               | Request              | section <a href="#">2.2.3.80.1</a>              |
| <b>airsync:Class</b>          | Request and Response | section <a href="#">2.2.3.27.1</a>              |
| <b>airsync:CollectionId</b>   | Request and Response | section <a href="#">2.2.3.30.1</a>              |
| <b>Options</b>                | Request              | section <a href="#">2.2.3.125.1</a>             |
| <b>Range</b>                  | Request and Response | section <a href="#">2.2.3.143.1</a>             |
| <b>DeepTraversal</b>          | Request              | section <a href="#">2.2.3.41.1</a>              |
| <b>Status</b>                 | Response             | section <a href="#">2.2.3.177.2</a>             |
| <b>Response</b>               | Response             | section <a href="#">2.2.3.153.2</a>             |
| <b>itemoperations:Store</b>   | Response             | section <a href="#">2.2.3.178.1</a>             |
| <b>Result</b>                 | Response             | section <a href="#">2.2.3.155.1</a>             |
| <b>airsync:ServerId</b>       | Response             | section <a href="#">2.2.3.166.1</a>             |
| <b>Properties</b>             | Response             | section <a href="#">2.2.3.139.1</a>             |
| <b>email:Subject</b>          | Response             | <a href="#">[MS-ASEMAIL]</a> section 2.2.2.75.1 |
| <b>email:DateReceived</b>     | Response             | [MS-ASEMAIL] section 2.2.2.24                   |
| <b>email:DisplayTo</b>        | Response             | [MS-ASEMAIL] section 2.2.2.29                   |
| <b>DisplayCc</b>              | Response             | section <a href="#">2.2.3.48</a>                |
| <b>DisplayBcc</b>             | Response             | section <a href="#">2.2.3.47</a>                |

| Element name            | Scope    | Reference                           |
|-------------------------|----------|-------------------------------------|
| <b>email:Importance</b> | Response | [MS-ASEMAIL] section 2.2.2.38       |
| <b>email:Read</b>       | Response | [MS-ASEMAIL] section 2.2.2.58       |
| <b>email2:IsDraft</b>   | Response | [MS-ASEMAIL] section 2.2.2.42       |
| <b>Preview</b>          | Response | section <a href="#">2.2.3.137</a>   |
| <b>HasAttachments</b>   | Response | section <a href="#">2.2.3.87</a>    |
| <b>email:From</b>       | Response | [MS-ASEMAIL] section 2.2.2.36       |
| <b>gal:DisplayName</b>  | Response | section <a href="#">2.2.3.49.7</a>  |
| <b>gal:Phone</b>        | Response | section <a href="#">2.2.3.133</a>   |
| <b>gal:Office</b>       | Response | section <a href="#">2.2.3.121</a>   |
| <b>gal:Title</b>        | Response | section <a href="#">2.2.3.182</a>   |
| <b>gal:Company</b>      | Response | section <a href="#">2.2.3.33</a>    |
| <b>gal:Alias</b>        | Response | section <a href="#">2.2.3.9</a>     |
| <b>gal:FirstName</b>    | Response | section <a href="#">2.2.3.70</a>    |
| <b>gal:LastName</b>     | Response | section <a href="#">2.2.3.95</a>    |
| <b>gal:HomePhone</b>    | Response | section <a href="#">2.2.3.89</a>    |
| <b>gal:MobilePhone</b>  | Response | section <a href="#">2.2.3.114</a>   |
| <b>gal:EmailAddress</b> | Response | section <a href="#">2.2.3.55.3</a>  |
| <b>gal:Picture</b>      | Response | section <a href="#">2.2.3.135.3</a> |
| <b>gal:Data</b>         | Response | section <a href="#">2.2.3.39.4</a>  |
| <b>Total</b>            | Response | section <a href="#">2.2.3.184.1</a> |

The **XML schema** for the **Find** command request is described in section [6.7](#). The XML schema for the **Find** command response is described in section [6.8](#).

The Accept-Language header in a **Find** command request is used to define the **locale** of the client so that the search is relevant. If the accept language is not specified, the search is conducted by using the server language.

### Searching the **Global Address List (GAL)**

The **Find** command is used to find contacts and recipients in the GAL, and to retrieve information about them. When a search query matches more than one GAL entry, the **Find** command **MUST** return as many entries as requested, up to a total of 100 entries by default.

For each GAL entry that is found, the **Find** command returns all the non-empty properties that are indexed by the online **ambiguous name resolution (ANR)** in the global catalog server—for example, email **alias**, display name, first and last names, company name, and so on.

The client can optionally specify the maximum number of entries to retrieve in the **Find** command request by specifying the range. The server **MUST** return entries up to the number that is requested, and **MUST** also indicate the total number of entries that are found.

The text query string that is provided to the **Find** command is used in a prefix-string match. For example, if the client performs a **Find** with a **Query** element value of "Michael A.", the command returns the entries that contain the search string in any text field, such as "Michael Alexander", "Michael Allen". Because the **Find** command matches the **Query** element value against all GAL text properties that are indexed by using ANR, the client can also search by email address, company name, and so on.

The ANR system indexes the following properties:

- Display name
- Alias
- FirstName
- LastName
- EmailAddress

The **Find** command results are sorted by the server according to their ordering in the GAL (that is, by the display name property). Because of how the search results are sorted, the client could have to sort the results to display results in a relevant manner to users. For example, a search for "123" might return all GAL entries that have mailing addresses or email addresses that begin with 123. The client can choose to display matching email addresses before mailing addresses, if they know their users use email addresses more frequently than mailing addresses, or mailing addresses before email addresses if mailing addresses are used more frequently.

#### Searching Email Content

Search using the **Find** command involves the following phases.

1. The client issues a request to find specific emails that are returned by the server with preview text.
2. The client uses subsequent requests to retrieve more results by incrementing the range.
3. The client can use the **ServerId** element and **CollectionId** element to determine if an email item was previously synced.
4. If an email item has not already been synced, the client can issue an **ItemOperations** command to fetch the item using the **CollectionId** and **ServerId** element.
5. Any other actions on the search results are carried out by using other protocol commands, such as **SmartReply** or **SmartForward**.

#### Protocol Versions

The following table specifies the protocol versions that support this command. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Command support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |

| Protocol version | Command support |
|------------------|-----------------|
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.1.3 FolderCreate

The **FolderCreate** command creates a new folder as a child folder of the specified parent folder. A parent ID of 0 (zero) signifies the mailbox **Root folder**.

The **FolderCreate** command cannot be used to create a **recipient information cache** or a subfolder of a recipient information cache.

The **FolderHierarchy** namespace is the primary namespace for this section. Elements referenced in this section that are not defined in the **FolderHierarchy** namespace use the namespace prefixes defined in section [2.2.4](#).

The following table lists the elements that are used in **FolderCreate** command requests and responses.

| Element name        | Scope                | Reference                           |
|---------------------|----------------------|-------------------------------------|
| <b>FolderCreate</b> | Request and Response | section <a href="#">2.2.3.72</a>    |
| <b>SyncKey</b>      | Request and Response | section <a href="#">2.2.3.181.1</a> |
| <b>ParentId</b>     | Request              | section <a href="#">2.2.3.129.1</a> |
| <b>DisplayName</b>  | Request              | section <a href="#">2.2.3.49.3</a>  |
| <b>Type</b>         | Request              | section <a href="#">2.2.3.186.2</a> |
| <b>Status</b>       | Response             | section <a href="#">2.2.3.177.3</a> |
| <b>ServerId</b>     | Response             | section <a href="#">2.2.3.166.2</a> |

The **XML schema** for the **FolderCreate** command request is described in section [6.9](#). The XML schema for the **FolderCreate** command response is described in section [6.10](#).

### Protocol Versions

The following table specifies the protocol versions that support this command. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Command support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |



| Protocol version | Command support |
|------------------|-----------------|
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

#### 2.2.1.4 FolderDelete

The **FolderDelete** command deletes a folder from the server. The **ServerId** (section [2.2.3.166.3](#)) of the folder is passed to the server in the **FolderDelete** command request (section 2.2.1.4), which deletes the collection with the matching identifier. The server then sends a response indicating the status of the deletion.

The **FolderDelete** command cannot be used to delete a recipient information cache. Attempting to delete a recipient information cache using this command results in a **Status** element (section [2.2.3.177.4](#)) value of 3.

The **FolderHierarchy** namespace is the primary namespace for this section. Elements referenced in this section that are not defined in the **FolderHierarchy** namespace use the namespace prefixes defined in section [2.2.4](#).

The following table lists the elements that are used in **FolderDelete** command requests and responses.

| Element name        | Scope                | Reference                           |
|---------------------|----------------------|-------------------------------------|
| <b>FolderDelete</b> | Request and Response | section <a href="#">2.2.3.73</a>    |
| <b>SyncKey</b>      | Request and Response | section <a href="#">2.2.3.181.1</a> |
| <b>ServerId</b>     | Request              | section 2.2.3.166.3                 |
| <b>Status</b>       | Response             | section 2.2.3.177.4                 |

The **XML schema** for the **FolderDelete** command request is described in section [6.11](#). The XML schema for the **FolderDelete** command response is described in section [6.12](#).

#### Protocol Versions

The following table specifies the protocol versions that support this command. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Command support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |

| Protocol version | Command support |
|------------------|-----------------|
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.1.5 FolderSync

The **FolderSync** command synchronizes the collection hierarchy but does not synchronize the items in the collections themselves.

This command works similarly to the **Sync** command (section [2.2.1.21](#)). An initial **FolderSync** command with a **SyncKey** element (section [2.2.3.181.2](#)) value of 0 (zero) is required in order to obtain the list of folders and the synchronization key associated with that list. The synchronization key is returned in the **SyncKey** element of the response if the **FolderSync** command succeeds. This synchronization key is used in subsequent **FolderSync** commands to obtain folder hierarchy changes.

Unlike a **Sync** request, there is no **GetChanges** element (section [2.2.3.84](#)) submitted in the **FolderSync** request (section 2.2.1.5) to get changes from the server. All folders MUST be returned to the client when initial folder synchronization is done with a synchronization key of 0 (zero).

The **FolderHierarchy** namespace is the primary namespace for this section. Elements referenced in this section that are not defined in the **FolderHierarchy** namespace use the namespace prefixes defined in section [2.2.4](#).

The following table lists the elements that are used in **FolderSync** command requests and responses.

| Element name       | Scope                | Reference                           |
|--------------------|----------------------|-------------------------------------|
| <b>FolderSync</b>  | Request and Response | section <a href="#">2.2.3.76</a>    |
| <b>SyncKey</b>     | Request and Response | section <a href="#">2.2.3.181.2</a> |
| <b>Status</b>      | Response             | section <a href="#">2.2.3.177.5</a> |
| <b>Changes</b>     | Response             | section <a href="#">2.2.3.25</a>    |
| <b>Count</b>       | Response             | section <a href="#">2.2.3.37</a>    |
| <b>Update</b>      | Response             | section <a href="#">2.2.3.187</a>   |
| <b>ServerId</b>    | Response             | section <a href="#">2.2.3.166.4</a> |
| <b>ParentId</b>    | Response             | section <a href="#">2.2.3.129.2</a> |
| <b>DisplayName</b> | Response             | section <a href="#">2.2.3.49.4</a>  |
| <b>Type</b>        | Response             | section <a href="#">2.2.3.186.3</a> |
| <b>Delete</b>      | Response             | section <a href="#">2.2.3.42.1</a>  |
| <b>Add</b>         | Response             | section <a href="#">2.2.3.7.1</a>   |

The **XML schema** for the **FolderSync** command request is described in section [6.14](#). The XML schema for the **FolderSync** command response is described in section [6.15](#).

### Protocol Versions

The following table specifies the protocol versions that support this command. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Command support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.1.6 FolderUpdate

The **FolderUpdate** command moves a folder from one location to another on the server. The command is also used to rename a folder.

The **FolderUpdate** command cannot be used to update a recipient information cache, or to move a folder under the recipient information cache. Attempting to update a recipient information cache using this command results in a **Status** element (section [2.2.3.177.6](#)) value of 3.

The **FolderHierarchy** namespace is the primary namespace for this section. Elements referenced in this section that are not defined in the **FolderHierarchy** namespace use the namespace prefixes defined in section [2.2.4](#).

The following table lists the elements that are used in **FolderUpdate** command requests and responses.

| Element name        | Scope                | Reference                           |
|---------------------|----------------------|-------------------------------------|
| <b>FolderUpdate</b> | Request and Response | section <a href="#">2.2.3.77</a>    |
| <b>SyncKey</b>      | Request and Response | section <a href="#">2.2.3.181.1</a> |
| <b>ServerId</b>     | Request              | section <a href="#">2.2.3.166.5</a> |
| <b>ParentId</b>     | Request              | section <a href="#">2.2.3.129.3</a> |
| <b>DisplayName</b>  | Request              | section <a href="#">2.2.3.49.3</a>  |
| <b>Status</b>       | Response             | section <a href="#">2.2.3.177.6</a> |

The **XML schema** for the **FolderUpdate** command request is described in section [6.16](#). The XML schema for the **FolderUpdate** command response is described in section [6.17](#).

### Protocol Versions

The following table specifies the protocol versions that support this command. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-](#)

[ASHTTP](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Command support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.1.7 GetAttachment

The **GetAttachment** command retrieves an email attachment from the server.

Attachment data is not automatically included with email messages in a synchronization. Instead, an **Attachment** element ([\[MS-ASAIRS\]](#) section 2.2.2.7) is included for each attachment. The **Attachment** element specifies the location of an item on the server to retrieve in the **FileReference** element ([MS-ASAIRS] section 2.2.2.24.1). Attachments are explicitly retrieved by attachment file reference using the **GetAttachment** command.

This command is issued within the HTTP **POST** command, and does not require any additional information in an XML body. The name of the attachment to be retrieved is specified in the *AttachmentName* command parameter.

The content of the attachment is returned in the response body with the content type being specified in the Content-Type header of the response. When the Content-Type header is missing, this indicates that the default encoding of 7-bit **ASCII** has been used.

If the **GetAttachment** command is used to retrieve an attachment that has been deleted on the server, a 500 status code is returned in the HTTP **POST** response.

#### Protocol Versions

The following table specifies the protocol versions that support this command. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Command support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             |                 |
| 14.1             |                 |

| Protocol version | Command support |
|------------------|-----------------|
| 16.0             |                 |
| 16.1             |                 |

In protocol versions 14.0, 14.1, 16.0 and 16.1, an attachment is fetched via the **Fetch** element of the **ItemOperations** command, as specified in section [2.2.3.67.1](#).

In version 2.5 of the protocol, the **email:Attachment** element ([MS-ASEMAIL] section 2.2.2.3) is used instead of the **airsyncbase:Attachment** element ([MS-ASAIRS] section 2.2.2.7) element.

### 2.2.1.8 GetHierarchy

The **GetHierarchy** command gets the list of email folders from the server. Each folder's place within the folder hierarchy is indicated by its parent ID. The list of folders returned by the **GetHierarchy** command includes only email folders. For example, the **Contacts folder** and the **Calendar folder** are not included in the list.

Because the **GetHierarchy** command does not return a synchronization state for a folder hierarchy, the client uses the **FolderSync** command either to manipulate the folder hierarchy or to retrieve the complete folder hierarchy. The client can use the **GetHierarchy** command to obtain the collection ID of a folder, such as **Sent Items folder** or **Deleted Items folder**, that does not change and cannot be deleted. The collection ID is obtained from the **ServerId** element of a previous **FolderSync** or **FolderCreate** command. An **HTTP** status code of 500 is returned in the response if the **GetHierarchy** command request fails.

The **FolderHierarchy** namespace is the primary namespace for this section. Elements referenced in this section that are not defined in the **FolderHierarchy** namespace use the namespace prefixes defined in section [2.2.4](#).

The following table lists the elements that are used in **GetHierarchy** command responses. There is no **XML** body in a **GetHierarchy** command request.

| Element name       | Scope    | Reference                           |
|--------------------|----------|-------------------------------------|
| <b>Folders</b>     | Response | section <a href="#">2.2.3.75.1</a>  |
| <b>Folder</b>      | Response | section <a href="#">2.2.3.71.1</a>  |
| <b>DisplayName</b> | Response | section <a href="#">2.2.3.49.5</a>  |
| <b>ServerId</b>    | Response | section <a href="#">2.2.3.166.6</a> |
| <b>Type</b>        | Response | section <a href="#">2.2.3.186.4</a> |
| <b>ParentId</b>    | Response | section <a href="#">2.2.3.129.4</a> |

The **XML schema** for the **GetHierarchy** command response is described in section [6.19](#).

**Note:** Unlike other commands, the **GetHierarchy** command does not have a top-level element of the same name. That is, there is no such top-level element called "GetHierarchy" that identifies the body of the HTTP **POST** as containing a **GetHierarchy** command. Instead, the **Folders** element is the top-level element.

### Protocol Versions

The following table specifies the protocol versions that support this command. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-](#)

[ASHTTP](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Command support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             |                 |

In protocol versions 14.0, 14.1, 16.0 and 16.1, the **FolderSync** command, as specified in section [2.2.1.5](#), is used to retrieve email folders from the server.

### 2.2.1.9 GetItemEstimate

The **GetItemEstimate** command gets an estimate of the number of items in a collection or folder on the server that have to be synchronized.

The **GetItemEstimate** namespace is the primary namespace for this section. Elements referenced in this section that are not defined in the **GetItemEstimate** namespace use the namespace prefixes defined in section [2.2.4](#).

The following table lists the elements that are used in **GetItemsEstimate** command requests and responses.

| Element name                    | Scope                | Reference                           |
|---------------------------------|----------------------|-------------------------------------|
| <b>GetItemEstimate</b>          | Request and Response | section <a href="#">2.2.3.85</a>    |
| <b>Collections</b>              | Request              | section <a href="#">2.2.3.31.1</a>  |
| <b>Collection</b>               | Request and Response | section <a href="#">2.2.3.29.1</a>  |
| <b>airsync:SyncKey</b>          | Request              | section <a href="#">2.2.3.181.3</a> |
| <b>CollectionId</b>             | Request and Response | section <a href="#">2.2.3.30.2</a>  |
| <b>airsync:ConversationMode</b> | Request              | section <a href="#">2.2.3.36.1</a>  |
| <b>airsync:Options</b>          | Request              | section <a href="#">2.2.3.125.2</a> |
| <b>airsync:Class</b>            | Request              | section <a href="#">2.2.3.27.2</a>  |
| <b>airsync:FilterType</b>       | Request              | section <a href="#">2.2.3.68.1</a>  |
| <b>airsync:MaxItems</b>         | Request              | section <a href="#">2.2.3.103.1</a> |
| <b>Response</b>                 | Response             | section <a href="#">2.2.3.153.3</a> |
| <b>Status</b>                   | Response             | section <a href="#">2.2.3.177.7</a> |

| Element name    | Scope    | Reference                        |
|-----------------|----------|----------------------------------|
| <b>Estimate</b> | Response | section <a href="#">2.2.3.65</a> |

The **XML schema** for the **GetItemEstimate** command request is described in section [6.20](#). The XML schema for the **GetItemEstimate** command response is described in section [6.21](#).

## Protocol Versions

The following table specifies the protocol versions that support this command. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Command support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.1.10 ItemOperations

The **ItemOperations** command acts as a container for the **Fetch** element (section [2.2.3.67.1](#)), the **EmptyFolderContents** element (section [2.2.3.58](#)), and the **Move** element (section [2.2.3.117.1](#)) to provide batched online handling of these operations against the server.

Operations that are contained within the **ItemOperations** element (section [2.2.3.94](#)) **MUST** be executed by the server in the specified order. The server **MUST** report the status per operation to the client. Accordingly, the client correlates these responses to the initial operation and proceeds appropriately.

The **ItemOperations** command cannot perform operations on items in the recipient information cache.

The fetch operation is intended to be used on Microsoft Windows SharePoint Services technology, for **Universal Naming Convention (UNC)** access, or for user mailbox access. Document metadata, search results, and mailbox items and attachments can be retrieved.

The **EmptyFolderContents** operation enables the client to empty a folder of all its items. Clients typically use the **EmptyFolderContents** operation to clear out all items in the **Deleted Items folder** if the user runs out of storage quota.

The **Move** operation moves a **conversation** to a destination folder.

The **ItemOperations** namespace is the primary namespace for this section. Elements referenced in this section that are not defined in the **ItemOperations** namespace use the namespace prefixes defined in section [2.2.4](#).

The following table lists the elements that are used in **ItemOperations** command requests and responses.

| Element name                     | Scope                | Reference                           |
|----------------------------------|----------------------|-------------------------------------|
| <b>ItemOperations</b>            | Request and Response | section 2.2.3.94                    |
| <b>EmptyFolderContents</b>       | Request and Response | section 2.2.3.58                    |
| <b>airsync:CollectionId</b>      | Request and Response | section <a href="#">2.2.3.30.3</a>  |
| <b>Options</b>                   | Request              | section <a href="#">2.2.3.125.3</a> |
| <b>DeleteSubFolders</b>          | Request              | section <a href="#">2.2.3.44</a>    |
| <b>Fetch</b>                     | Request and Response | section 2.2.3.67.1                  |
| <b>Store</b>                     | Request              | section <a href="#">2.2.3.178.2</a> |
| <b>airsync:ServerId</b>          | Request and Response | section <a href="#">2.2.3.166.7</a> |
| <b>documentlibrary:LinkId</b>    | Request and Response | section <a href="#">2.2.3.50</a>    |
| <b>search:LongId</b>             | Request              | section <a href="#">2.2.3.98.1</a>  |
| <b>airsyncbase:FileReference</b> | Request              | section <a href="#">2.2.3.8</a>     |
| <b>Schema</b>                    | Request              | section <a href="#">2.2.3.158</a>   |
| <b>Range</b>                     | Request and Response | section <a href="#">2.2.3.143.2</a> |
| <b>UserName</b>                  | Request              | section <a href="#">2.2.3.193.1</a> |
| <b>Password</b>                  | Request              | section <a href="#">2.2.3.132.1</a> |
| <b>airsync:MIMESupport</b>       | Request              | section <a href="#">2.2.3.110.1</a> |
| <b>Move</b>                      | Request and Response | section 2.2.3.117.1                 |
| <b>ConversationId</b>            | Request and Response | section <a href="#">2.2.3.35.1</a>  |
| <b>DstFldId</b>                  | Request              | section <a href="#">2.2.3.51.1</a>  |
| <b>MoveAlways</b>                | Request              | section <a href="#">2.2.3.118</a>   |
| <b>Status</b>                    | Response             | section <a href="#">2.2.3.177.8</a> |
| <b>Response</b>                  | Response             | section <a href="#">2.2.3.153.4</a> |
| <b>airsync:Class</b>             | Response             | section <a href="#">2.2.3.27.3</a>  |
| <b>Properties</b>                | Response             | section <a href="#">2.2.3.139.2</a> |
| <b>Total</b>                     | Response             | section <a href="#">2.2.3.184.2</a> |
| <b>Data</b>                      | Response             | section <a href="#">2.2.3.39.2</a>  |
| <b>Part</b>                      | Response             | section <a href="#">2.2.3.130</a>   |
| <b>Version</b>                   | Response             | section <a href="#">2.2.3.197</a>   |

The **XML schema** for the **ItemOperations** command request is described in section [6.23](#). The XML schema for the **ItemOperations** command response is described in section [6.24](#).

## Protocol Versions



The following table specifies the protocol versions that support this command. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Command support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

In protocol version 2.5, items are fetched via the **Fetch** element of the **Sync** command, as specified in section [2.2.3.67.2](#).

### 2.2.1.10.1 Delivery of Content Requested by Fetch

Because the **ItemOperations** response (section [2.2.1.10](#)) potentially contains large amounts of binary data, the client can choose a delivery method that is most efficient for its implementation by providing the following two methods for delivering the content that is requested by the **Fetch** element (section [2.2.3.67.1](#)):

- Inline
- Multipart

The inline method of delivering binary content is including data encoded with **base64 encoding** inside the **WBXML**. The inline method generally requires the client to read the whole response into memory in order to parse it, thereby consuming a large amount of memory. The inline method is the default method for **ItemOperations** responses.

The multipart method of delivering content is a multipart structure with the WBXML being the first part, and the requested data populating the subsequent parts. This format enables a client to handle large files without consuming large amounts of memory, because a file is read in pieces, one piece at a time. Clients request multipart responses by including the MS-ASAcceptMultiPart header (specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.5) set to "T" (**TRUE**) in the request.

Multipart responses have a Content-Type header with the value "application/vnd.ms-sync.multipart". The format of the body of the response is a **MultiPartResponse** structure, specified in section [2.2.1.10.1.1](#).

For an example of requesting and receiving a multipart response, see section [4.10.5](#).

#### 2.2.1.10.1.1 MultiPartResponse

The **MultiPartResponse** structure represents the format of the body of a multipart **ItemOperations** command response.

|                          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                        | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| PartsCount               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| PartsMetaData (variable) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Parts (variable)         |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ...                      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**PartsCount (4 bytes):** This field is an integer that indicates the number of **PartMetaData** structures contained in the **PartsMetaData** field. It also indicates the number of binary parts contained in the **Parts** field.

**PartsMetaData (variable):** This field is an array of **PartMetaData** structures, as specified in section [2.2.1.10.1.1.1](#). The length of the array is equal to the value of the **PartsCount** field.

**Parts (variable):** This field is an array of bytes that contains the data for the parts of the multipart response.

The data in the **Parts** field is interpreted by using the offset and length information in the **PartsMetaData** field.

#### 2.2.1.10.1.1.1 PartMetaData

The **PartMetaData** structure is used in the **PartsMetaData** field of the **MultiPartReponse** structure specified in section [2.2.1.10.1.1](#). It contains the offset and length of a single part of a multipart **ItemOperations** command response.

|        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| Offset |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Length |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**Offset (4 bytes):** This field is an integer that contains the number of bytes from the beginning of the **MultiPartResponse** structure where a part's data is located.

**Length (4 bytes):** This field is an integer that contains the number of bytes that comprise the part's data.

#### 2.2.1.11 MeetingResponse

The **MeetingResponse** command is used to accept, tentatively accept, or decline a meeting request in the user's **Inbox folder** or **Calendar folder**.[<3>](#)

The **MeetingResponse** command can only be used when the **CollectionId** element (section [2.2.3.30.4](#)) is being used to synchronize the folder that contains either the meeting request item or the calendar item representing the meeting request.

In protocol versions 2.5, 12.0, 12.1, 14.0, and 14.1, the **SendMail** command (section [2.2.1.17](#)) can be used to send a message back to the meeting **organizer**, notifying him or her that the meeting request was accepted or declined. In protocol version 16.0 and 16.1, an email is sent back to the meeting meeting organizer if the **SendResponse** element is present in the **MeetingResponse** command request.

The **MeetingResponse** namespace is the primary namespace for this section. Elements referenced in this section that are not defined in the **MeetingResponse** namespace use the namespace prefixes defined in section [2.2.4](#).

The following table lists the elements that are used in **MeetingResponse** command requests and responses.

| Element name           | Scope                | Reference                           |
|------------------------|----------------------|-------------------------------------|
| <b>MeetingResponse</b> | Request and Response | section <a href="#">2.2.3.106</a>   |
| <b>Request</b>         | Request              | section <a href="#">2.2.3.150.2</a> |
| <b>UserResponse</b>    | Request              | section <a href="#">2.2.3.194</a>   |
| <b>CollectionId</b>    | Request              | section <a href="#">2.2.3.30.4</a>  |
| <b>RequestId</b>       | Request and Response | section <a href="#">2.2.3.151</a>   |
| <b>InstanceId</b>      | Request              | section <a href="#">2.2.3.92.1</a>  |
| <b>Result</b>          | Response             | section <a href="#">2.2.3.155.2</a> |
| <b>Status</b>          | Response             | section <a href="#">2.2.3.177.9</a> |
| <b>CalendarId</b>      | Response             | section <a href="#">2.2.3.18</a>    |
| <b>search:LongId</b>   | Request              | section <a href="#">2.2.3.98.2</a>  |
| <b>SendResponse</b>    | Request              | section <a href="#">2.2.3.163</a>   |

The **XML schema** for the **MeetingResponse** command request is described in section [6.25](#). The XML schema for the **MeetingResponse** command response is described in section [6.26](#).

## Protocol Versions

The following table specifies the protocol versions that support this command. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Command support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |

| Protocol version | Command support |
|------------------|-----------------|
| 16.1             | Yes             |

When protocol versions 2.5, 12.0, 12.1, or 14.0 are used, the **MeetingResponse** command cannot be used to modify meeting requests in the Calendar folder.

### 2.2.1.12 MoveItems

The **MoveItems** command moves an item or items from one folder on the server to another.

The item to be moved is identified by its server ID in the **MoveItems** command request (section 2.2.1.12). The source and destination folders are also identified by their server IDs in the command request. The **MoveItems** command response shows the status of the move, the message that was moved, and the new message ID.

When items are moved between folders on the server, the client receives **Delete** (section [2.2.3.42](#)) and **Add** (section [2.2.3.7](#)) operations the next time the client synchronizes the affected folders.

An item that has been successfully moved to a different folder can be assigned a new server ID by the server.

The **Move** namespace is the primary namespace for this section. Elements referenced in this section that are not defined in the **Move** namespace use the namespace prefixes defined in section [2.2.4](#).

The following table lists the elements that are used in **MoveItems** command requests and responses.

| Element name     | Scope                | Reference                            |
|------------------|----------------------|--------------------------------------|
| <b>MoveItems</b> | Request and Response | section <a href="#">2.2.3.119</a>    |
| <b>Move</b>      | Request              | section <a href="#">2.2.3.117.2</a>  |
| <b>SrcMsgId</b>  | Request and Response | section <a href="#">2.2.3.175</a>    |
| <b>SrcFldId</b>  | Request              | section <a href="#">2.2.3.174</a>    |
| <b>DstFldId</b>  | Request              | section <a href="#">2.2.3.51.2</a>   |
| <b>Response</b>  | Response             | section <a href="#">2.2.3.153.5</a>  |
| <b>Status</b>    | Response             | section <a href="#">2.2.3.177.10</a> |
| <b>DstMsgId</b>  | Response             | section <a href="#">2.2.3.52</a>     |

The **XML schema** for the **MoveItems** command request is described in section [6.27](#). The XML schema for the **MoveItems** command response is described in section [6.28](#).

### Protocol Versions

The following table specifies the protocol versions that support this command. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Command support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |

| Protocol version | Command support |
|------------------|-----------------|
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.1.13 Ping

The **Ping** command is used to request that the server monitor specified folders for changes that would require the client to resynchronize.

The body of the request contains a list of folders on the server about which the client is requesting notifications and an interval of time that specifies how long the server SHOULD wait before responding if no new items are added to the specified folders. If the **Ping** element (section [2.2.3.136](#)) is specified in an XML request body, either the **HeartbeatInterval** element or the **Folders** element (section [2.2.3.75.2](#)), or both elements MUST be specified.

The **Ping** namespace is the primary namespace for this section. Elements referenced in this section that are not defined in the **Ping** namespace use the namespace prefixes defined in section [2.2.4](#).

The following table lists the elements that are used in **Ping** command requests and responses.

| Element name             | Scope                | Reference                            |
|--------------------------|----------------------|--------------------------------------|
| <b>Ping</b>              | Request and Response | section 2.2.3.136                    |
| <b>HeartbeatInterval</b> | Request and Response | section <a href="#">2.2.3.88.1</a>   |
| <b>Folders</b>           | Request and Response | section 2.2.3.75.2                   |
| <b>Folder</b>            | Request and Response | section <a href="#">2.2.3.71.2</a>   |
| <b>Id</b>                | Request              | section <a href="#">2.2.3.90</a>     |
| <b>Class</b>             | Request              | section <a href="#">2.2.3.27.4</a>   |
| <b>Status</b>            | Response             | section <a href="#">2.2.3.177.11</a> |
| <b>MaxFolders</b>        | Response             | section <a href="#">2.2.3.102</a>    |

The **XML schema** for the **Ping** command request is described in section [6.29](#). A **Ping** command can be sent with no body, in which case the cached version is used. The XML schema is applied only to requests that have a body. The XML schema for the **Ping** command response is described in section [6.30](#).

### Protocol Versions

The following table specifies the protocol versions that support this command. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Command support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.1.14 Provision

The **Provision** command enables client devices to request from the server the security policy settings that the administrator sets, such as the minimum personal identification number (PIN) password length requirement. The **Provision** command is specified in [\[MS-ASPROV\]](#).

#### Protocol Versions

The following table specifies the protocol versions that support this command. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Command support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.1.15 ResolveRecipients

The **ResolveRecipients** command is used by clients to resolve a list of supplied recipients, to retrieve their free/busy information, and optionally, to retrieve their **S/MIME** certificates so that clients can send encrypted S/MIME email messages.

The **ResolveRecipients** namespace is the primary namespace for this section. Elements referenced in this section that are not defined in the **ResolveRecipients** namespace use the namespace prefixes defined in section [2.2.4](#).

The following table lists the elements that are used in **ResolveRecipients** command requests and responses.

| Element name                  | Scope                | Reference                            |
|-------------------------------|----------------------|--------------------------------------|
| <b>ResolveRecipients</b>      | Request and Response | section <a href="#">2.2.3.152</a>    |
| <b>To</b>                     | Request and Response | section <a href="#">2.2.3.183</a>    |
| <b>Options</b>                | Request              | section <a href="#">2.2.3.125.4</a>  |
| <b>CertificateRetrieval</b>   | Request              | section <a href="#">2.2.3.22</a>     |
| <b>MaxCertificates</b>        | Request              | section <a href="#">2.2.3.101</a>    |
| <b>MaxAmbiguousRecipients</b> | Request              | section <a href="#">2.2.3.100</a>    |
| <b>Availability</b>           | Request and Response | section <a href="#">2.2.3.16</a>     |
| <b>StartTime</b>              | Request              | section <a href="#">2.2.3.176.1</a>  |
| <b>EndTime</b>                | Request              | section <a href="#">2.2.3.61.1</a>   |
| <b>Picture</b>                | Request and Response | section <a href="#">2.2.3.135.2</a>  |
| <b>MaxSize</b>                | Request              | section <a href="#">2.2.3.105.2</a>  |
| <b>MaxPictures</b>            | Request              | section <a href="#">2.2.3.104.2</a>  |
| <b>Response</b>               | Response             | section <a href="#">2.2.3.153.6</a>  |
| <b>Status</b>                 | Response             | section <a href="#">2.2.3.177.12</a> |
| <b>RecipientCount</b>         | Response             | section <a href="#">2.2.3.146</a>    |
| <b>Recipient</b>              | Response             | section <a href="#">2.2.3.145</a>    |
| <b>Type</b>                   | Response             | section <a href="#">2.2.3.186.5</a>  |
| <b>DisplayName</b>            | Response             | section <a href="#">2.2.3.49.6</a>   |
| <b>EmailAddress</b>           | Response             | section <a href="#">2.2.3.55.2</a>   |
| <b>MergedFreeBusy</b>         | Response             | section <a href="#">2.2.3.107</a>    |
| <b>Certificates</b>           | Response             | section <a href="#">2.2.3.23.1</a>   |
| <b>CertificateCount</b>       | Response             | section <a href="#">2.2.3.21</a>     |
| <b>Certificate</b>            | Response             | section <a href="#">2.2.3.19.1</a>   |
| <b>MiniCertificate</b>        | Response             | section <a href="#">2.2.3.112</a>    |
| <b>Data</b>                   | Response             | section <a href="#">2.2.3.39.3</a>   |

The **XML schema** for the **ResolveRecipients** command request is described in section [6.31](#). The XML schema for the **ResolveRecipients** command response is described in section [6.32](#).

## Protocol Versions

The following table specifies the protocol versions that support this command. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Command support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

When protocol version 2.5, 12.0, or 12.1 is used, retrieval of free/busy information via the **Availability** element is not supported.

### 2.2.1.16 Search

The **Search** command is used to find entries in an **address book**, **mailbox**, or document library (**UNC** or Windows SharePoint Services).

The **Search** namespace is the primary namespace for this section. Elements referenced in this section that are not defined in the **Search** namespace use the namespace prefixes defined in section [2.2.4](#).

The following table lists the elements that are used in **Search** command requests and responses.

| Element name                  | Scope                | Reference                           |
|-------------------------------|----------------------|-------------------------------------|
| <b>Search</b>                 | Request and Response | section <a href="#">2.2.3.159</a>   |
| <b>Store</b>                  | Request and Response | section <a href="#">2.2.3.178.3</a> |
| <b>Name</b>                   | Request              | section <a href="#">2.2.3.120.2</a> |
| <b>Query</b>                  | Request              | section <a href="#">2.2.3.142.2</a> |
| <b>And</b>                    | Request              | section <a href="#">2.2.3.10</a>    |
| <b>Or</b>                     | Request              | section <a href="#">2.2.3.126</a>   |
| <b>FreeText</b>               | Request              | section <a href="#">2.2.3.80.2</a>  |
| <b>airsync:Class</b>          | Request and Response | section <a href="#">2.2.3.27.5</a>  |
| <b>airsync:CollectionId</b>   | Request and Response | section <a href="#">2.2.3.30.5</a>  |
| <b>ConversationId</b>         | Request              | section <a href="#">2.2.3.35.2</a>  |
| <b>GreaterThan</b>            | Request              | section <a href="#">2.2.3.86</a>    |
| <b>email:DateReceived</b>     | Request              | section <a href="#">2.2.3.54</a>    |
| <b>Value</b>                  | Request              | section <a href="#">2.2.3.196</a>   |
| <b>LessThan</b>               | Request              | section <a href="#">2.2.3.96</a>    |
| <b>EqualTo</b>                | Request              | section <a href="#">2.2.3.62</a>    |
| <b>documentlibrary:LinkId</b> | Request              | section <a href="#">2.2.3.50</a>    |



| Element name               | Scope                | Reference                            |
|----------------------------|----------------------|--------------------------------------|
| <b>Options</b>             | Request              | section <a href="#">2.2.3.125.5</a>  |
| <b>airsync:MIMESupport</b> | Request              | section <a href="#">2.2.3.110.2</a>  |
| <b>Range</b>               | Request and Response | section <a href="#">2.2.3.143.3</a>  |
| <b>UserName</b>            | Request              | section <a href="#">2.2.3.193.2</a>  |
| <b>Password</b>            | Request              | section <a href="#">2.2.3.132.2</a>  |
| <b>DeepTraversal</b>       | Request              | section <a href="#">2.2.3.41.2</a>   |
| <b>RebuildResults</b>      | Request              | section <a href="#">2.2.3.144</a>    |
| <b>Picture</b>             | Request              | section <a href="#">2.2.3.135.3</a>  |
| <b>MaxSize</b>             | Request              | section <a href="#">2.2.3.105.3</a>  |
| <b>MaxPictures</b>         | Request              | section <a href="#">2.2.3.104.3</a>  |
| <b>Status</b>              | Response             | section <a href="#">2.2.3.177.13</a> |
| <b>Response</b>            | Response             | section <a href="#">2.2.3.153.7</a>  |
| <b>Result</b>              | Response             | section <a href="#">2.2.3.155.3</a>  |
| <b>LongId</b>              | Response             | section <a href="#">2.2.3.98.3</a>   |
| <b>Properties</b>          | Response             | section <a href="#">2.2.3.139.3</a>  |
| <b>gal:DisplayName</b>     | Response             | section <a href="#">2.2.3.49.7</a>   |
| <b>gal:Phone</b>           | Response             | section <a href="#">2.2.3.133</a>    |
| <b>gal:Office</b>          | Response             | section <a href="#">2.2.3.121</a>    |
| <b>gal:Title</b>           | Response             | section <a href="#">2.2.3.182</a>    |
| <b>gal:Company</b>         | Response             | section <a href="#">2.2.3.33</a>     |
| <b>gal:Alias</b>           | Response             | section <a href="#">2.2.3.9</a>      |
| <b>gal:FirstName</b>       | Response             | section <a href="#">2.2.3.70</a>     |
| <b>gal:LastName</b>        | Response             | section <a href="#">2.2.3.95</a>     |
| <b>gal:HomePhone</b>       | Response             | section <a href="#">2.2.3.89</a>     |
| <b>gal:MobilePhone</b>     | Response             | section <a href="#">2.2.3.114</a>    |
| <b>gal:EmailAddress</b>    | Response             | section <a href="#">2.2.3.55.3</a>   |
| <b>gal:Picture</b>         | Response             | section <a href="#">2.2.3.135.3</a>  |
| <b>gal:Data</b>            | Response             | section <a href="#">2.2.3.39.4</a>   |
| <b>Total</b>               | Response             | section <a href="#">2.2.3.184.3</a>  |

The **XML schema** for the **Search** command request is described in section [6.34](#). The XML schema for the **Search** command response is described in section [6.35](#).

The Accept-Language header in a **Search** command request is used to define the **locale** of the client so that the search is relevant. If the accept language is not specified, the search is conducted by using the server language.

### Searching the **Global Address List (GAL)**

The **Search** command is used to find contacts and recipients in the GAL, and to retrieve information about them. When a search query matches more than one GAL entry, the **Search** command **MUST** return as many entries as requested, up to a total of 100 entries by default.

For each GAL entry that is found, the **Search** command returns all the non-empty properties that are indexed by the online **ambiguous name resolution (ANR)** in the global catalog server—for example, email **alias**, display name, first and last names, company name, and so on.

The client can optionally specify the maximum number of entries to retrieve in the **Search** command request by specifying the range. The server **MUST** return entries up to the number that is requested, and **MUST** also indicate the total number of entries that are found.

The text query string that is provided to the **Search** command is used in a prefix-string match. For example, if the client performs a **Search** with a **Query** element value of "Michael A.", the command returns the entries that contain the search string in any text field, such as "Michael Alexander", "Michael Allen". Because the **Search** command matches the **Query** element value against all GAL text properties that are indexed by using ANR, the client can also search by email address, company name, and so on.

The ANR system indexes the following properties:

- Display name
- Alias
- FirstName
- LastName
- EmailAddress

The **Search** command results are sorted by the server according to their ordering in the GAL (that is, by the display name property). Because of how the search results are sorted, the client could have to sort the results to display results in a relevant manner to users. For example, a search for "123" might return all GAL entries that have mailing addresses or email addresses that begin with 123. The client can choose to display matching email addresses before mailing addresses, if they know their users use email addresses more frequently than mailing addresses, or mailing addresses before email addresses if mailing addresses are used more frequently.

The **Range** option is a zero-based index specifier in the form of "m-n". For more details about the meaning of the **Range** values, see section 2.2.3.143.3.

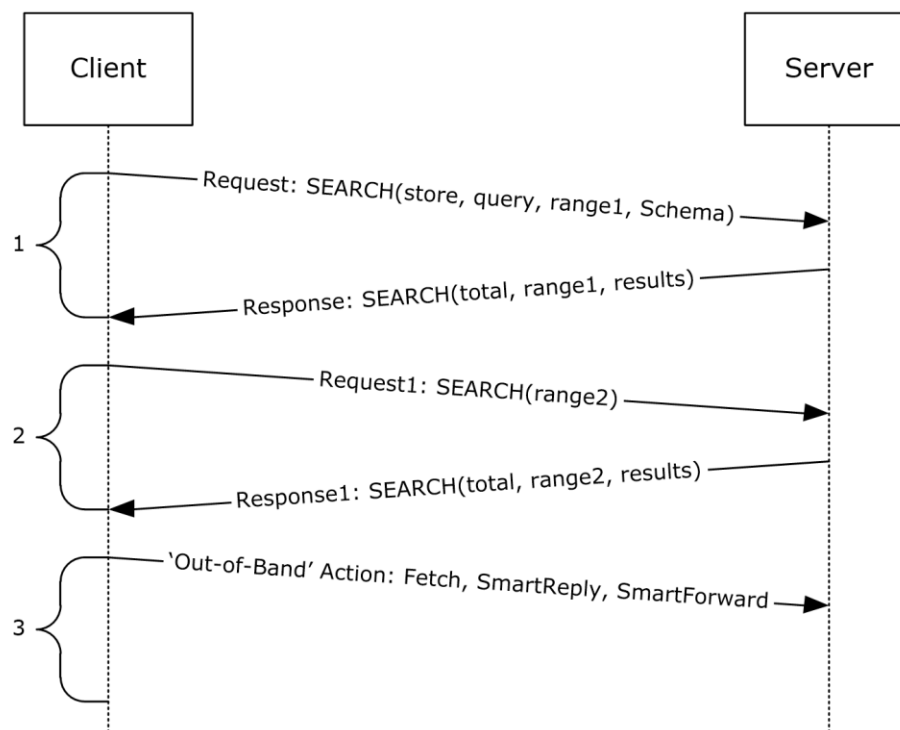
### Searching Outside the GAL

#### Typical Usage

Essentially, search involves the following three phases:

6. The client issues a request for specific search results.
7. The client uses subsequent requests to retrieve more results by incrementing the range.
8. Any actions on the search results are carried out by using other protocol commands, such as **ItemOperations**, **SmartReply**, or **SmartForward**.

The following figure shows the typical usage of the **Search** command to retrieve successive result sets from the server and then perform some action based on those results (for example, retrieve the full **message body** for an email search result).



**Figure 1: Search command process**

## Protocol Versions

The following table specifies the protocol versions that support this command. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Command support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

All protocol versions support search of an address book. Protocol version 2.5 does not support search of a mailbox or document library (UNC or Windows SharePoint Services).

For a mailbox search, the classes are supported as follows.

- Email, Calendar, Contacts, and Tasks are supported by protocol versions 12.0, 12.1, 14.0, 14.1, 16.0, and 16.1.
- SMS and Notes classes are supported only by protocol versions 14.0, 14.1, 16.0, and 16.1.

### 2.2.1.17 SendMail

The **SendMail** command is used by clients to send **MIME**-formatted email messages to the server. The body of the request depends on the protocol version that is being used. See the details about protocol versions at the end of this section.

The **ComposeMail** namespace is the primary namespace for this section. Elements referenced in this section that are not defined in the **ComposeMail** namespace use the namespace prefixes defined in section [2.2.4](#).

The following table lists the elements that are used in **SendMail** command requests and responses.

| Element name           | Scope                | Reference                            |
|------------------------|----------------------|--------------------------------------|
| <b>SendMail</b>        | Request and Response | section <a href="#">2.2.3.162</a>    |
| <b>ClientId</b>        | Request              | section <a href="#">2.2.3.28.1</a>   |
| <b>AccountId</b>       | Request              | section <a href="#">2.2.3.3.1</a>    |
| <b>SaveInSentItems</b> | Request              | section <a href="#">2.2.3.157</a>    |
| <b>Mime</b>            | Request              | section <a href="#">2.2.3.109</a>    |
| <b>Status</b>          | Response             | section <a href="#">2.2.3.177.14</a> |

The **XML schema** for the **SendMail** command request is described in section [6.36](#). The XML schema for the **SendMail** command response is described in section [6.37](#). If the message was sent successfully, the server returns an empty response.

```
HTTP/1.1 200 OK
Date: Thu, 03 Sep 2009 21:05:44 GMT
Content-Length: 0
```

Clients SHOULD NOT save messages directly to the local **Sent Items folder**; instead, clients SHOULD use the **SaveInSentItems** element (section [2.2.3.157](#)) to automatically save the messages on the server. It is not possible to reconcile the local Sent Items folder with the server's Sent Items folder by using the **Sync** command (section [2.2.1.21](#)). Items in the server's Sent Items folder can be added to the client by using the **Sync** command, but it is not possible to add items that are in the local Sent Items folder to the server.

Note that the *From: MIME* header in the outgoing message is set on the server to the primary email address of the authenticated user.

### Protocol Versions

The following table specifies the protocol versions that support this command. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Command support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

The body of the request differs as follows, depending on the protocol version being used by the client.

- For protocol versions 2.5, 12.0, and 12.1, the body of the **SendMail** request is the MIME representation of the message to be sent. In this case, the client sets the Content-Type header to "message/rfc822".
- For protocol versions 14.0, 14.1, 16.0, and 16.1, the body of the **SendMail** request is **WBXML** data generated by using the **XML** elements specified in the table of elements shown earlier in this section.

### 2.2.1.18 Settings

The **Settings** command supports get and set operations on global properties and **Out of Office (OOO)** settings for the user. The **Settings** command also sends device information to the server, implements the device password/personal identification number (PIN) recovery, and retrieves a list of the user's email addresses.

The **Get** (section [2.2.3.83](#)) and **Set** (section [2.2.3.167](#)) operations act on **named properties**. In the context of the **Get** and **Set** operations, each named property can contain a set of property-specific data nodes.

The **Settings** command can contain multiple **Get** and **Set** requests and responses in any order. The implication of this batching mechanism is that commands are executed in the order in which they are received and that the ordering of **Get** and **Set** responses will match the order of those commands in the request.

The following is the generic form of the **Settings** request, where "PropertyName" is a named property (that is, the actual name of the property).

```
<Settings>
  <PropertyName>
    Data nodes
  </PropertyName>
  ...
</Settings>
```

The **Settings** command can be used on the following named properties:

- OOO** (section [2.2.3.122](#))
- DevicePassword** (section [2.2.3.46](#))
- DeviceInformation** (section [2.2.3.45](#))

- **UserInformation** (section [2.2.3.192](#))
- **RightsManagementInformation** (section [2.2.3.156](#))

Clients SHOULD send **DeviceInformation** parameters in a **Set** block to the server as soon as the client has been provisioned, and before the **FolderSync** command (section [2.2.1.5](#)), so that the server can use this information to determine what the device has access to. [<4>](#)

The argument or data nodes are **Get** or **Set**, which can also have their own arguments. It is up to the individual property handlers to parse and interpret them as necessary.

It is possible to have between 0 (zero) and 5 **PropertyName** elements in a **Settings** request (that is, each of the four named properties can appear zero or one time in a request). Each property MUST be processed in order. There can be cases in which one property call affects another property call. The server will return responses in the same order in which they were requested.

Each response message contains a **Status** element (section [2.2.3.177.15](#)) value for the command, which addresses the success or failure of the **Settings** command, followed by **Status** values for each of the changes made to the **Oof**, **DeviceInformation**, **DevicePassword** or **UserInformation** elements.

The **Status** node MUST indicate success if the **Settings** response contains property responses. If the command was not successful, the processing of the request cannot begin, no property responses are returned, and the **Status** node MUST indicate a protocol error.

Any error other than a protocol error is returned in the **Status** elements of the individual property responses. All property responses, regardless of the property, MUST contain a **Status** element to indicate success or failure. This **Status** node MUST be the first node in the property response.

The **Settings** namespace is the primary namespace for this section. Elements referenced in this section that are not defined in the **Settings** namespace use the namespace prefixes defined in section [2.2.4](#).

The following table lists the elements that are used in **Settings** command requests and responses.

| Element name                       | Scope                | Reference                           |
|------------------------------------|----------------------|-------------------------------------|
| <b>Settings</b>                    | Request and Response | section <a href="#">2.2.3.168.2</a> |
| <b>RightsManagementInformation</b> | Request and Response | section <a href="#">2.2.3.156</a>   |
| <b>Get</b>                         | Request and Response | section <a href="#">2.2.3.83</a>    |
| <b>Oof</b>                         | Request and Response | section <a href="#">2.2.3.122</a>   |
| <b>BodyType</b>                    | Request and Response | section <a href="#">2.2.3.17</a>    |
| <b>Set</b>                         | Request              | section <a href="#">2.2.3.167</a>   |
| <b>OofState</b>                    | Request and Response | section <a href="#">2.2.3.124</a>   |
| <b>StartTime</b>                   | Request and Response | section <a href="#">2.2.3.176.2</a> |
| <b>EndTime</b>                     | Request and Response | section <a href="#">2.2.3.61.2</a>  |
| <b>OofMessage</b>                  | Request and Response | section <a href="#">2.2.3.123</a>   |
| <b>AppliesToInternal</b>           | Request and Response | section <a href="#">2.2.3.14</a>    |
| <b>AppliesToExternalKnown</b>      | Request and Response | section <a href="#">2.2.3.12</a>    |
| <b>AppliesToExternalUnknown</b>    | Request and Response | section <a href="#">2.2.3.13</a>    |

| Element name              | Scope                | Reference                            |
|---------------------------|----------------------|--------------------------------------|
| <b>Enabled</b>            | Request and Response | section <a href="#">2.2.3.59</a>     |
| <b>ReplyMessage</b>       | Request and Response | section <a href="#">2.2.3.149</a>    |
| <b>DevicePassword</b>     | Request and Response | section <a href="#">2.2.3.46</a>     |
| <b>Password</b>           | Request              | section <a href="#">2.2.3.132.3</a>  |
| <b>DeviceInformation</b>  | Request and Response | section <a href="#">2.2.3.45</a>     |
| <b>Model</b>              | Request              | section <a href="#">2.2.3.115</a>    |
| <b>IMEI</b>               | Request              | section <a href="#">2.2.3.91</a>     |
| <b>FriendlyName</b>       | Request              | section <a href="#">2.2.3.81</a>     |
| <b>OS</b>                 | Request              | section <a href="#">2.2.3.127</a>    |
| <b>OSLanguage</b>         | Request              | section <a href="#">2.2.3.128</a>    |
| <b>PhoneNumber</b>        | Request              | section <a href="#">2.2.3.134</a>    |
| <b>UserAgent</b>          | Request              | section <a href="#">2.2.3.190</a>    |
| <b>EnableOutboundSMS</b>  | Request              | section <a href="#">2.2.3.60</a>     |
| <b>MobileOperator</b>     | Request              | section <a href="#">2.2.3.113</a>    |
| <b>UserInformation</b>    | Request and Response | section <a href="#">2.2.3.192</a>    |
| <b>Status</b>             | Response             | section <a href="#">2.2.3.177.15</a> |
| <b>Accounts</b>           | Response             | section <a href="#">2.2.3.5</a>      |
| <b>Account</b>            | Response             | section <a href="#">2.2.3.2</a>      |
| <b>AccountId</b>          | Response             | section <a href="#">2.2.3.3.2</a>    |
| <b>AccountName</b>        | Response             | section <a href="#">2.2.3.4</a>      |
| <b>UserDisplayName</b>    | Response             | section <a href="#">2.2.3.191</a>    |
| <b>SendDisabled</b>       | Response             | section <a href="#">2.2.3.161</a>    |
| <b>EmailAddresses</b>     | Response             | section <a href="#">2.2.3.57</a>     |
| <b>SMTPAddress</b>        | Response             | section <a href="#">2.2.3.171</a>    |
| <b>PrimarySmtpAddress</b> | Response             | section <a href="#">2.2.3.138</a>    |

The **XML schema** for the **Settings** command request is described in section [6.39](#). The XML schema for the **Settings** command response is described in section [6.40](#).

## Protocol Versions

The following table specifies the protocol versions that support this command. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Command support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.1.19 SmartForward

The **SmartForward** command is used by clients to forward messages without retrieving the full, original message from the server. The body of the request depends on the protocol version that is being used. See the details about protocol versions at the end of this section.

The **SmartForward** command is similar to the **SendMail** command (section [2.2.1.17](#)), except that the outgoing message identifies the item being forwarded to and includes the text of the new message. The full text of the original message is retrieved and sent by the server. Using the server copy of the original message saves network bandwidth by not downloading the original message to the client and then uploading it again with the forward.

The **SmartForward** command lists the message recipients.

The **ComposeMail** namespace is the primary namespace for this section. Elements referenced in this section that are not defined in the **ComposeMail** namespace use the namespace prefixes defined in section [2.2.4](#).

The following table lists the elements that are used in **SmartForward** command requests and responses.

| Element name           | Scope                | Reference                          |
|------------------------|----------------------|------------------------------------|
| <b>SmartForward</b>    | Request and Response | section <a href="#">2.2.3.169</a>  |
| <b>ClientId</b>        | Request              | section <a href="#">2.2.3.28.1</a> |
| <b>Source</b>          | Request              | section <a href="#">2.2.3.173</a>  |
| <b>FolderId</b>        | Request              | section <a href="#">2.2.3.74</a>   |
| <b>ItemId</b>          | Request              | section <a href="#">2.2.3.93</a>   |
| <b>LongId</b>          | Request              | section <a href="#">2.2.3.98.4</a> |
| <b>InstanceId</b>      | Request              | section <a href="#">2.2.3.92.2</a> |
| <b>AccountId</b>       | Request              | section <a href="#">2.2.3.3.1</a>  |
| <b>SaveInSentItems</b> | Request              | section <a href="#">2.2.3.157</a>  |
| <b>ReplaceMime</b>     | Request              | section <a href="#">2.2.3.148</a>  |



| Element name      | Scope    | Reference                            |
|-------------------|----------|--------------------------------------|
| <b>Mime</b>       | Request  | section <a href="#">2.2.3.109</a>    |
| <b>Status</b>     | Response | section <a href="#">2.2.3.177.16</a> |
| <b>Forwardees</b> | Request  | section <a href="#">2.2.3.79</a>     |
| <b>Forwarder</b>  | Request  | section <a href="#">2.2.3.78</a>     |
| <b>Name</b>       | Request  | section <a href="#">2.2.3.113.3</a>  |
| <b>Email</b>      | Request  | section <a href="#">2.2.3.51</a>     |

The **XML schema** for the **SmartForward** command request is described in section [6.41](#). The XML schema for the **SmartForward** command response is described in section [6.42](#). If the message was forwarded successfully, the server returns an empty response.

```
HTTP/1.1 200 OK
Date: Thu, 03 Sep 2009 21:05:44 GMT
Content-Length: 0
```

Clients SHOULD NOT save messages directly to the local **Sent Items folder**; instead, clients SHOULD use the **SaveInSentItems** element (section 2.2.3.157) to automatically save the messages on the server. It is not possible to reconcile the local Sent Items folder with the server's Sent Items folder by using the **Sync** command (section [2.2.1.21](#)). Items in the server's Sent Items folder can be added to the client by using the **Sync** command, but it is not possible to add items that are in the local Sent Items folder to the server.

The **SmartForward** command can be applied to a meeting or an appointment. When **SmartForward** is applied to a recurring meeting, the **InstanceId** element (section 2.2.3.92.2) specifies the ID of a particular occurrence in the recurring meeting. If **SmartForward** is applied to a recurring meeting and the **InstanceId** element is absent, the server SHOULD forward the entire recurring meeting. If the value of the **InstanceId** element is invalid, the server responds with **Status** element (section 2.2.3.177.16) value 104, as specified in section [2.2.2](#).

By default, because the original message and the forward messages can use different **character sets**, this command will always send the outgoing message by using the **UTF-8** character set for the body of the message.

## Protocol Versions

The following table specifies the protocol versions that support this command. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.1.1, in the request.

| Protocol version | Command support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |

| Protocol version | Command support |
|------------------|-----------------|
| 16.0             | Yes             |
| 16.1             | Yes             |

The body of the request differs as follows, depending on the protocol version being used by the client.

- For protocol versions 2.5, 12.0, and 12.1, the body of the **SmartForward** request is the **MIME** representation of the message to be sent. In this case, the client sets the Content-Type header to "message/rfc822".
- For protocol versions 14.0, 14.1, 16.0, and 16.1, the body of the **SmartForward** request is **WBXML** data generated by using the **XML** elements specified in the table of elements shown earlier in this section.

For protocol version 2.5, the server includes the original message as an attachment to the outgoing message regardless of the type of item to which the **SmartForward** command is applied. For all other protocol versions, the server includes the original message as an attachment to the outgoing message only when **SmartForward** is applied to an appointment.

### 2.2.1.20 SmartReply

The **SmartReply** command is used by clients to reply to messages without retrieving the full, original message from the server. The body of the request depends on the protocol version that is being used. See the details about protocol versions at the end of this section.

The **SmartReply** command is similar to the **SendMail** command (section [2.2.1.17](#)), except that the outgoing message identifies the item being replied to and includes the text of the new message. The full text of the original message is retrieved and sent by the server. Using the server copy of the original message saves network bandwidth by not downloading the original message to the client and then uploading it again with the reply.

The **SmartReply** command lists the message recipients, so it is used to implement both Reply and Reply-to-All functionality. It is the responsibility of the client to implement Reply and Reply-to-All functionality.

The **ComposeMail** namespace is the primary namespace for this section. Elements referenced in this section that are not defined in the **ComposeMail** namespace use the namespace prefixes defined in section [2.2.4](#).

The following table lists the elements that are used in **SmartReply** command requests and responses.

| Element name      | Scope                | Reference                          |
|-------------------|----------------------|------------------------------------|
| <b>SmartReply</b> | Request and Response | section <a href="#">2.2.3.170</a>  |
| <b>ClientId</b>   | Request              | section <a href="#">2.2.3.28.1</a> |
| <b>Source</b>     | Request              | section <a href="#">2.2.3.173</a>  |
| <b>FolderId</b>   | Request              | section <a href="#">2.2.3.74</a>   |
| <b>ItemId</b>     | Request              | section <a href="#">2.2.3.93</a>   |
| <b>LongId</b>     | Request              | section <a href="#">2.2.3.98.4</a> |
| <b>InstanceId</b> | Request              | section <a href="#">2.2.3.92.2</a> |
| <b>AccountId</b>  | Request              | section <a href="#">2.2.3.3.1</a>  |

| Element name           | Scope    | Reference                            |
|------------------------|----------|--------------------------------------|
| <b>SaveInSentItems</b> | Request  | section <a href="#">2.2.3.157</a>    |
| <b>ReplaceMime</b>     | Request  | section <a href="#">2.2.3.148</a>    |
| <b>Mime</b>            | Request  | section <a href="#">2.2.3.109</a>    |
| <b>Status</b>          | Response | section <a href="#">2.2.3.177.16</a> |

The **XML schema** for the **SmartReply** command request is described in section [6.43](#). The XML schema for the **SmartReply** command response is described in section [6.44](#). If the message was sent successfully, the server returns an empty response.

```
HTTP/1.1 200 OK
Date: Thu, 03 Sep 2009 21:05:44 GMT
Content-Length: 0
```

Clients SHOULD NOT save messages directly to the local **Sent Items folder**; instead, clients SHOULD use the **SaveInSentItems** element (section [2.2.3.157](#)) to automatically save the messages on the server. It is not possible to reconcile the local Sent Items folder with the server's Sent Items folder by using the **Sync** command (section [2.2.1.21](#)). Items in the server's Sent Items folder can be added to the client by using the **Sync** command, but it is not possible to add items that are in the local Sent Items folder to the server.

The **SmartReply** command can be applied to a meeting. When **SmartReply** is applied to a recurring meeting, the **InstanceId** element (section [2.2.3.92.2](#)) specifies the ID of a particular occurrence in the recurring meeting. If **SmartReply** is applied to a recurring meeting and the **InstanceId** element is absent, the server SHOULD reply for the entire recurring meeting. If the value of the **InstanceId** element is invalid, the server responds with **Status** element (section [2.2.3.177.16](#)) value 104, as specified in section [2.2.2](#).

By default, because the original message and the reply messages can use different **character sets**, this command will always send the outgoing message by using the **UTF-8** character set for the body of the message.

## Protocol Versions

The following table specifies the protocol versions that support this command. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section [2.2.1.1.2.6](#), or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section [2.2.1.1.1.1](#), in the request.

| Protocol version | Command support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

The body of the request differs as follows, depending on the protocol version being used by the client.

- For protocol versions 2.5, 12.0, and 12.1, the body of the **SmartReply** request is the **MIME** representation of the message to be sent. In this case, the client sets the Content-Type header to "message/rfc822".
- For protocol versions 14.0, 14.1, 16.0, and 16.1, the body of the **SmartReply** request is **WBXML** data generated by using the **XML** elements specified in the table of elements shown earlier in this section.

### 2.2.1.21 Sync

The **Sync** command synchronizes changes in a collection between the client and the server.

The **AirSync** namespace is the primary namespace for this section. Elements referenced in this section that are not defined in the **AirSync** namespace use the namespace prefixes defined in section [2.2.4](#).

The following table lists the elements that are used in **Sync** command requests and responses.

| Element name            | Scope                | Reference                           |
|-------------------------|----------------------|-------------------------------------|
| <b>Sync</b>             | Request and Response | section <a href="#">2.2.3.180</a>   |
| <b>Collections</b>      | Request and Response | section <a href="#">2.2.3.31.2</a>  |
| <b>Collection</b>       | Request and Response | section <a href="#">2.2.3.29.2</a>  |
| <b>SyncKey</b>          | Request and Response | section <a href="#">2.2.3.181.4</a> |
| <b>CollectionId</b>     | Request and Response | section <a href="#">2.2.3.30.6</a>  |
| <b>Supported</b>        | Request              | section <a href="#">2.2.3.179</a>   |
| <b>DeletesAsMoves</b>   | Request              | section <a href="#">2.2.3.43</a>    |
| <b>GetChanges</b>       | Request              | section <a href="#">2.2.3.84</a>    |
| <b>WindowSize</b>       | Request              | section <a href="#">2.2.3.199</a>   |
| <b>ConversationMode</b> | Request              | section <a href="#">2.2.3.36.2</a>  |
| <b>Options</b>          | Request              | section <a href="#">2.2.3.125.6</a> |
| <b>FilterType</b>       | Request              | section <a href="#">2.2.3.68.2</a>  |
| <b>Class</b>            | Request and Response | section <a href="#">2.2.3.27.6</a>  |
| <b>Conflict</b>         | Request              | section <a href="#">2.2.3.34</a>    |
| <b>MIMESupport</b>      | Request              | section <a href="#">2.2.3.110.3</a> |
| <b>MIMETruncation</b>   | Request              | section <a href="#">2.2.3.111</a>   |
| <b>MaxItems</b>         | Request              | section <a href="#">2.2.3.103.2</a> |
| <b>Commands</b>         | Request and Response | section <a href="#">2.2.3.32</a>    |
| <b>Change</b>           | Request and Response | section <a href="#">2.2.3.24</a>    |
| <b>ServerId</b>         | Request and Response | section <a href="#">2.2.3.166.8</a> |
| <b>ApplicationData</b>  | Request and Response | section <a href="#">2.2.3.11</a>    |

| Element name                  | Scope                | Reference  |
|-------------------------------|----------------------|--|
| <b>Delete</b>                 | Request and Response | section <a href="#">2.2.3.42.2</a>                           |
| <b>Add</b>                    | Request and Response | section <a href="#">2.2.3.7.2</a>                            |
| <b>ClientId</b>               | Request and Response | section <a href="#">2.2.3.28.2</a>                           |
| <b>Fetch</b>                  | Request and Response | section <a href="#">2.2.3.67.2</a>                           |
| <b>Wait</b>                   | Request              | section <a href="#">2.2.3.198</a>                            |
| <b>HeartbeatInterval</b>      | Request              | section <a href="#">2.2.3.88.2</a>                           |
| <b>Partial</b>                | Request              | section <a href="#">2.2.3.131</a>                            |
| <b>Status</b>                 | Response             | section <a href="#">2.2.3.177.17</a>                         |
| <b>Limit</b>                  | Response             | section <a href="#">2.2.3.97</a>                             |
| <b>SoftDelete</b>             | Response             | section <a href="#">2.2.3.172</a>                            |
| <b>Responses</b>              | Response             | section <a href="#">2.2.3.154</a>                            |
| <b>MoreAvailable</b>          | Response             | section <a href="#">2.2.3.116</a>                            |
| <b>airsyncbase:InstanceId</b> | Request and Response | <a href="#">[MS-ASAIRS]</a> section 2.2.2.25                 |
| <b>airsyncbase:Location</b>   | Request and Response | <a href="#">[MS-ASAIRS]</a> section <a href="#">2.2.2.28</a> |
| <b>email2:Send</b>            | Request              | <a href="#">[MS-AEMAIL]</a> section 2.2.2.69                 |

The **XML schema** for the **Sync** command request is described in section [6.45](#). The XML schema for the **Sync** command response is described in section [6.46](#).

For more details about the **AirSyncBase** elements that are used by this command, see [\[MS-ASAIRS\]](#) section 2.2.

Synchronization requires a priming of the system; therefore for each collection that the client wishes to synchronize, it **MUST** issue an initial **Sync** request by sending a synchronization key of 0 (zero). This request establishes a synchronization relationship with the server and initializes the synchronization state there. The server responds with an initial value of the synchronization key, which the client **MUST** then use to get the initial set of objects from the server. (From this point forward, client requests **MUST** always include the synchronization key that was received in the last response from the server.) The client then sends a **Sync** command request to the server with the response synchronization key and includes any changes that were made on the client.

If the client device has not yet synchronized a folder, there **SHOULD** be no client-side changes. The device **MUST** synchronize the full contents of a given folder, and then have its changes, additions, and deletions applied.

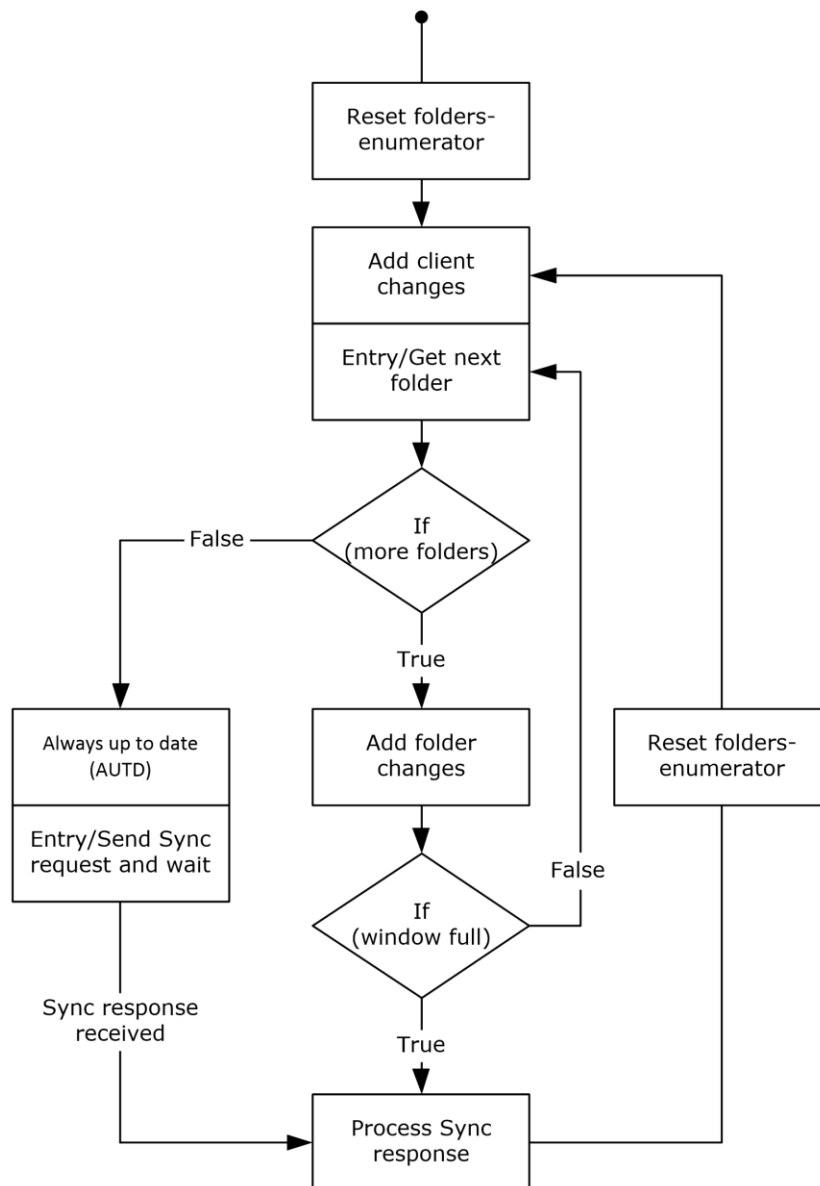
The response from the server indicates whether the client's changes were accepted, and includes any changes that were made on the server. The server response also contains a synchronization key that is to be used for the next synchronization session for the folder.

This protocol has been optimized for the case in which there are no changes to any of the collections that are specified in the **Sync** request. In such a case, the client can receive an empty response from the server. After the client receives an empty response, the client can issue an empty **Sync** request. The server then re-executes the previous request, which it cached.

Certain ActiveSync classes support **ghosted** properties. A ghosted property whose value has not changed from the last **Sync** response can be excluded from the request body, and its value on the

server will be preserved instead of being deleted. A client uses the **Supported** element to specify to the server which properties are managed by the client and not ghosted by the server. For more information, see section 2.2.3.179.

The following diagram shows request and response processing by the client.



**Figure 2: Sync command client processing**

### Protocol Versions

The following table specifies the protocol versions that support this command. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Command support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.1.21.1 Empty Sync Request

If the client sends a **Sync** request (section [2.2.1.21](#)) with no client additions, changes, or deletes, the server caches the request. If no changes are detected on the server, the **Sync** response includes only **HTTP** headers, and no **XML** payload, and is referred to as an empty **Sync** response.

When the client receives the empty **Sync** response, if there are no pending client changes, the client in turn can send only the HTTP headers, and no XML payload in the **Sync** request to save bandwidth. This request is referred to as an empty **Sync** request. If bandwidth is not a concern, the client can send a **Sync** request with an XML payload.

When the server receives the empty **Sync** request, the server assumes the request is identical to the cached request, so it retrieves the cached request and uses it. The cached request is discarded when the server receives a **Sync** request with an XML payload (a non-empty **Sync** request). This exchange of the empty **Sync** requests and responses continues until a change is detected on either the client or server. For an example empty **Sync** request and response, see section [4.5.10](#).

### 2.2.1.21.2 Empty Sync Response

The server sends a **Sync** response (section [2.2.1.21](#)) with only **HTTP** headers, and no **XML** payload, if there are no pending server changes to report to the client. This **Sync** response is referred to as an empty **Sync** response. The client can respond to the empty **Sync** response with an empty **Sync** request if there are no pending client changes and if the client is required to conserve bandwidth; otherwise, a **Sync** request with an XML payload can be sent. For more information about empty **Sync** requests, see section [2.2.1.21.1](#). For an example of an empty **Sync** request and response, see section [4.5.10](#).

### 2.2.1.22 ValidateCert

The **ValidateCert** command is used by the client to validate a certificate that has been received via an **S/MIME** mail.

To validate a certificate, the server MUST verify that the certificate has not expired and has not been revoked. The server MUST walk up the certificate chain, verifying that each intermediate CA certificate has not expired and has not been revoked and that the root certificate is a trusted **certification authority (CA)**. Certificate validation is particularly important for verifying signatures (for example, on S/MIME signed mail). The validation details are not within the scope of this protocol.

The **ValidateCert** namespace is the primary namespace for this section. Elements referenced in this section that are not defined in the **ValidateCert** namespace use the namespace prefixes defined in section [2.2.4](#).

The following table lists the elements that are used in **ValidateCert** command requests and responses.

| Element name            | Scope                | Reference                            |
|-------------------------|----------------------|--------------------------------------|
| <b>ValidateCert</b>     | Request and Response | section <a href="#">2.2.3.195</a>    |
| <b>CertificateChain</b> | Request              | section <a href="#">2.2.3.20</a>     |
| <b>Certificate</b>      | Request and Response | section <a href="#">2.2.3.19.2</a>   |
| <b>Certificates</b>     | Request              | section <a href="#">2.2.3.23.2</a>   |
| <b>CheckCRL</b>         | Request              | section <a href="#">2.2.3.26</a>     |
| <b>Status</b>           | Response             | section <a href="#">2.2.3.177.18</a> |

The **XML schema** for the **ValidateCert** command request is described in section [6.47](#). The XML schema for the **ValidateCert** command response is described in section [6.48](#).

## Protocol Versions

The following table specifies the protocol versions that support this command. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Command support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

## 2.2.2 Common Status Codes

The status values returned for each command are specified in the **Status** element (section [2.2.3.177](#)) section corresponding to each command. Links to the **Status** element sections are listed in the following table.

| Command  | Status element section              |
|--|-------------------------------------|
| <b>Autodiscover</b> (section <a href="#">2.2.1.1</a> ) | Section <a href="#">2.2.3.177.1</a> |
| <b>FolderCreate</b> (section <a href="#">2.2.1.3</a> ) | Section <a href="#">2.2.3.177.3</a> |
| <b>FolderDelete</b> (section <a href="#">2.2.1.4</a> ) | Section <a href="#">2.2.3.177.4</a> |
| <b>FolderSync</b> (section <a href="#">2.2.1.5</a> )   | Section <a href="#">2.2.3.177.5</a> |



| Command  | Status element section                       |
|--|--|
| <b>FolderUpdate</b> (section <a href="#">2.2.1.6</a> )       | Section <a href="#">2.2.3.177.6</a>          |
| <b>GetItemEstimate</b> (section <a href="#">2.2.1.9</a> )    | Section <a href="#">2.2.3.177.7</a>          |
| <b>ItemOperations</b> (section <a href="#">2.2.1.10</a> )    | Section <a href="#">2.2.3.177.8</a>          |
| <b>MeetingResponse</b> (section <a href="#">2.2.1.11</a> )   | Section <a href="#">2.2.3.177.9</a>          |
| <b>MoveItems</b> (section <a href="#">2.2.1.12</a> )         | Section <a href="#">2.2.3.177.10</a>         |
| <b>Ping</b> (section <a href="#">2.2.1.13</a> )              | Section <a href="#">2.2.3.177.11</a>         |
| <b>Provision</b> (section <a href="#">2.2.1.14</a> )         | <a href="#">[MS-ASPROV]</a> section 2.2.2.54 |
| <b>ResolveRecipients</b> (section <a href="#">2.2.1.15</a> ) | Section <a href="#">2.2.3.177.12</a>         |
| <b>Search</b> (section <a href="#">2.2.1.16</a> )            | Section <a href="#">2.2.3.177.13</a>         |
| <b>SendMail</b> (section <a href="#">2.2.1.17</a> )          | Section <a href="#">2.2.3.177.14</a>         |
| <b>Settings</b> (section <a href="#">2.2.1.18</a> )          | Section <a href="#">2.2.3.177.15</a>         |
| <b>SmartForward</b> (section <a href="#">2.2.1.19</a> )      | Section <a href="#">2.2.3.177.16</a>         |
| <b>SmartReply</b> (section <a href="#">2.2.1.20</a> )        | Section <a href="#">2.2.3.177.16</a>         |
| <b>Sync</b> (section <a href="#">2.2.1.21</a> )              | Section <a href="#">2.2.3.177.17</a>         |
| <b>ValidateCert</b> (section <a href="#">2.2.1.22</a> )      | Section <a href="#">2.2.3.177.18</a>         |

Many of the status values listed in the **Status** element sections have a scope assigned to them. The following table defines the scope values.

| Value  | Meaning   |
|--------|---|
| Global | The status pertains to the overall client request.                              |
| Item   | The status pertains to a particular item within the overall client request.     |
| Policy | The status pertains to a particular policy within the <b>Provision</b> command. |

In addition to the status values specified for individual commands in the **Status** element sections of this document, the following table lists the **Status** element values that are common to all commands. The protocol versions that support each value are specified in the "Protocol versions" column of the table. When protocol version 2.5, 12.0, or 12.1 is used, an **HTTP** status code 4xx or 5xx instead of a **Status** element value 1xx is returned in the response. The specific HTTP status codes corresponding to some **Status** element values are specified in the table.

Note: The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Value | Element name   | Meaning   | Protocol Versions  |
|-------|----------------|---|--|
| 101   | InvalidContent | The body of the HTTP request sent by the client is invalid.<br>Ensure the HTTP request is using the specified Content-Type and length, and that the request is not missing (when an empty | Supported by: 14.0, 14.1, 16.0, 16.1<br>When protocol version 2.5, 12.0, or 12.1 is used, an HTTP 400 response is returned instead of this status value. |

| Value | Element name                | Meaning   | Protocol Versions  |
|-------|-----------------------------|---|--|
|       |                             | body is not allowed).<br>Examples:<br><b>Ping</b> command (section 2.2.1.13) with a text/plain body, or <b>SendMail</b> command (section 2.2.1.17) with version 12.1 and a <b>WBXML</b> body. |  |
| 102   | InvalidWBXML                | The request contains WBXML but it could not be decoded into XML.  | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 103   | InvalidXML                  | The XML provided in the request does not follow the protocol requirements.  | Supported by: 14.0, 14.1, 16.0, 16.1<br>When protocol version 2.5, 12.0, or 12.1 is used, an HTTP 400 response is returned instead of this status value.   |
| 104   | InvalidDateTime             | The request contains a timestamp that could not be parsed into a valid date and time.   | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 105   | InvalidCombinationOfIDs     | The request contains a combination of parameters that is invalid.   | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 106   | InvalidIDs                  | The request contains one or more IDs that could not be parsed into valid values.<br>That is different from specifying an ID in the proper format that does not resolve to an existing item.   | Supported by: 14.0, 14.1, 16.0, 16.1<br>When protocol version 2.5, 12.0, or 12.1 is used, an HTTP 400 response, or an HTTP 500 response for the <b>SendMail</b> command, is returned instead of this status value. |
| 107   | InvalidMIME                 | The request contains <b>MIME</b> that could not be parsed.  | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 108   | DeviceIdMissingOrInvalid    | The device ID is either missing or has an invalid format.   | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 109   | DeviceTypeMissingOrInvalid  | The device type is either missing or has an invalid format.   | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 110   | ServerError                 | The server encountered an unknown error, the device SHOULD NOT retry later.   | Supported by: 14.0, 14.1, 16.0, 16.1<br>When protocol version 2.5, 12.0, or 12.1 is used, an HTTP 500 response is returned instead of this status value.   |
| 111   | ServerErrorRetryLater       | The server encountered an unknown error, the device SHOULD retry later.   | Supported by: 14.0, 14.1, 16.0, 16.1<br>When protocol version 2.5, 12.0, or 12.1 is used, an HTTP 503 response is returned instead of this status value.   |
| 112   | ActiveDirectoryAccessDenied | The server does not have access to read/write to an object in the directory service.  | Supported by: 14.0, 14.1, 16.0, 16.1<br>When protocol version 2.5, 12.0, or 12.1 is used, an HTTP 403 response is returned instead of this status value.   |
| 113   | MailboxQuotaExceeded        | The mailbox has reached its size quota.   | Supported by: 14.0, 14.1, 16.0, 16.1<br>When protocol version 2.5, 12.0, or 12.1 is used, an HTTP 507 response is returned instead of this status value.   |
| 114   | MailboxServerOffline        | The mailbox server is offline.  | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 115   | SendQuotaExceeded           | The request would exceed the send quota.  | Supported by: 14.0, 14.1, 16.0, 16.1   |

| Value | Element name                  | Meaning   | Protocol Versions  |
|-------|-------------------------------|---|--|
|       | ded                           |   |  |
| 116   | MessageRecipientUnresolved    | One of the recipients could not be resolved to an email address.  | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 117   | MessageReplyNotAllowed        | The mailbox server will not allow a reply of this message.  | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 118   | MessagePreviouslySent         | The message was already sent in a previous request or the request contains a message ID that was already used in a recent message. The server determined this by remembering the values of the <b>ClientId</b> element (section <a href="#">2.2.3.28</a> ) from the last few sent messages. | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 119   | MessageHasNoRecipient         | The message being sent contains no recipient.   | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 120   | MailSubmissionFailed          | The server failed to submit the message for delivery.   | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 121   | MessageReplyFailed            | The server failed to create a reply message.  | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 122   | AttachmentIsTooLarge          | The attachment is too large to be processed by this request.  | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 123   | UserHasNoMailbox              | A mailbox could not be found for the user.  | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 124   | UserCannotBeAnonymous         | The request was sent without credentials. Anonymous requests are not allowed.   | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 125   | UserPrincipalCouldNotBeFound  | The user was not found in the directory service.  | Supported by: 14.0, 14.1, 16.0, 16.1<br>When protocol version 2.5, 12.0, or 12.1 is used, an HTTP 403 response is returned instead of this status value.                             |
| 126   | UserDisabledForSync           | The user object in the directory service indicates that this user is not allowed to use ActiveSync.   | Supported by: 14.0, 14.1, 16.0, 16.1<br>When protocol version 2.5, 12.0, or 12.1 is used, an HTTP 403 response is returned instead of this status value.                             |
| 127   | UserOnNewMailboxCannotSync    | The server is configured to prevent users from syncing.   | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 128   | UserOnLegacyMailboxCannotSync | The server is configured to prevent users on legacy servers from syncing.   | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 129   | DeviceIsBlockedForThisUser    | The user is configured to allow only some devices to sync. This device is not the allowed device.   | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 130   | AccessDenied                  | The user is not allowed to perform that request.  | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 131   | AccountDisabled               | The user's account is disabled.   | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 132   | SyncStateNotFound             | The server's data file that contains the state of the client was unexpectedly missing. It might have disappeared while the request was in progress. The next request will likely answer a sync key error and the device will  | Supported by: 14.0, 14.1, 16.0, 16.1<br>When protocol version 2.5, 12.0, or 12.1 is used, an HTTP 403 response for the <b>Provision</b> command, or an HTTP 500 response is returned |

| Value | Element name                | Meaning   | Protocol Versions  |
|-------|-----------------------------|---|--|
|       |                             | be forced to do full sync.  | instead of this status value.  |
| 133   | SyncStateLocked             | The server's data file that contains the state of the client is locked, possibly because the mailbox is being moved or was recently moved.                                      | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 134   | SyncStateCorrupt            | The server's data file that contains the state of the client appears to be corrupt.   | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 135   | SyncStateAlready Exists     | The server's data file that contains the state of the client already exists. This can happen with two initial syncs are executed concurrently.                                  | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 136   | SyncStateVersion Invalid    | The version of the server's data file that contains the state of the client is invalid.   | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 137   | CommandNotSupported         | The command is not supported by this server.  | Supported by: 14.0, 14.1, 16.0, 16.1<br>When protocol version 2.5, 12.0, or 12.1 is used, an HTTP 501 response is returned instead of this status value.   |
| 138   | VersionNotSupported         | The command is not supported in the protocol version specified.   | Supported by: 14.0, 14.1, 16.0, 16.1<br>When protocol version 2.5, 12.0, or 12.1 is used, an HTTP 400 response, or an HTTP 505 response for version 1.0 devices, is returned instead of this status value. |
| 139   | DeviceNotFullyProvisionable | The device uses a protocol version that cannot send all the policy settings the admin enabled. For more details, see [MS-ASPROV] section 3.1.5.2.                               | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 140   | RemoteWipeRequested         | A remote wipe was requested. The device SHOULD provision to get the request and then do another provision to acknowledge it. For more details, see [MS-ASPROV] section 3.1.5.1. | Supported by: 14.0, 14.1, 16.0, 16.1<br>When protocol version 2.5, 12.0, or 12.1 is used, an HTTP 403 response for no policy key header, or an HTTP 449 response is returned instead of this status value. |
| 141   | LegacyDeviceOnStrictPolicy  | A policy is in place but the device is not provisionable. For more details, see [MS-ASPROV] section 3.1.5.2.  | Supported by: 14.0, 14.1, 16.0, 16.1<br>When protocol version 2.5, 12.0, or 12.1 is used, an HTTP 449 response is returned instead of this status value.   |
| 142   | DeviceNotProvisioned        | There is a policy in place; the device needs to provision as specified in [MS-ASPROV] section 3.1.5.1.  | Supported by: 14.0, 14.1, 16.0, 16.1<br>When protocol version 2.5, 12.0, or 12.1 is used, an HTTP 449 response is returned instead of this status value.   |
| 143   | PolicyRefresh               | The policy is configured to be refreshed every few hours. The device needs to re-provision as specified in [MS-ASPROV] section 3.1.5.1.   | Supported by: 14.0, 14.1, 16.0, 16.1<br>When protocol version 2.5, 12.0, or 12.1 is used, an HTTP 449 response is returned instead of this status value.   |
| 144   | InvalidPolicyKey            | The device's policy key is invalid. The policy has probably changed on the server. The device needs to re-provision as specified in [MS-ASPROV] section 3.1.5.1.                | Supported by: 14.0, 14.1, 16.0, 16.1<br>When protocol version 2.5, 12.0, or 12.1 is used, an HTTP 449 response is returned instead of this status value.   |
| 145   | ExternallyManaged           | The device claimed to be externally managed,  | Supported by: 14.0, 14.1, 16.0, 16.1   |

| Value | Element name                                    | Meaning   | Protocol Versions  |
|-------|---|---|--|
|       | dDevicesNotAllowed                              | but the server doesn't allow externally managed devices to sync. For more details, see [MS-ASPROV] section 3.1.5.2.   |  |
| 146   | NoRecurrenceInCalendar                          | The request tried to forward an occurrence of a meeting that has no recurrence.   | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 147   | UnexpectedItemClass                             | The request tried to operate on a type of items unknown to the server.  | Supported by: 14.0, 14.1, 16.0, 16.1<br>When protocol version 2.5, 12.0, or 12.1 is used, an HTTP 400 response or an HTTP 501 response is returned instead of this status value. |
| 148   | RemoteServerHasNoSSL                            | The request needs to be proxied to another server but that server doesn't have <b>Secure Sockets Layer (SSL)</b> enabled. This server is configured to only proxy requests to servers with SSL enabled.   | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 149   | InvalidStoredRequest                            | The server had stored the previous request from that device. When the device sent an empty request, the server tried to re-execute that previous request but it was found to be impossible. The device needs to send the full request again.  | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 150   | ItemNotFound                                    | The value of either the <b>ItemId</b> element (section <a href="#">2.2.3.93</a> ) or the <b>InstanceId</b> element (section <a href="#">2.2.3.92.2</a> ) specified in the <b>SmartReply</b> (section 2.2.1.20) or the <b>SmartForward</b> (section 2.2.1.19) command request could not be found in the mailbox. | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 151   | TooManyFolders                                  | The mailbox contains too many folders. By default, the mailbox cannot contain more than 1000 folders.   | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 152   | NoFoldersFound                                  | The mailbox contains no folders.  | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 153   | ItemsLostAfterMove                              | After moving items to the destination folder, some of those items could not be found.   | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 154   | FailureInMoveOperation                          | The mailbox server returned an unknown error while moving items.  | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 155   | MoveCommandDisallowedForNonPersistentMoveAction | An <b>ItemOperations</b> command request (section 2.2.1.10) to move a conversation is missing the <b>MoveAlways</b> element (section <a href="#">2.2.3.118</a> ).   | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 156   | MoveCommandInvalidDestinationFolder             | The destination folder for the move is invalid.   | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 160   | AvailabilityTooManyRecipients                   | The command has exceeded the maximum number of exactly matched recipients that it can request availability for.   | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 161   | AvailabilityDLLimitReached                      | The size of the distribution list is larger than the availability service is configured to process.   | Supported by: 14.0, 14.1, 16.0, 16.1   |
| 162   | AvailabilityTransientFailure                    | Availability service request failed with a transient error.   | Supported by: 14.0, 14.1, 16.0, 16.1   |

| Value | Element name                       | Meaning  | Protocol Versions                    |
|-------|------------------------------------|--|--------------------------------------|
| 163   | AvailabilityFailure                | Availability service request failed with an error.   | Supported by: 14.0, 14.1, 16.0, 16.1 |
| 164   | BodyPartPreferenceTypeNotSupported | The <b>BodyPartPreference</b> node (as specified in <a href="#">[MS-ASAIRS]</a> section 2.2.2.12) has an unsupported <b>Type</b> element (as specified in <a href="#">[MS-ASAIRS]</a> section 2.2.2.41.4) value.   | Supported by: 14.1, 16.0, 16.1       |
| 165   | DeviceInformationRequired          | The required <b>DeviceInformation</b> element (as specified in <a href="#">[MS-ASPROV]</a> section 2.2.2.53) is missing in the <b>Provision</b> request.   | Supported by: 14.1, 16.0, 16.1       |
| 166   | InvalidAccountId                   | The <b>AccountId</b> (section <a href="#">2.2.3.3</a> ) value is not valid.  | Supported by: 14.1, 16.0, 16.1       |
| 167   | AccountSendDisabled                | The <b>AccountId</b> value specified in the request does not support sending email.  | Supported by: 14.1, 16.0, 16.1       |
| 168   | IRM_FeatureDisabled                | The Information Rights Management feature is disabled.   | Supported by: 14.1, 16.0, 16.1       |
| 169   | IRM_TransientError                 | Information Rights Management encountered an error.  | Supported by: 14.1, 16.0, 16.1       |
| 170   | IRM_PermanentError                 | Information Rights Management encountered an error.  | Supported by: 14.1, 16.0, 16.1       |
| 171   | IRM_InvalidTemplateID              | The Template ID value is not valid.  | Supported by: 14.1, 16.0, 16.1       |
| 172   | IRM_OperationNotPermitted          | Information Rights Management does not support the specified operation.  | Supported by: 14.1, 16.0, 16.1       |
| 173   | NoPicture                          | The user does not have a contact photo.  | Supported by: 14.1, 16.0, 16.1       |
| 174   | PictureTooLarge                    | The contact photo exceeds the size limit set by the <b>MaxSize</b> element (section <a href="#">2.2.3.105</a> ).   | Supported by: 14.1, 16.0, 16.1       |
| 175   | PictureLimitReached                | The number of contact photos returned exceeds the size limit set by the <b>MaxPictures</b> element (section <a href="#">2.2.3.104</a> ).   | Supported by: 14.1, 16.0, 16.1       |
| 176   | BodyPart_ConversationTooLarge      | The conversation is too large to compute the body parts. Try requesting the body of the item again, without body parts.  | Supported by: 14.1, 16.0, 16.1       |
| 177   | MaximumDevicesReached              | The user's account has too many device partnerships. Delete partnerships on the server before proceeding.  | Supported by: 14.1, 16.0, 16.1       |
| 178   | InvalidMimeBodyCombination         | The <b>SmartForward</b> command request included elements that are not allowed to be combined with either the <b>Forwardees</b> element (section <a href="#">2.2.3.79</a> ) or the <b>airsyncbase:Body</b> element ( <a href="#">[MS-ASAIRS]</a> section 2.2.2.9), as specified in section <a href="#">2.2.3.169</a> . | Supported by: 16.0, 16.1             |
| 179   | InvalidSmartForwardParameters      | The <b>Forwardees</b> element or the <b>airsyncbase:Body</b> element in the <b>SmartForward</b> command request could not be parsed.   | Supported by: 16.0, 16.1             |

| Value | Element name              | Meaning  | Protocol Versions        |
|-------|---------------------------|--|--------------------------|
| 183   | InvalidRecipients         | A draft email either has no recipients or has a recipient email address that is not in valid <b>SMTP</b> format.   | Supported by: 16.0, 16.1 |
| 184   | OneOrMoreExceptionsFailed | The server failed to successfully save all of the exceptions specified in a <b>Sync</b> command request (section 2.2.1.21) to add a calendar series with exceptions. This code will be returned on the item level, and the client <b>SHOULD</b> check the status on each of the exceptions to see which ones failed and just resend those. | Supported by: 16.0, 16.1 |

## 2.2.3 Elements

### 2.2.3.1 AcceptableResponseSchema

The **AcceptableResponseSchema** element is a required child element of the **Request** element in **Autodiscover** command requests that indicates the schema in which the server **MUST** send the response.

| Command request/response   | Parent elements                                       | Child elements | Data type   | Number allowed   |
|--|---|----------------|---|------------------|
| <b>Autodiscover</b> command request (section <a href="#">2.2.1.1</a> ) | <b>Request</b> (section <a href="#">2.2.3.150.1</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 1...1 (required) |

The value of this element **MUST** be "http://schemas.microsoft.com/exchange/autodiscover/mobilesync/responseschema/2006".

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.2 Account

The **Account** element is a required child element of the **Accounts** element in **Settings** command responses that contains all account information associated with a single account.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response  | Parent elements                                       | Child elements   | Data type   | Number allowed      |
|---|---|--|---|---------------------|
| <b>Settings</b> command<br><b>UserInformation</b> response<br>(section <a href="#">2.2.1.18</a> ) | <b>Accounts</b><br>(section <a href="#">2.2.3.5</a> ) | <b>AccountId</b> (section <a href="#">2.2.3.3.2</a> )<br><b>AccountName</b> (section <a href="#">2.2.3.4</a> )<br><b>UserDisplayName</b><br>(section <a href="#">2.2.3.191</a> )<br><b>SendDisabled</b> (section <a href="#">2.2.3.161</a> )<br><b>EmailAddresses</b><br>(section <a href="#">2.2.3.57</a> ) | <b>container</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.2) | 1...N<br>(required) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.3 AccountId

The **AccountId** element is used in the following command requests and responses:

- **SendMail** command requests (section [2.2.1.17](#))
- **SmartForward** command requests (section [2.2.1.19](#))
- **SmartReply** command requests (section [2.2.1.20](#))



- **Settings** command responses (section [2.2.1.18](#))

The definition of the **AccountId** element differs according to the context in which it is used. For more details, see section [2.2.3.3.1](#) and section [2.2.3.3.2](#).

### 2.2.3.3.1 AccountId (SendMail, SmartForward, SmartReply)

The **AccountId** element is an optional child element of the **SendMail** element in **SendMail** command requests, an optional child element of the **SmartForward** element in **SmartForward** command requests, and an optional child element of the **SmartReply** element in **SmartReply** command requests. In all contexts, it identifies the account from which an email is sent.

Elements referenced in this section are defined in the **ComposeMail** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements  | Child elements | Data type  | Number allowed   |
|---|--|----------------|--|------------------|
| <b>SendMail</b> command request (section <a href="#">2.2.1.17</a> )     | <b>SendMail</b> (section <a href="#">2.2.3.162</a> )     | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 0...1 (optional) |
| <b>SmartForward</b> command request (section <a href="#">2.2.1.19</a> ) | <b>SmartForward</b> (section <a href="#">2.2.3.169</a> ) | None           | <b>string</b>  | 0...1 (optional) |
| <b>SmartReply</b> command request (section <a href="#">2.2.1.20</a> )   | <b>SmartReply</b> (section <a href="#">2.2.3.170</a> )   | None           | <b>string</b>  | 0...1 (optional) |

If the **AccountId** element is not present in the request, the server sends the email using the account identified by the **settings:PrimarySmtpAddress** element (section [2.2.3.138](#)) returned in the **Settings** command response (section [2.2.1.18](#)).

If **AccountId** is included in the request, the value MUST equal one of the **settings:AccountId** element values included in the **Settings** command response.

The server MUST validate that the **AccountId** element value provided is valid for sending email. A **Status** element (section [2.2.3.177](#)) value of 166 is returned if the **AccountId** element value is not valid. A **Status** element value of 167 is returned if the account does not support sending email.

**Note** The server sends the email using the account specified by the **AccountId** element, and not the account specified by the **From** element ([[MS-ASEMAIL](#)] section 2.2.2.36).

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support, SendMail | Element support, SmartForward | Element support, SmartReply |
|------------------|---------------------------|-------------------------------|-----------------------------|
| 2.5              |                           |                               |                             |
| 12.0             |                           |                               |                             |
| 12.1             |                           |                               |                             |
| 14.0             |                           |                               |                             |
| 14.1             | Yes                       | Yes                           | Yes                         |

| Protocol version | Element support, SendMail | Element support, SmartForward | Element support, SmartReply |
|------------------|---------------------------|-------------------------------|-----------------------------|
| 16.0             | Yes                       | Yes                           | Yes                         |
| 16.1             | Yes                       | Yes                           | Yes                         |

### 2.2.3.3.2 AccountId (Settings)

The **AccountId** element is an optional child element of the **Account** element in **Settings** command responses (section [2.2.1.18](#)). The value of this element identifies an account. The server MAY return this element in **Settings** command responses.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response                            | Parent elements                                   | Child elements | Data type   | Number allowed   |
|---|---|----------------|---|------------------|
| <b>Settings</b> command response (section 2.2.1.18) | <b>Account</b> (section <a href="#">2.2.3.2</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 0...1 (optional) |

The primary account, as identified by the **PrimarySmtpAddress** element (section [2.2.3.138](#)), does not have an **AccountId** value.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.4 AccountName

The **AccountName** element is an optional child element of the **Account** element in **Settings** command responses (section [2.2.1.18](#)). The value of this element specifies the friendly name for the given account. The server MAY return this element in **Settings** command responses.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response                            | Parent elements                                   | Child elements | Data type  | Number allowed   |
|---|---|----------------|--|------------------|
| <b>Settings</b> command<br><b>UserInfo</b> response | <b>Account</b> (section <a href="#">2.2.3.2</a> ) | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 0...1 (optional) |

The **AccountName** element value is a **string** value up to 512 characters in length.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.5 Accounts

The **Accounts** element is an optional child element of the **Get** element in **Settings** command responses that contains all aggregate accounts that the user subscribes to.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response  | Parent elements                                | Child elements                                    | Data type   | Number allowed   |
|---|--|---|---|------------------|
| <b>Settings</b> command<br><b>UserInfo</b> response (section <a href="#">2.2.1.18</a> ) | <b>Get</b> (section <a href="#">2.2.3.83</a> ) | <b>Account</b> (section <a href="#">2.2.3.2</a> ) | <b>container</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.2) | 0...1 (optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |

| Protocol version | Element support |
|------------------|-----------------|
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.6 Action

The **Action** element is an optional child element of the **Response** element in **Autodiscover** command responses that encapsulates the server action type for the request.

All elements referenced in this section are defined in the <http://schemas.microsoft.com/exchange/autodiscover/mobilesync/responseschema/2006> namespace.

| Command request/response  | Parent elements  | Child elements   | Data type   | Number allowed   |
|---|--|--|---|------------------|
| <b>Autodiscover</b> command response (section <a href="#">2.2.1.1</a> ) | <b>Response</b> (section <a href="#">2.2.3.153.1</a> ) | <b>Redirect</b> (section <a href="#">2.2.3.147</a> )<br><b>Settings</b> (section <a href="#">2.2.3.168.1</a> )<br><b>Error</b> (section <a href="#">2.2.3.63</a> ) | <b>container</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.2) | 0...1 (optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |

### 2.2.3.7 Add

The **Add** element is used in the following command requests and responses:

- **FolderSync** command responses (section [2.2.1.5](#))
- **Sync** command requests and responses (section [2.2.1.21](#))

The definition of the **Add** element differs according to the context in which it is used. For more details, see section [2.2.3.7.1](#) and section [2.2.3.7.2](#).

#### 2.2.3.7.1 Add (FolderSync)

The **Add** element is an optional child element of the **Changes** element in **FolderSync** command responses that creates a new folder on the client. Child elements of the **Add** element specify the server ID of the folder, the server ID of the parent folder, the display name of the folder, and the type of folder.

All elements referenced in this section are defined in the **FolderHierarchy** namespace.

| Command request/response  | Parent elements                                    | Child elements   | Data type  | Number allowed   |
|---|--|--|--|------------------|
| <b>FolderSync</b> command response (section <a href="#">2.2.1.5</a> ) | <b>Changes</b> (section <a href="#">2.2.3.25</a> ) | <b>ServerId</b> (section <a href="#">2.2.3.166.4</a> )<br><b>ParentId</b> (section <a href="#">2.2.3.129.2</a> )<br><b>DisplayName</b> (section <a href="#">2.2.3.49.4</a> )<br><b>Type</b> (section <a href="#">2.2.3.186.3</a> ) | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 0...N (optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

#### 2.2.3.7.2 Add (Sync)

The **Add** element is an optional child element of the **Commands** element in **Sync** command requests and an optional child element of the **Commands** element and the **Responses** element in **Sync** command responses. It creates a new object in a collection on the client or on the server.

Elements referenced in this section are defined in the **AirSync** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements                                       | Child elements  | Data type   | Number allowed   |
|---|---|---|---|------------------|
| <b>Sync</b> command request (section <a href="#">2.2.1.21</a> ) | <b>Commands</b> (section <a href="#">2.2.3.32</a> )   | <b>ClientId</b> (section <a href="#">2.2.3.28.2</a> )<br><b>ApplicationData</b> (section <a href="#">2.2.3.11</a> )<br><b>Class</b> (section <a href="#">2.2.3.27.6</a> )<br><b>email2:Send</b> ( <a href="#">[MS-ASEMAIL]</a> section <a href="#">2.2.2.69</a> ) | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section <a href="#">2.2</a> ) | 0...N (optional) |
| <b>Sync</b> command response                                    | <b>Commands</b>                                       | <b>ServerId</b> (section <a href="#">2.2.3.166.8</a> )<br><b>ApplicationData</b> (section <a href="#">2.2.3.11</a> )  | <b>container</b>  | 0...N (optional) |
| <b>Sync</b> command response                                    | <b>Responses</b> (section <a href="#">2.2.3.154</a> ) | <b>ServerId</b><br><b>ClientId</b><br><b>Class</b><br><b>ApplicationData</b><br><b>Status</b> (section <a href="#">2.2.3.177.17</a> )   | <b>container</b>  | 0...N (optional) |

When a new item is being sent from the client to the server, the **ClientId** element specifies a temporary ID for the item, which is unique on the client. The **ApplicationData** element specifies the item data. The server then responds with an **Add** element in a **Responses** element, which specifies the client ID and the server ID that was assigned to the new item.

When the client sends a **Sync** command request to the server and a new item has been added to the server collection since the last synchronization, the server responds with an **Add** element in a **Commands** element. This **Add** element specifies the server ID and data of the item to be added to the collection on the client.

One or more **Add** elements can appear as a child of the **Commands** and **Responses** elements for a particular collection.

The **Add** element cannot be used to add any non-draft email items from the client to the server, or to modify the contents of the recipient information cache. Draft email items are not supported in protocol versions 2.5, 12.0, 12.1, 14.0, and 14.1. If a client attempts to add a non-draft email to the server, a **Status** element with a value of 6 is returned as a child of the **Add** element. If a client attempts to add an item to the recipient information cache, a **Status** element with a value of 4 is returned as a child of the **Sync** element.

If the server ID in an **Add** element from the server matches the server ID for an item on the client, the client treats the addition as a change to the client item.

The server is not required to send an individual response for every operation that is sent by the client. The client only receives responses for successful additions, successful fetches, successful changes that include an attachment being added, and failed changes and deletions. When the client does not receive a response, the client MUST assume that the operation succeeded unless informed otherwise.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

When protocol version 16.0 or 16.1 is used and the **Add** element is a child of the **Responses** element, the **ApplicationData** element is supported as a child of the **Add** element.

### 2.2.3.8 airsynbase:FileReference

The **airsynbase:FileReference** element is an optional child element of the **Fetch** element in **ItemOperations** command requests and responses that specifies a unique identifier that is assigned by the server to each attachment to a given item.

Elements referenced in this section are defined in the **ItemOperations** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response   | Parent elements                                    | Child elements | Data type   | Number allowed   |
|--|--|----------------|---|------------------|
| <b>ItemOperations</b> command request and response (section <a href="#">2.2.1.10</a> ) fetch operation | <b>Fetch</b> (section <a href="#">2.2.3.67.1</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 0...1 (optional) |

The client MUST store the file reference for any item that is retrieved by means of the **Sync** command (section [2.2.1.21](#)) or **Search** command (section [2.2.1.16](#)). In an **ItemOperations** request, only one **airsynbase:FileReference** identifier can exist per **Fetch** node. Violation of this constraint results in a **Status** element (section [2.2.3.177.8](#)) value of 2 being returned from the server. The client can, however, retrieve multiple attachments by using one **Fetch** node per attachment.

If the **airsynbase:FileReference** element is present, then the **Range** element (section [2.2.3.143.2](#)) is the only valid child element of the **Options** element (section [2.2.3.125.3](#)).

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.9 Alias

The **Alias** element is used in the following command responses:

- **Find** command responses (section [2.2.1.2](#))
- **Search** command responses (section [2.2.1.16](#))

The definition of the **Alias** element differs according to the context in which it is used. For more details, see section [2.2.3.9.1](#) and section [2.2.3.9.2](#).

#### 2.2.3.9.1 Alias (Find)

The **Alias** element in the **GAL** namespace is an optional child element of the **find:Properties** element in **Find** command responses. The **Alias** element is only present in response to **Find** command requests that contain the **GALSearchCriterion** element as specified in section [2.2.3.82](#). It contains the **alias** of a recipient in the **GAL** that matched the search criteria from the corresponding **Find** command request.

| Command request/response  | Parent elements  | Child elements | Data type  | Number allowed   |
|---|--|----------------|--|------------------|
| <b>Find</b> command response (section <a href="#">2.2.1.2</a> ) | <b>Properties</b> (section <a href="#">2.2.3.139.1</a> ) | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 0...1 (optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |



| Protocol version | Element support |
|------------------|-----------------|
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.9.2 Alias (Search)

The **Alias** element in the **GAL** namespace is an optional child element of the **search:Properties** element in **Search** command responses. The **Alias** element is only present in response to **Search** command requests that contain a **search:Name** element with a value of "GAL", as specified in section 2.2.3.120.2. It contains the **alias** of a recipient in the **GAL** that matched the search criteria from the corresponding **Search** command request.

| Command request/response                          | Parent elements                         | Child elements | Data type                                | Number allowed   |
|---|---|----------------|--|------------------|
| <b>Search</b> command response (section 2.2.1.16) | <b>Properties</b> (section 2.2.3.139.3) | None           | <b>string</b> ([MS-ASDTYPE] section 2.7) | 0...1 (optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.10 And

The **And** element is an optional child element of the **Query** element in **Search** command requests. It contains elements that specify items on which to perform an AND operation.

Elements referenced in this section are defined in the **Search** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements                                     | Child elements   | Data type                                   | Number allowed   |
|---|---|--|---|------------------|
| <b>Search</b> command request (section <a href="#">2.2.1.16</a> ) | <b>Query</b> (section <a href="#">2.2.3.142.2</a> ) | <b>FreeText</b> (section <a href="#">2.2.3.80.2</a> )<br><b>airsync:Class</b> (section <a href="#">2.2.3.27.5</a> )<br><b>airsync:CollectionId</b> (section <a href="#">2.2.3.30.5</a> )<br><b>ConversationId</b> (section <a href="#">2.2.3.35.2</a> )<br><b>GreaterThan</b> (section <a href="#">2.2.3.86</a> )<br><b>LessThan</b> (section <a href="#">2.2.3.96</a> )<br><b>Or</b> (section <a href="#">2.2.3.120</a> ) | <b>container</b> ([MS-ASDTYPE] section 2.2) | 0...1 (optional) |

If multiple **And** elements are included in the request, the server responds with a **Status** element (section [2.2.3.177.13](#)) value of 8 (SearchTooComplex).

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.11 ApplicationData

The **ApplicationData** element is a required child element of the **Change** element and the **Add** element in **Sync** command requests, and a required child element of the **Change** element, the **Add** element, and the **Fetch** element in **Sync** command responses. It contains data for a particular object, such as a contact, email message, calendar appointment, or task item. The **ApplicationData** element can be used to change items, add items, or fetch items on the client device or server. The format of this data is determined by the schema for the object.

Elements referenced in this section are defined in the **AirSync** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements  | Child elements  | Data type  | Number allowed   |
|---|--|---|--|------------------|
| <b>Sync</b> command request (section <a href="#">2.2.1.21</a> ) | <b>Change</b> (section <a href="#">2.2.3.24</a> )<br><b>Add</b> (section <a href="#">2.2.3.7.2</a> ) | Data elements from the content classes. For details about the content classes, see <a href="#">[MS-ASCAL]</a> , <a href="#">[MS-ASCNTC]</a> , <a href="#">[MS-ASEMAIL]</a> , <a href="#">[MS-ASMS]</a> , <a href="#">[MS-ASNOTE]</a> , and <a href="#">[MS-ASTASK]</a> .<br><b>airsynbase:Location</b> ( <a href="#">[MS-ASAIRS]</a> section 2.2.2.28)  | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 1...1 (required) |
| <b>Sync</b> command response                                    | <b>Change</b> (section 2.2.3.24)<br><b>Add</b> (section 2.2.3.7.2)                                   | Data elements from the content classes. For details about the content classes, see <a href="#">[MS-ASCAL]</a> , <a href="#">[MS-ASCNTC]</a> , <a href="#">[MS-ASDOC]</a> , <a href="#">[MS-ASEMAIL]</a> , <a href="#">[MS-ASMS]</a> , <a href="#">[MS-ASNOTE]</a> , and <a href="#">[MS-ASTASK]</a> .<br><b>airsynbase:Body</b> ( <a href="#">[MS-ASAIRS]</a> section 2.2.2.9)<br><b>airsynbase:BodyPart</b> ( <a href="#">[MS-ASAIRS]</a> section 2.2.2.10)<br><b>airsynbase:NativeBodyType</b> ( <a href="#">[MS-ASAIRS]</a> section 2.2.2.32)<br><b>rm:RightsManagementLicense</b> ( <a href="#">[MS-ASRM]</a> section 2.2.2.14)<br><b>airsynbase:InstanceId</b> ( <a href="#">[MS-ASAIRS]</a> section 2.2.2.25)<br><b>airsynbase:Location</b> | <b>container</b>   | 1...1 (required) |
| <b>Sync</b> command response                                    | <b>Fetch</b> (section <a href="#">2.2.3.67.2</a> )   | <b>airsynbase:Attachments</b> ( <a href="#">[MS-ASAIRS]</a> section 2.2.2.8)<br><b>airsynbase:Body</b><br><b>airsynbase:NativeBodyType</b><br><b>airsynbase:Location</b><br><b>rm:RightsManagementLicense</b><br>Data elements from the content classes. For details about the content classes, see <a href="#">[MS-ASCAL]</a> , <a href="#">[MS-ASCNTC]</a> , <a href="#">[MS-ASDOC]</a> , <a href="#">[MS-ASEMAIL]</a> , <a href="#">[MS-ASMS]</a> , and <a href="#">[MS-ASTASK]</a> .  | <b>container</b>   | 1...1 (required) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.12 AppliesToExternalKnown

The **AppliesToExternalKnown** element is an optional child element of the **OofMessage** element in **Settings** command requests and responses that indicates that the **OOF message** applies to known external users. A known external user is a user who is outside the sending user's organization, but is represented in the sending user's contacts.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response  | Parent elements  | Child elements | Data type | Number allowed  |
|---|--|----------------|-----------|---|
| <b>Settings</b> command <b>Oof</b> request and response (section <a href="#">2.2.1.18</a> ) | <b>OofMessage</b> (section <a href="#">2.2.3.123</a> ) | None           | None      | 0...1 (Choice of <b>AppliesToInternal</b> (section <a href="#">2.2.3.14</a> ), <b>AppliesToExternalKnown</b> , and <b>AppliesToExternalUnknown</b> (section <a href="#">2.2.3.13</a> )) |

The **AppliesToExternalKnown** element is an empty tag element, meaning it has no value or data type. It is distinguished only by the presence or absence of the <AppliesToExternalKnown/> tag.

When the **AppliesToExternalKnown** element is present, its peer elements (that is, the other elements within the **OofMessage** element) specify the OOF settings with regard to known external users.

The following are the peer elements of the **AppliesToExternalKnown** element:

- **Enabled** (section [2.2.3.59](#))—Specifies whether an OOF message is sent to this audience while the sending user is OOF.
- **ReplyMessage** (section [2.2.3.149](#))—Specifies the OOF reply message.
- **BodyType** (section [2.2.3.17](#))—Specifies the format of the OOF message.

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.13 AppliesToExternalUnknown

The **AppliesToExternalUnknown** element is an optional child element of the **OofMessage** element in **Settings** command requests and responses that indicates that the **OOF message** applies to unknown external users. An unknown external user is a user who is outside the sending user's organization and is not represented in the sending user's contacts.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response  | Parent elements  | Child elements | Data type | Number allowed  |
|---|--|----------------|-----------|---|
| <b>Settings</b> command <b>Oof</b> request and response (section <a href="#">2.2.1.18</a> ) | <b>OofMessage</b> (section <a href="#">2.2.3.123</a> ) | None           | None      | 0...1 (Choice of <b>AppliesToInternal</b> (section <a href="#">2.2.3.14</a> ), <b>AppliesToExternalKnown</b> (section <a href="#">2.2.3.12</a> ), and <b>AppliesToExternalUnknown</b> ) |

The **AppliesToExternalUnknown** element is an empty tag element, meaning it has no value or data type. It is distinguished only by the presence or absence of the <AppliesToExternalUnknown/> tag.

When the **AppliesToExternalUnknown** element is present, its peer elements (that is, the other elements within the **OofMessage** element) specify the OOF settings with regard to unknown external users.

The following are the peer elements of the **AppliesToExternalUnknown** element:

- **Enabled** (section [2.2.3.59](#))—Specifies whether an OOF message is sent to this audience while the sending user is OOF.
- **ReplyMessage** (section [2.2.3.149](#))—Specifies the OOF reply message.
- **BodyType** (section [2.2.3.17](#))—Specifies the format of the OOF message.

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.14 AppliesToInternal

The **AppliesToInternal** element is an optional child element of the **OofMessage** element in **Settings** command requests and responses that indicates that the **OOF message** applies to internal users. An internal user is a user who is in the same organization as the sending user.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response  | Parent elements  | Child elements | Data type | Number allowed  |
|---|--|----------------|-----------|---|
| <b>Settings</b> command <b>Oof</b> request and response (section <a href="#">2.2.1.18</a> ) | <b>OofMessage</b> (section <a href="#">2.2.3.123</a> ) | None           | None      | 0...1 (Choice of <b>AppliesToInternal</b> , <b>AppliesToExternalKnown</b> (section <a href="#">2.2.3.12</a> ), and <b>AppliesToExternalUnknown</b> (section <a href="#">2.2.3.13</a> )) |

The **AppliesToInternal** element is an empty tag element, meaning it has no value or data type. It is distinguished only by the presence or absence of the <AppliesToInternal/> tag.

When the **AppliesToInternal** element is present, its peer elements (that is, the other elements within the **OofMessage** element) specify the OOF settings with regard to internal users.

The following are the peer elements of the **AppliesToInternal** element:

- **Enabled** (section [2.2.3.59](#))—Specifies whether an OOF message is sent to this audience while the sending user is OOF.
- **ReplyMessage** (section [2.2.3.149](#))—Specifies the OOF message itself.
- **BodyType** (section [2.2.3.17](#))—Specifies the format of the OOF message.

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 16.1             | Yes             |

### 2.2.3.15 Autodiscover

The **Autodiscover** element is a required element in **Autodiscover** command requests responses that identifies the body of the HTTP **POST** as containing an **Autodiscover** command (section [2.2.1.1](#)). It is the top-level element in the XML stream.

| Command request/response                              | Parent elements | Child elements   | Data type   | Number allowed   |
|---|-----------------|--|---|------------------|
| <b>Autodiscover</b> command request (section 2.2.1.1) | None            | <b>Request</b> (section <a href="#">2.2.3.150.1</a> )  | <b>container</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.2) | 1...1 (required) |
| <b>Autodiscover</b> command response                  | None            | <b>Response</b> (section <a href="#">2.2.3.153.1</a> ) | <b>container</b>  | 1...1 (required) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.16 Availability

The **Availability** element is an optional child element of the **Options** element in **ResolveRecipients** command requests that indicates to the server that free/busy data is being requested by the client and identifies the start time and end time of the free/busy data to retrieve. The **Availability** element is an optional child element of the **Recipient** element in **ResolveRecipient** command responses that returns the status and free/busy data of the users or **distribution lists** identified in the request for the time identified by the **StartTime** and **EndTime** elements.

All elements referenced in this section are defined in the **ResolveRecipients** namespace.

| Command request/response  | Parent elements  | Child elements   | Data type  | Number allowed      |
|---|--|--|--|---------------------|
| <b>ResolveRecipients</b><br>command request (section <a href="#">2.2.1.15</a> ) | <b>Options</b> (section <a href="#">2.2.3.125.4</a> )    | <b>StartTime</b> (section <a href="#">2.2.3.176.1</a> )<br><b>EndTime</b> (section <a href="#">2.2.3.61.1</a> )        | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 0...1<br>(optional) |
| <b>ResolveRecipients</b><br>command response                                    | <b>Recipient</b><br>(section <a href="#">2.2.3.145</a> ) | <b>Status</b> (section <a href="#">2.2.3.177.12</a> )<br><b>MergedFreeBusy</b><br>(section <a href="#">2.2.3.107</a> ) | <b>container</b>   | 0...1<br>(optional) |

When the **Availability** element is included in a **ResolveRecipients** request, the server retrieves free/busy information for the users identified in the **To** elements included in the request, and returns the free/busy information in the **MergedFreeBusy** element in the response. If the **Availability** element is included in the **ResolveRecipients** request, the request MUST also include a valid **StartTime** element value. When the server parses the request, the server first resolves the recipients identified by the **To** elements, and then determines the users free/busy information for the specified time span, before returning the free/busy data in the **MergedFreeBusy** element.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.17 BodyType

The **BodyType** element is a required child element of the **Get** element in **Settings** command **Oof** requests. It is a required child element of the **OofMessage** element in **Settings** command requests and responses if a **ReplyMessage** element (section [2.2.3.149](#)) is present as a child of the **OofMessage** element. In all contexts, it specifies the format of the **OOF message**.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response           | Parent elements     | Child elements | Data type                            | Number allowed   |
|------------------------------------|---------------------|----------------|--------------------------------------|------------------|
| <b>Settings</b> command <b>Oof</b> | <b>Get</b> (section | None           | <b>string</b> ( <a href="#">[MS-</a> | 1...1 (required) |



| Command request/response                               | Parent elements  | Child elements | Data type                             | Number allowed  |
|--|--|----------------|---------------------------------------|---|
| <b>Get</b> request (section <a href="#">2.2.1.18</a> ) | <a href="#">2.2.3.83</a> )                             |                | <a href="#">ASDTYPE1</a> section 2.7) |   |
| <b>Settings</b> command <b>Oof Set</b> request         | <b>OofMessage</b> (section <a href="#">2.2.3.123</a> ) | None           | <b>string</b>                         | 1...1 (required) if a <b>ReplyMessage</b> element is present; otherwise, 0...1 (optional) |
| <b>Settings</b> command <b>Oof</b> response            | <b>OofMessage</b>                                      | None           | <b>string</b>                         | 1...1 (required) if a <b>ReplyMessage</b> element is present; otherwise, 0...1 (optional) |

The following are the permitted values for the **BodyType** element:

- Text
- HTML

If the **BodyType** element has the value "HTML", all message strings are sent in the **HTML** format. If the **BodyType** element has the value "Text", the message strings are sent in **plain text**. Because there is no default value, the **BodyType** element **MUST** be present (with a non-NULL value) in a **Settings** command **Oof Get** operation request and **MUST** be present (with a non-NULL value) in a **Settings** command **Oof Set** operation request if the **ReplyMessage** element (section 2.2.3.149) has been set, and **MUST** always be present (with a non-NULL value) in a **Settings** command **Oof Get** operation response if the **ReplyMessage** element is returned.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.18 CalendarId

The **CalendarId** element is an optional child element of the **Result** element in **MeetingResponse** command responses that specifies the server ID of the calendar item. The **CalendarId** element value can be up to 64 characters in length.

All elements referenced in this section are defined in the **MeetingResponse** namespace.

| Command request/response  | Parent elements                                      | Child elements | Data type   | Number allowed   |
|---|--|----------------|---|------------------|
| <b>MeetingResponse</b> command response (section <a href="#">2.2.1.11</a> ) | <b>Result</b> (section <a href="#">2.2.3.155.2</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 0...1 (optional) |

The **CalendarId** element is included in the **MeetingResponse** command response that is sent to the client if the meeting request was not declined. If the meeting is accepted or tentatively accepted, the server adds a new item to the calendar, if none is present, and returns the item's server ID in the **CalendarId** element in the response. If the client created a tentative meeting calendar item, the client updates that item with the new server ID. The client also changes the busy status from tentative to busy. When a meeting is accepted, the server also creates a new calendar item with the same server ID. This means there is a conflict that will be resolved the next time the calendar is synchronized.

If the meeting is declined, the response does not contain a **CalendarId** element.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.19 Certificate

The **Certificate** element is used in the following command requests and responses:

- **ResolveRecipients** command responses (section [2.2.1.15](#))
- **ValidateCert** command requests and responses (section [2.2.1.22](#))

The definition of the **Certificate** element differs according to the context in which it is used. For more details, see section [2.2.3.19.1](#) and section [2.2.3.19.2](#).

#### 2.2.3.19.1 Certificate (ResolveRecipients)

The **Certificate** element is an optional child element of the **Certificates** element in **ResolveRecipients** command responses that contains the X509 certificate **binary large object (BLOB)** that is encoded with **base64 encoding**.

All elements referenced in this section are defined in the **ResolveRecipients** namespace.

| Command request/response  | Parent elements   | Child elements | Data type  | Number allowed   |
|---|---|----------------|--|------------------|
| <b>ResolveRecipients</b> command response (section <a href="#">2.2.1.15</a> ) | <b>Certificates</b> (section <a href="#">2.2.3.23.1</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) (encoded with base64 encoding) | 0...N (optional) |

This element is returned by the server only if the client specifies a value of 2 in the **CertificateRetrieval** element (section [2.2.3.22](#)) in the **ResolveRecipients** command request.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.19.2 Certificate (ValidateCert)

The **Certificate** element is a required child element of the **Certificates** element and the **CertificateChain** element in **ValidateCert** command requests that contains the X509 certificate **BLOB** that is encoded with **base64 encoding**. The **Certificate** element is an optional child element of the **ValidateCert** element in **ValidateCert** command responses that contains the status of the certificate validation.

All elements referenced in this section are defined in the **ValidateCert** namespace.

| Command request/response  | Parent elements  | Child elements         | Data type  | Number allowed   |
|---|--|------------------------|--|------------------|
| <b>ValidateCert</b> command request (section <a href="#">2.2.1.22</a> ) | <b>Certificates</b> (section <a href="#">2.2.3.23.2</a> )<br><b>CertificateChain</b> (section <a href="#">2.2.3.20</a> ) | None.                  | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) (encoded with base64 encoding) | 1...N (required) |
| <b>ValidateCert</b> command   | <b>ValidateCert</b>  | <b>Status</b> (section | <b>container</b> ([MS-   | 0...N            |

| Command request/response | Parent elements                      | Child elements                 | Data type             | Number allowed |
|--------------------------|--------------------------------------|--------------------------------|-----------------------|----------------|
| response                 | (section <a href="#">2.2.3.195</a> ) | <a href="#">2.2.3.177.18</a> ) | ASDTYPE] section 2.2) | (optional)     |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.20 CertificateChain

The **CertificateChain** element is an optional child element of the **ValidateCert** element in **ValidateCert** command requests that contains the list of certificates to be validated.

All elements referenced in this section are defined in the **ValidateCert** namespace.

| Command request/response  | Parent elements  | Child elements   | Data type  | Number allowed   |
|---|--|--|--|------------------|
| <b>ValidateCert</b> command request (section <a href="#">2.2.1.22</a> ) | <b>ValidateCert</b> (section <a href="#">2.2.3.195</a> ) | <b>Certificate</b> (section <a href="#">2.2.3.19.2</a> ) | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 0...1 (optional) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.21 CertificateCount

The **CertificateCount** element is an optional child element of the **Certificates** element in **ResolveRecipients** command responses that specifies the number of valid certificates that were found for the recipient.

All elements referenced in this section are defined in the **ResolveRecipients** namespace.

| Command request/response  | Parent elements   | Child elements | Data type  | Number allowed  |
|---|---|----------------|--|---|
| <b>ResolveRecipients</b> command response (section <a href="#">2.2.1.15</a> ) | <b>Certificates</b> (section <a href="#">2.2.3.23.1</a> ) | None           | integer ([ <a href="#">MS-ASDTYPE</a> ] section 2.6) | 0...1 (optional) per <b>Certificates</b> parent element |

If a **Status** element (section [2.2.3.177.12](#)) value of 8 is returned with the **Certificates** element, the **CertificateCount** element specifies the number of recipient certificates that were not returned.

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.22 CertificateRetrieval

The **CertificateRetrieval** element is an optional child element of the **Options** element in **ResolveRecipients** command requests that specifies whether **S/MIME** certificates are returned by the server for each resolved recipient.

All elements referenced in this section are defined in the **ResolveRecipients** namespace.

| Command request/response   | Parent elements                                       | Child elements | Data type                          | Number allowed   |
|--|---|----------------|------------------------------------|------------------|
| <b>ResolveRecipients</b> command request (section <a href="#">2.2.1.15</a> ) | <b>Options</b> (section <a href="#">2.2.3.125.4</a> ) | None           | integer ([MS-ASDTYPE] section 2.6) | 0...1 (optional) |

The following table shows valid values for the **CertificateRetrieval** element.

| Value | Meaning  |
|-------|--|
| 1     | Do not retrieve certificates for the recipient (default).  |
| 2     | Retrieve the full certificate for each resolved recipient. |
| 3     | Retrieve the mini certificate for each resolved recipient. |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.23 Certificates

The **Certificates** element is used in the following command requests and responses:

- **ResolveRecipients** command responses (section [2.2.1.15](#))
- **ValidateCert** command requests (section [2.2.1.22](#))

The definition of the **Certificates** element differs according to the context in which it is used. For more details, see section [2.2.3.23.1](#) and section [2.2.3.23.2](#).

### 2.2.3.23.1 Certificates (ResolveRecipients)

The **Certificates** element is an optional child element of the **Recipient** element in **ResolveRecipients** command responses that contains information about the certificates for a recipient.

All elements referenced in this section are defined in the **ResolveRecipients** namespace.

| Command request/response  | Parent elements                                       | Child elements  | Data type   | Number allowed   |
|---|---|---|---|------------------|
| <b>ResolveRecipients</b> command response (section <a href="#">2.2.1.15</a> ) | <b>Recipient</b> (section <a href="#">2.2.3.145</a> ) | <b>Status</b> (section <a href="#">2.2.3.177.12</a> )<br><b>CertificateCount</b> (section <a href="#">2.2.3.21</a> )<br><b>RecipientCount</b> (section <a href="#">2.2.3.146</a> )<br><b>Certificate</b> (section <a href="#">2.2.3.19</a> )<br><b>MiniCertificate</b> (section <a href="#">2.2.3.112</a> ) | <b>container</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.2) | 0...1 (optional) |

Although multiple **Certificates** elements can be included in a response, only one **Certificates** element is allowed per **Recipient** parent element.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.23.2 Certificates (ValidateCert)

The **Certificates** element is a required child element of the **ValidateCert** element in **ValidateCert** command requests that contains the list of certificates to be validated.

All elements referenced in this section are defined in the **ValidateCert** namespace.

| Command request/response  | Parent elements  | Child elements   | Data type   | Number allowed   |
|---|--|--|---|------------------|
| <b>ValidateCert</b> command request (section <a href="#">2.2.1.22</a> ) | <b>ValidateCert</b> (section <a href="#">2.2.3.195</a> ) | <b>Certificate</b> (section <a href="#">2.2.3.19.2</a> ) | <b>container</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.2) | 1...1 (required) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.24 Change

The **Change** element is an optional child element of the **Commands** element in **Sync** command requests that modifies properties of an existing object on the client device or the server. The **Change** element is an optional child element of the **Commands** element and the **Responses** element in **Sync** command responses that contains properties of an existing object on the client device or the server that were modified. The changed object is identified by its **ServerId** element.

Elements referenced in this section are defined in the **AirSync** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements                                     | Child elements   | Data type   | Number allowed   |
|---|---|--|---|------------------|
| <b>Sync</b> command request (section <a href="#">2.2.1.21</a> ) | <b>Commands</b> (section <a href="#">2.2.3.32</a> ) | <b>ServerId</b> (section <a href="#">2.2.3.166.8</a> )<br><b>ApplicationData</b> (section <a href="#">2.2.3.11</a> )<br><b>airsyncbase:InstanceId</b> ([ <a href="#">MS-ASAIRS</a> ] section 2.2.2.25)<br><b>email2:Send</b> ([ <a href="#">MS-ASEMAIL</a> ] section 2.2.2.69) | <b>container</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.2) | 0...N (optional) |
| <b>Sync</b> command response                                    | <b>Commands</b>                                     | <b>ServerId</b><br><b>ApplicationData</b><br><b>Class</b> (section <a href="#">2.2.3.27.6</a> )  | <b>container</b>  | 0...N (optional) |



| Command request/response     | Parent elements                                       | Child elements   | Data type        | Number allowed   |
|------------------------------|---|--|------------------|------------------|
| <b>Sync</b> command response | <b>Responses</b> (section <a href="#">2.2.3.154</a> ) | <b>ServerId</b><br><b>airsynbase:InstanceId</b><br><b>Class</b><br><b>ApplicationData</b><br><b>Status</b> (section <a href="#">2.2.3.177.17</a> ) | <b>container</b> | 0...N (optional) |

The server is not required to send an individual response for every operation that is sent by the client. The client only receives responses for successful additions, successful fetches, successful changes that include an attachment being added, and failed changes and deletions. When the client does not receive a response, the client **MUST** assume that the operation succeeded unless informed otherwise.

In a **Sync** command request or response, one or more **Change** elements can appear as a child element of the **Commands** element for a particular collection.

Certain in-schema properties remain untouched in the following cases:

- If there is only an **email:Flag** ([MS-ASEMAIL] section 2.2.2.34), **email:Read** ([MS-ASEMAIL] section 2.2.2.58), or **email:Categories** ([MS-ASEMAIL] section 2.2.2.16) change (that is, if only an **email:Flag**, **email:Categories**, or **email:Read** element is present), all other properties will remain unchanged and the client **SHOULD NOT** send the other elements in the request. If all the other elements are sent, extra bandwidth is used, but no errors occur.
- If a **calendar:Exceptions** ([MS-ASCAL] section 2.2.2.22) node is not specified in a client request, the properties for that **calendar:Exceptions** node will remain unchanged. If a **calendar:Exception** ([MS-ASCAL] section 2.2.2.21) node within the **calendar:Exceptions** node is not present in a client request, that particular exception will remain unchanged.
- If the **airsynbase:Body**, **airsynbase:Data**, or **contacts:Picture** elements are not present, the corresponding properties will remain unchanged.
- If an element specifying a calendar property is not present in the client request, the calendar property will remain unchanged on the calendar item. This case does not apply to protocol versions 2.5, 12.0, 12.1, 14.0, and 14.1.
- If a property is not returned in an **ApplicationData** element that is contained in the **Responses** element (section 2.2.3.154) in a server response, it should be considered unchanged. This case does not apply to protocol versions 2.5, 12.0, 12.1, 14.0, and 14.1.

In all other cases, if an in-schema property is not specified in a change request, the property is actively deleted from the item on the server. A client **MUST** be aware of this when it is sending **Sync** requests; otherwise, data can be unintentionally removed.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

When protocol version 16.0 or 16.1 is used and the **Change** element is a child of the **Responses** element, the **ApplicationData** element is supported as a child of the **Change** element.

When protocol version 16.0 or 16.1 is used and the changed object is a calendar item, the object is identified by both the **ServerId** element of the master item as well as the **airsyncbase:InstanceId** element of the specific occurrence.

The **airsyncbase:InstanceId** and **email2:Send** elements are supported as child elements of the **Change** element only when protocol version 16.0 or 16.1 is used.

### 2.2.3.25 Changes

The **Changes** element is an optional child element of the **FolderSync** element in **FolderSync** command responses that contains changes to the folder hierarchy. It is used to update the client with folder additions, deletions, and updates on the server.

All elements referenced in this section are defined in the **FolderHierarchy** namespace.

| Command request/response  | Parent elements                                       | Child elements   | Data type  | Number allowed   |
|---|---|--|--|------------------|
| <b>FolderSync</b> command response (section <a href="#">2.2.1.5</a> ) | <b>FolderSync</b> (section <a href="#">2.2.3.76</a> ) | <b>Count</b> (section <a href="#">2.2.3.37</a> )<br><b>Update</b> (section <a href="#">2.2.3.187</a> )<br><b>Delete</b> (section <a href="#">2.2.3.42.1</a> )<br><b>Add</b> (section <a href="#">2.2.3.7.1</a> ) | <b>container</b> ([ <b>MS-ASDTYPE</b> ] section 2.2) | 0...1 (optional) |

The server SHOULD maintain the same set of folder data being returned across synchronization key 0 (zero), in terms of **ServerId** (section [2.2.3.166.4](#)) and **DisplayName** (section [2.2.3.49.4](#)) mapping. While the server SHOULD maintain this mapping, clients MUST be able to handle having the server return a completely different set of mapped data.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [**MS-ASHTTP**] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [**MS-ASHTTP**] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.26 CheckCRL

The **CheckCRL** element is an optional child element of the **ValidateCert** element in **ValidateCert** command requests that specifies whether the server ignores an unverifiable revocation status.

All elements referenced in this section are defined in the **ValidateCert** namespace.

| Command request/response  | Parent elements  | Child elements | Data type                          | Number allowed   |
|---|--|----------------|------------------------------------|------------------|
| <b>ValidateCert</b> command request (section <a href="#">2.2.1.22</a> ) | <b>ValidateCert</b> (section <a href="#">2.2.3.195</a> ) | None           | integer ([MS-ASDTYPE] section 2.6) | 0...1 (optional) |

The revocation status of a certificate cannot be verified when the **certificate revocation lists (CRLs)** cannot be retrieved.

When the **CheckCRL** element value is set to 1 (**TRUE**), the server MUST NOT ignore an unverifiable revocation status. When the **CheckCRL** element value is set to 0 (**FALSE**), the server SHOULD ignore an unverifiable revocation status. The default value is 0 (zero).

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

## 2.2.3.27 Class

The **Class** element is used in the following command requests and responses:

- **Find** command requests and responses (section [2.2.1.2](#))
- **GetItemEstimate** command requests (section [2.2.1.9](#))
- **ItemOperations** command responses (section [2.2.1.10](#))
- **Ping** command requests (section [2.2.1.13](#))
- **Search** command requests (section [2.2.1.16](#)) and responses
- **Sync** command requests and responses (section [2.2.1.21](#))

The definition of the **Class** element differs according to the context in which it is used. For more details, see section [2.2.3.27.1](#), section [2.2.3.27.2](#), section [2.2.3.27.3](#), section [2.2.3.27.4](#), section [2.2.3.27.5](#) and section [2.2.3.27.6](#).

### 2.2.3.27.1 Class (Find)

The **airsync:Class** element is a required child element of the **Query** element in **Find** command requests and a required child element of the **Result** element in **Find** command responses. In both contexts, it specifies the class of items retrieved by the search.

Elements referenced in this section are defined in the **Find** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response                                       | Parent elements                                      | Child elements | Data type   | Number allowed   |
|--|--|----------------|---|------------------|
| <b>Find</b> command request (section <a href="#">2.2.1.2</a> ) | <b>Query</b> (section <a href="#">2.2.3.142.1</a> )  | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 1...1 (required) |
| <b>Find</b> command response                                   | <b>Result</b> (section <a href="#">2.2.3.155.1</a> ) | None           | <b>string</b>   | 1...1 (required) |

In **Find** command requests, the only supported value for the **airsync:Class** element is "Email".

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |

| Protocol version | Element support |
|------------------|-----------------|
| 16.1             | Yes             |

### 2.2.3.27.2 Class (GetItemEstimate)

The **airsync:Class** element is an optional child element of the **airsync:Options** element in **GetItemEstimate** command requests. The **getitemestimate:Class** element is an optional child element of the **Collection** element in **GetItemEstimate** command requests. The namespace and parent element of the **Class** element depend on the protocol version being used. See the details about protocol versions at the end of this section.

As a child of the **Collection** element, the **getitemestimate:Class** element specifies the type of a collection. As a child of the **airsync:Options** element, the **airsync:Class** element assigns the filters within the **airsync:Options** container to a given class.

Elements referenced in this section are defined in the **GetItemEstimate** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements  | Child elements | Data type  | Number allowed   |
|---|--|----------------|--|------------------|
| <b>GetItemEstimate</b> command request (section <a href="#">2.2.1.9</a> ) | <b>Collection</b> (section <a href="#">2.2.3.29.1</a> )<br><b>airsync:Options</b> (section <a href="#">2.2.3.125.2</a> ) | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 0...1 (optional) |

Options for the same class within the same collection MUST NOT be redefined. The **airsync:Class** element is not necessary for the default items contained within the collection (contacts in a Contacts folder for example).

For example, to sync **SMS** messages, include an **airsync:Options** node with class "SMS". To also sync email messages at the same time, include another **airsync:Options** node with class "Email". Only SMS messages and email messages can be synchronized at the same time; a request for any other combination of classes will fail with a status value of 4.

The valid **airsync:Class** element values are:

- Tasks
- Email
- Calendar
- Contacts
- SMS
- Notes

The valid **getitemestimate:Class** element values are:

- Tasks
- Email
- Calendar

- Contacts

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support, child of Collection | Element support, child of airsynchron:Options |
|------------------|--------------------------------------|---|
| 2.5              | Yes                                  |   |
| 12.0             | Yes                                  |   |
| 12.1             | Yes                                  |   |
| 14.0             |                                      | Yes   |
| 14.1             |                                      | Yes   |
| 16.0             |                                      | Yes   |
| 16.1             |                                      | Yes   |

The namespace and parent element of this element depend on the protocol version being used. For protocol versions 2.5, 12.0, and 12.1, the namespace is **GetItemEstimate** and the parent element is the **Collection** element. For protocol versions 14.0, 14.1, 16.0, and 16.1, the namespace is **AirSync** and the parent element is the **airsynchron:Options** element.

### 2.2.3.27.3 Class (ItemOperations)

The **airsynchron:Class** element is an optional child element of the **Fetch** element in **ItemOperations** command responses that indicates the class of the content of the fetched item. This element is defined in the **AirSync** namespace.

Elements referenced in this section are defined in the **ItemOperations** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section 2.2.4).

| Command request/response  | Parent elements                   | Child elements | Data type                                | Number allowed   |
|---|-----------------------------------|----------------|--|------------------|
| <b>ItemOperations</b> command response (section 2.2.1.10) fetch operation | <b>Fetch</b> (section 2.2.3.67.1) | None           | <b>string</b> ([MS-ASDTYPE] section 2.7) | 0...1 (optional) |

The valid **airsynchron:Class** element values are as follows for the latest protocol version. Details about the protocol versions are provided at the end of this section.

- Email
- Contacts
- Calendar
- Tasks
- SMS

- Notes

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

The "SMS" and "Notes" values are valid only when the protocol version being used is 14.0, 14.1, or 16.0. The values "Tasks", "Email", "Calendar", and "Contacts" are valid for protocol versions 12.0, 12.1, 14.0, 14.1, 16.0 and 16.1.

### 2.2.3.27.4 Class (Ping)

The **Class** element is a required child element of the **Folder** element in **Ping** command requests that specifies the content class of the folder to be monitored.

All elements referenced in this section are defined in the **Ping** namespace.

| Command request/response  | Parent elements                                     | Child elements | Data type   | Number allowed   |
|---|---|----------------|---|------------------|
| <b>Ping</b> command request (section <a href="#">2.2.1.13</a> ) | <b>Folder</b> (section <a href="#">2.2.3.71.2</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 1...1 (required) |

The valid **Class** element values are as follows for the latest protocol version. Details about the protocol versions are provided at the end of this section.

- Email
- Calendar
- Contacts
- Tasks
- Notes

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

When the protocol version being used is 2.5, 12.0, or 12.1, the value "Notes" is not valid. The values "Email", "Calendar", "Contacts", and "Tasks" are valid for all protocol versions.

### 2.2.3.27.5 Class (Search)

The **airsync:Class** element is an optional child element of the **And** element and the **Schema** element in **Search** command requests and an optional child element of the **Result** element in **Search** command responses. In all contexts, it specifies the classes that the client wants returned for a given collection.

Elements referenced in this section are defined in the **Search** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements   | Child elements | Data type  | Number allowed   |
|---|---|----------------|--|------------------|
| <b>Search</b> command request (section <a href="#">2.2.1.16</a> ) | <b>And</b> (section <a href="#">2.2.3.10</a> )<br><b>Schema</b> | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 0...N (optional) |
| <b>Search</b> command response                                    | <b>Result</b> (section <a href="#">2.2.3.155.3</a> )            | None           | <b>string</b>  | 0...1 (optional) |

The valid **airsync:Class** element values are as follows for the latest protocol version. Details about the protocol versions are provided at the end of this section.

- Tasks
- Email
- Calendar
- Contacts
- Notes
- SMS

The **Search** request can include one or more **airsync:Class** elements in the request to limit the type of data included in the **Search** response. If one or more **airsync:Class** elements are not included in the **Search** request, the server will return all supported classes.

If the **airsync:Class** element is included as a child of any element other than the **And** element in the request, the server responds with a **Status** element (section [2.2.3.177.13](#)) value of 8 (SearchTooComplex).



## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

The "SMS" and "Notes" values are valid only when the protocol version being used is 14.0, 14.1, 16.0, or 16.1. The values "Tasks", "Email", "Calendar", and "Contacts" are valid for protocol versions 12.0, 12.1, 14.0, 14.1, 16.0, and 16.1.

### 2.2.3.27.6 Class (Sync)

The **Class** element is an optional child element of the **Collection** element, the **Add** element, or the **Options** element in **Sync** command requests. The **Class** element is an optional child element of the **Collection** element, the **Delete** element, the **Change** element, or the **Add** element in **Sync** command responses. The parent element of the **Class** element in command requests and command responses depends on the protocol version being used. See the details about protocol versions at the end of this section.

All elements referenced in this section are defined in the **AirSync** namespace.

| Command request/response  | Parent elements  | Child elements | Data type   | Number allowed   |
|---|--|----------------|---|------------------|
| <b>Sync</b> command request (section <a href="#">2.2.1.21</a> ) | <b>Collection</b> (section <a href="#">2.2.3.29.2</a> )<br><b>Add</b> (section <a href="#">2.2.3.7.2</a> )<br><b>Options</b> (section <a href="#">2.2.3.125.6</a> )  | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 0...1 (optional) |
| <b>Sync</b> command response                                    | <b>Collection</b> (section <a href="#">2.2.3.29.2</a> )<br><b>Delete</b> (section <a href="#">2.2.3.42.2</a> )<br><b>Change</b> (section <a href="#">2.2.3.24</a> )<br><b>Add</b> (section <a href="#">2.2.3.7.2</a> ) | None           | <b>string</b>   | 0...1 (optional) |

As a child of the **Collection** element in the **Sync** command request or response, the **Class** element identifies the class of the item being added to the collection, deleted from the collection, or changed in the collection.

As a child element of the **Add** element in the **Sync** command request, the **Class** element identifies the class of the item being added to the collection.

As a child element of the **Options** element in the **Sync** command request, the **Class** element assigns the filters within the **Options** container to a given class. Options for the same **Class** within the same **Collection** (section 2.2.3.29.2) MUST NOT be redefined. A **Status** element (section [2.2.3.177.17](#)) value of 4 is returned if options for the same **Class** within the same **Collection** are redefined. The **Class** element is not necessary for the default items contained within the collection (contacts in a contacts folder for example). For example, to sync **SMS** messages, include an **Options** node with class "SMS". To also sync email messages at the same time, include another **Options** node with class "Email". Only SMS messages and email messages can be synchronized at the same time; a request for any other combination of classes will fail with a status value of 4. The result of including more than one **Class** element as child elements of the **Options** element is undefined. The server MAY return a protocol status error in response to such a command request.

As a child element of the **Delete** element in the **Sync** command response, the **Class** element identifies the class of the item being deleted from the collection.

As a child element of the **Change** element in the **Sync** command response, the **Class** element identifies the class of the item being changed in the collection.

As a child element of the **Add** element in the **Sync** command response, the **Class** element identifies the class of the item being added to the collection. The **Class** element is not included in **Sync Add** responses when the class of the collection matches the item class. For example, a **Sync** command response for an email added to the **Inbox folder** would not include a **Class** element value of "Email" as the Inbox contains email class content by default. However, a **Sync** command response for an SMS message added to the Inbox does include the **Class** value as SMS items are not the default class type of the Inbox.

In all contexts of a **Sync** command request or **Sync** command response, the valid **Class** element values are as follows for the latest protocol version. Details about the protocol versions are provided at the end of this section.

- Tasks
- Email
- Calendar
- Contacts
- SMS
- Notes

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support, child of Collection | Element support, child of Add, Options, Delete, Change |
|------------------|--------------------------------------|--|
| 2.5              | Yes                                  |  |

| Protocol version | Element support, child of Collection | Element support, child of Add, Options, Delete, Change |
|------------------|--------------------------------------|--|
| 12.0             | Yes                                  |  |
| 12.1             | Yes                                  |  |
| 14.0             |                                      | Yes  |
| 14.1             |                                      | Yes  |
| 16.0             |                                      | Yes  |
| 16.1             |                                      | Yes  |

The parent element of this element depends on the protocol version being used. For protocol versions 2.5, 12.0, and 12.1, the parent element is the **Collection** element in both a command request and a command response. For protocol versions 14.0, 14.1, 16.0, and 16.1, the parent element is the **Add** element or the **Options** element in a command request; it is the **Add** element, the **Delete** element, or the **Change** element in a command response.

The "SMS" and "Notes" values are valid only when the protocol version being used is 14.0, 14.1, 16.0, or 16.1. The values "Tasks", "Email", "Calendar", and "Contacts" are valid for all protocol versions.

The **Class** element is not present in the **Sync** response for an SMS deletion when protocol version 14.0 is used.

### 2.2.3.28 ClientId

The **ClientId** element is used in the following command requests and responses:

- **SendMail** command requests (section [2.2.1.17](#))
- **SmartForward** command requests (section [2.2.1.19](#))
- **SmartReply** command requests (section [2.2.1.20](#))
- **Sync** command requests and responses (section [2.2.1.21](#))

The definition of the **ClientId** element differs according to the context in which it is used. For more details, see section [2.2.3.28.1](#) and section [2.2.3.28.2](#).

#### 2.2.3.28.1 ClientId (SendMail, SmartForward, and SmartReply)

The **ClientId** element is a required child element of the **SendMail** element in **SendMail** command requests, a required child element of the **SmartForward** element in **SmartForward** command requests, and a required child element of the **SmartReply** element in **SmartReply** command requests. In all contexts, it specifies the client's unique message ID (MID).

All elements referenced in this section are defined in the **ComposeMail** namespace.

| Command request/response  | Parent elements                                      | Child elements | Data type   | Number allowed   |
|---|--|----------------|---|------------------|
| <b>SendMail</b> command request (section <a href="#">2.2.1.17</a> ) | <b>SendMail</b> (section <a href="#">2.2.3.162</a> ) | None           | <b>string</b> ([ <a href="#">IMS-ASDTYPE</a> ] section 2.7) | 1...1 (required) |

| Command request/response  | Parent elements  | Child elements | Data type     | Number allowed   |
|---|--|----------------|---------------|------------------|
| <b>SmartForward</b> command request (section <a href="#">2.2.1.19</a> ) | <b>SmartForward</b> (section <a href="#">2.2.3.169</a> ) | None           | <b>string</b> | 1...1 (required) |
| <b>SmartReply</b> command request (section <a href="#">2.2.1.20</a> )   | <b>SmartReply</b> (section <a href="#">2.2.3.170</a> )   | None           | <b>string</b> | 1...1 (required) |

The **ClientId** element value can be up to 40 characters in length and MUST be unique for each message, as the server will use the **ClientId** element value to identify duplicate messages. The **ClientId** element value can be a simple counter incremented for each new message.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support, SendMail | Element support, SmartForward | Element support, SmartReply |
|------------------|---------------------------|-------------------------------|-----------------------------|
| 2.5              |                           |                               |                             |
| 12.0             |                           |                               |                             |
| 12.1             |                           |                               |                             |
| 14.0             | Yes                       | Yes                           | Yes                         |
| 14.1             | Yes                       | Yes                           | Yes                         |
| 16.0             | Yes                       | Yes                           | Yes                         |
| 16.1             | Yes                       | Yes                           | Yes                         |

### 2.2.3.28.2 ClientId (Sync)

The **ClientId** element is a required child element of the **Add** element in **Sync** command requests and responses that contains a unique identifier (typically an integer) that is generated by the client to temporarily identify a new object that is being created by using the **Add** element. The client includes the **ClientId** element in the **Add** element request that it sends to the server. The server response contains an **Add** element that contains the original client ID and a new server ID that was assigned for the object, which replaces the client ID as the permanent object identifier.

All elements referenced in this section are defined in the **AirSync** namespace.

| Command request/response  | Parent elements                                 | Child elements | Data type   | Number allowed   |
|---|---|----------------|---|------------------|
| <b>Sync</b> command request (section <a href="#">2.2.1.21</a> ) | <b>Add</b> (section <a href="#">2.2.3.7.2</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 1...1 (required) |
| <b>Sync</b> command response                                    | <b>Add</b> (section <a href="#">2.2.3.7.2</a> ) | None           | <b>string</b>   | 1...1 (required) |

The **ClientId** element is a unique identifier that consists of up to 64 digits and letters. The client generates this ID. The value only has to be unique for the device during the duration of the Sync request that adds the object to the server. The client stores the client IDs until the synchronization session is completed successfully, to make recovery easier if the synchronization process fails.

An easy way to implement the client ID is to use a counter that is incremented for each new object that is created on the client.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.29 Collection

The **Collection** element is used in the following command requests and responses:

- **GetItemEstimate** command requests and responses (section [2.2.1.9](#))
- **Sync** command requests and responses (section [2.2.1.21](#))

The definition of the **Collection** element differs according to the context in which it is used. For more details, see section [2.2.3.29.1](#) and section [2.2.3.29.2](#).

#### 2.2.3.29.1 Collection (GetItemEstimate)

The **Collection** element is a required child element of the **Collections** element in **GetItemEstimate** command requests and an optional child element of the **Response** element in **GetItemEstimate** command responses. In both contexts, it contains elements that apply to a particular collection. A maximum of 300 **Collection** elements can be included in a single **Collections** element.

Elements referenced in this section are defined in the **GetItemEstimate** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements  | Child elements  | Data type                                   | Number allowed     |
|---|--|---|---|--------------------|
| <b>GetItemEstimate</b> command request (section <a href="#">2.2.1.9</a> ) | <b>Collections</b> (section <a href="#">2.2.3.31.1</a> ) | <b>Class</b> (section <a href="#">2.2.3.27.2</a> )<br><b>airsync:SyncKey</b> (section <a href="#">2.2.3.181.3</a> ) | <b>container</b> ([MS-ASDTYPE] section 2.2) | 1...300 (required) |

| Command request/response                   | Parent elements   | Child elements   | Data type        | Number allowed      |
|--|---|--|------------------|---------------------|
|  |   | <b>CollectionId</b> (section <a href="#">2.2.3.30.2</a> )<br><b>airsync:FilterType</b> (section <a href="#">2.2.3.68.1</a> )<br><b>airsync:ConversationMode</b> (section <a href="#">2.2.3.36.1</a> )<br><b>airsync:Options</b> (section <a href="#">2.2.3.125.2</a> ) |                  |                     |
| <b>GetItemEstimate</b><br>command response | <b>Response</b><br>(section <a href="#">2.2.3.153.3</a> ) | <b>Class</b> (section 2.2.3.27.2)<br><b>CollectionId</b> (section 2.2.3.30.2)<br><b>Estimate</b> (section <a href="#">2.2.3.65</a> )   | <b>container</b> | 0...1<br>(optional) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

The **Class** element and the **airsync:FilterType** element are supported child elements of the **Collection** element only when protocol version 2.5, 12.0, or 12.1 is used.

### 2.2.3.29.2 Collection (Sync)

The **Collection** element is a required child element of the **Collections** element in **Sync** command requests, and an optional child element in **Sync** command responses. In both contexts, it contains commands and options that apply to a particular collection.

All elements referenced in this section are defined in the **AirSync** namespace.

| Command request/response   | Parent elements   | Child elements  | Data type  | Number allowed      |
|--|---|---|--|---------------------|
| <b>Sync</b> command request<br>(section <a href="#">2.2.1.21</a> ) | <b>Collections</b><br>(section <a href="#">2.2.3.31.2</a> ) | <b>Class</b> (section <a href="#">2.2.3.27.6</a> )<br><b>SyncKey</b> (section <a href="#">2.2.3.181.4</a> ) | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 1...N<br>(required) |

| Command request/response     | Parent elements    | Child elements  | Data type        | Number allowed   |
|------------------------------|--------------------|---|------------------|------------------|
|                              |                    | <b>Supported</b> (section <a href="#">2.2.3.179</a> )<br><b>CollectionId</b> (section <a href="#">2.2.3.30.6</a> )<br><b>DeletesAsMoves</b> (section <a href="#">2.2.3.43</a> )<br><b>GetChanges</b> (section <a href="#">2.2.3.84</a> )<br><b>WindowSize</b> (section <a href="#">2.2.3.199</a> )<br><b>Options</b> (section <a href="#">2.2.3.125.6</a> )<br><b>ConversationMode</b> (section <a href="#">2.2.3.36.2</a> )<br><b>Commands</b> (section <a href="#">2.2.3.32</a> ) |                  |                  |
| <b>Sync</b> command response | <b>Collections</b> | <b>Class</b><br><b>SyncKey</b><br><b>CollectionId</b><br><b>Status</b> (section <a href="#">2.2.3.177.17</a> )<br><b>MoreAvailable</b> (section <a href="#">2.2.3.116</a> )<br><b>Commands</b><br><b>Responses</b> (section <a href="#">2.2.3.154</a> )   | <b>container</b> | 0...N (optional) |

The **Collection** element contains identification information (**CollectionId**), synchronization state (**SyncKey**), commands (**GetChanges**, **Commands**), and options (**WindowSize**, **Options**, **DeletesAsMoves**, **MoreAvailable**).

There is a strict ordering of the XML elements within a **Collection** node in a **Sync** command request. The order is as follows:

1. **SyncKey**
2. **CollectionId**
3. **Supported**
4. **DeletesAsMoves**
5. **GetChanges**
6. **WindowSize**
7. **ConversationMode**
8. **Options**
9. **Commands**

A single **Collections** element can contain multiple **Collection** elements. Therefore, each **Collection** does not require its own **Sync** command. That is, a **Sync** command request can specify multiple collections to be synchronized.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

Only one collection can be specified when protocol version 2.5 or 12.0 is used.

The **Class** element is a supported child element of the **Collection** element only when protocol version 2.5, 12.0, or 12.1 is used.

### 2.2.3.30 CollectionId

The **CollectionId** element is used in the following command requests and responses:

- **Find** command requests and responses (section [2.2.1.2](#))
- **GetItemEstimate** command requests and responses (section [2.2.1.9](#))
- **ItemOperations** command requests and responses (section [2.2.1.10](#))
- **MeetingResponse** command requests (section [2.2.1.11](#))
- **Search** command requests and responses (section [2.2.1.16](#))
- **Sync** command requests and responses (section [2.2.1.21](#)).

The definition of the **CollectionId** element differs according to the context in which it is used. For more details, see section [2.2.3.30.1](#), section [2.2.3.30.2](#), section [2.2.3.30.3](#), section [2.2.3.30.4](#), section [2.2.3.30.5](#), and section [2.2.3.30.6](#).

#### 2.2.3.30.1 CollectionId (Find)

The **airsync:CollectionId** element is an optional child element of the **Query** element in **Find** command requests that specifies the folder in which to search. The **airsync:CollectionId** element is a required child element of the **Result** element in **Find** command responses that specifies the folder in which the item was found.

Elements referenced in this section are defined in the **Find** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).



| Command request/response                                       | Parent elements                                      | Child elements | Data type  | Number allowed   |
|--|--|----------------|--|------------------|
| <b>Find</b> command request (section <a href="#">2.2.1.2</a> ) | <b>Query</b> (section <a href="#">2.2.3.142.1</a> )  | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 0...1 (optional) |
| <b>Find</b> command response                                   | <b>Result</b> (section <a href="#">2.2.3.155.1</a> ) | None           | <b>string</b>  | 1...1 (required) |

If no **airsync:CollectionId** element is present, the Find command request will apply to all folders returned in **FolderSync** and conduct a global search.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.30.2 CollectionId (GetItemEstimate)

The **CollectionId** element is a required child element of the **Collection** element in **GetItemEstimate** command requests and responses that specifies the server ID of the collection from which the item estimate is being obtained.

Elements referenced in this section are defined in the **GetItemEstimate** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements   | Child elements | Data type  | Number allowed   |
|---|---|----------------|--|------------------|
| <b>GetItemEstimate</b> command request (section <a href="#">2.2.1.9</a> ) | <b>Collection</b> (section <a href="#">2.2.3.29.1</a> ) | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 1...1 (required) |
| <b>GetItemEstimate</b> command response                                   | <b>Collection</b>                                       | None           | <b>string</b>  | 1...1 (required) |

The **CollectionId** element value can be up to 64 characters in length. The **CollectionId** element value sent in the **GetItemEstimate** command request corresponds to the Server ID value assigned to the folder containing the item to retrieve. The collection ID is obtained from the **folderhierarchy:ServerId** element (section [2.2.3.166](#)) of a previous **FolderSync** command

response (section [2.2.1.5](#)) or **FolderCreate** command response (section [2.2.1.3](#)). (The client SHOULD store **folderhierarchy:ServerId** values as they are returned by the server in **FolderSync** and **FolderCreate** command responses.)

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.30.3 CollectionId (ItemOperations)

The **airsync:CollectionId** element is a child element of the **EmptyFolderContents** element and the **Fetch** element in **ItemOperations** command requests that enables a client to specify the folder to be emptied or the item to be fetched. The **airsync:CollectionId** element is a child element of the **EmptyFolderContents** element and the **Fetch** element in **ItemOperations** command responses that identifies the folder that was emptied or the folder that was fetched.

Elements referenced in this section are defined in the **ItemOperations** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements  | Child elements | Data type   | Number allowed  |
|---|--|----------------|---|---|
| <b>ItemOperations</b> command request (section <a href="#">2.2.1.10</a> ) | <b>EmptyFolderContents</b> (section <a href="#">2.2.3.58</a> )<br><b>Fetch</b> (section <a href="#">2.2.3.67.1</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 1...1 (required in <b>EmptyFolderContents</b> operation)<br>0...1 (optional in fetch operation) |
| <b>ItemOperations</b> command response                                    | <b>EmptyFolderContents</b><br><b>Fetch</b>   | None           | <b>string</b>   | 1...1 (required in <b>EmptyFolderContents</b> operation)<br>0...1 (optional in fetch operation) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.30.4 CollectionId (MeetingResponse)

The **CollectionId** element is a child element of the **Request** element in **MeetingResponse** command requests that specifies the folder that contains the meeting request.

Elements referenced in this section are defined in the **MeetingResponse** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response   | Parent elements                                       | Child elements | Data type  | Number allowed  |
|--|---|----------------|--|---|
| <b>MeetingResponse</b> command request (section <a href="#">2.2.1.11</a> ) | <b>Request</b> (section <a href="#">2.2.3.150.2</a> ) | None           | string ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 0...1 (Required, or optional if <b>search:LongId</b> (section <a href="#">2.2.3.98.2</a> ) is included) |

Because meeting requests are most commonly sent to the **Inbox folder**, the **CollectionId** element value that specifies the Inbox folder is the most common value for this element.

The **CollectionId** element value can be up to 64 characters in length and is obtained from the **folderhierarchy:ServerId** element (section [2.2.3.166](#)) of a previous **FolderSync** command response (section [2.2.1.5](#)) or **FolderCreate** command response (section [2.2.1.3](#)).

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.30.5 CollectionId (Search)

The **airsync:CollectionId** element is an optional child element of the **And** element in **Search** command requests that specifies the folder in which to search. The **airsync:CollectionId** element is an optional child element of the **Result** element in **Search** command responses that specifies the folder in which the item was found.

Elements referenced in this section are defined in the **Search** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements                                      | Child elements | Data type  | Number allowed   |
|---|--|----------------|--|------------------|
| <b>Search</b> command request (section <a href="#">2.2.1.16</a> ) | <b>And</b> (section <a href="#">2.2.3.10</a> )       | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 0...N (optional) |
| <b>Search</b> command response                                    | <b>Result</b> (section <a href="#">2.2.3.155.3</a> ) | None           | <b>string</b>  | 0...N (optional) |

In a **Search** command request, multiple folders can be specified by including multiple **airsync:CollectionId** elements. If the **DeepTraversal** element (section [2.2.3.41.2](#)) is present, it applies to all folders under each **airsync:CollectionId** element. If the **airsync:CollectionId** element is included as a child of any element other than **And**, the server responds with a **Status** element (section [2.2.3.177.13](#)) value of 8 (SearchTooComplex).

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.30.6 CollectionId (Sync)

The **CollectionId** element is a required child element of the **Collection** element in **Sync** command requests and responses that specifies the server ID of the folder to be synchronized.

Elements referenced in this section are defined in the **AirSync** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements   | Child elements | Data type   | Number allowed   |
|---|---|----------------|---|------------------|
| <b>Sync</b> command request (section <a href="#">2.2.1.21</a> ) | <b>Collection</b> (section <a href="#">2.2.3.29.2</a> ) | None           | <b>string</b> ([ <b>MS-ASDTYPE</b> ] section 2.7) | 1...1 (required) |
| <b>Sync</b> command response                                    | <b>Collection</b> (section <a href="#">2.2.3.29.2</a> ) | None           | <b>string</b>                                     | 1...1 (required) |

The server ID of the folder is obtained from the **folderhierarchy:ServerId** element (section [2.2.3.166](#)) of a previous **FolderSync** command response (section [2.2.1.5](#)) or **FolderCreate** command response (section [2.2.1.3](#)). The **CollectionId** element value can be up to 64 characters in length.

The **CollectionId** value "RI" specifies the recipient information cache, which contains a list of contacts that the user has interacted with most often in the near term, and with whom the user is likely to interact again. The recipient information cache is a **special folder** (similar to the **Inbox folder**), which limits the operations that can be performed on it.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [**MS-ASHTTP**] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [**MS-ASHTTP**] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.31 Collections

The **Collections** element is used in the following command requests and responses:

- **GetItemEstimate** command requests (section [2.2.1.9](#))
- **Sync** command requests and responses (section [2.2.1.21](#))

The definition of the **Collections** element differs according to the context in which it is used. For more details, see section [2.2.3.31.1](#) and section [2.2.3.31.2](#).

### 2.2.3.31.1 Collections (GetItemEstimate)

The **Collections** element is a required child element of the **GetItemEstimate** element in **GetItemEstimate** command requests that serves as a container for one to 300 **Collection** elements.

All elements referenced in this section are defined in the **GetItemEstimate** namespace.

| Command request/response  | Parent elements  | Child elements  | Data type   | Number allowed   |
|---|--|---|---|------------------|
| <b>GetItemEstimate</b> command request (section <a href="#">2.2.1.9</a> ) | <b>GetItemEstimate</b> (section <a href="#">2.2.3.85</a> ) | <b>Collection</b> (section <a href="#">2.2.3.29.1</a> ) | <b>container</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.2) | 1...1 (required) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.31.2 Collections (Sync)

The **Collections** element is an optional child element of the **Sync** element in **Sync** command requests and responses that serves as a container for the **Collection** element.

All elements referenced in this section are defined in the **AirSync** namespace.

| Command request/response  | Parent elements                                  | Child elements  | Data type   | Number allowed   |
|---|--|---|---|------------------|
| <b>Sync</b> command request (section <a href="#">2.2.1.21</a> ) | <b>Sync</b> (section <a href="#">2.2.3.180</a> ) | <b>Collection</b> (section <a href="#">2.2.3.29.2</a> ) | <b>container</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.2) | 0...1 (optional) |
| <b>Sync</b> command response                                    | <b>Sync</b>                                      | <b>Collection</b>                                       | <b>container</b>  | 0...1 (optional) |

The **Collections** element is optional. If the **Collections** element is present, it can contain multiple **Collection** elements.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

## 2.2.3.32 Commands

The **Commands** element is an optional child element of the **Collection** element in **Sync** command requests and responses that contains operations that apply to a collection. Available operations are add, delete, change, fetch, and soft delete. Client operations are sent in the **POST** request; server commands are sent in the **POST** response.

This element is optional. If it is present, it MUST include at least one operation. It is a child of the **Collection** element.

All elements referenced in this section are defined in the **AirSync** namespace.

| Command request/response   | Parent elements  | Child elements  | Data type                                   | Number allowed      |
|--|--|---|---|---------------------|
| <b>Sync</b> command request<br>(section <a href="#">2.2.1.21</a> ) | <b>Collection</b><br>(section <a href="#">2.2.3.29.2</a> ) | <b>Add</b> (section <a href="#">2.2.3.7.2</a> )<br><b>Delete</b> (section <a href="#">2.2.3.42.2</a> )<br><b>Change</b> (section <a href="#">2.2.3.24</a> )<br><b>Fetch</b> (section <a href="#">2.2.3.67.2</a> ) | <b>container</b> ([MS-ASDTYPE] section 2.2) | 0...1<br>(optional) |
| <b>Sync</b> command response                                       | <b>Collection</b>  | <b>Add</b><br><b>Delete</b><br><b>Change</b><br><b>SoftDelete</b><br>(section <a href="#">2.2.3.172</a> )   | <b>container</b>                            | 0...1<br>(optional) |

The result of including no child elements for the **Commands** element is undefined. The server MAY return a protocol status error in response to such a command request. See section [3.1.5.4](#) for information regarding the number of child elements contained in a **Commands** element.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.33 Company

The **Company** element is used in the following command responses:

- **Find** command responses (section [2.2.1.2](#))
- **Search** command responses (section [2.2.1.16](#))

The definition of the **Company** element differs according to the context in which it is used. For more details, see section [2.2.3.33.1](#) and section [2.2.3.33.2](#).

#### 2.2.3.33.1 Company (Find)

The **Company** element in the **GAL** namespace is an optional child element of the **find:Properties** element in **Find** command responses. The **Company** element is only present in response to **Find** command requests that contain the **GALSearchCriterion** element as specified in section [2.2.3.82](#). It contains the company of a recipient in the **GAL** that matched the search criteria from the corresponding **Find** command request.

| Command request/response  | Parent elements  | Child elements | Data type   | Number allowed   |
|---|--|----------------|---|------------------|
| <b>Find</b> command response (section <a href="#">2.2.1.2</a> ) | <b>Properties</b> (section <a href="#">2.2.3.139.1</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 0...1 (optional) |

## Protocol Versions



The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.33.2 Company (Search)

The **Company** element in the **GAL** namespace is an optional child element of the **search:Properties** element in **Search** command responses. The **Company** element is only present in response to **Search** command requests that contain a **search:Name** element with a value of "GAL", as specified in section [2.2.3.120.2](#). It contains the company of a recipient in the **GAL** that matched the search criteria from the corresponding **Search** command request.

| Command request/response   | Parent elements  | Child elements | Data type   | Number allowed   |
|--|--|----------------|---|------------------|
| <b>Search</b> command response (section <a href="#">2.2.1.16</a> ) | <b>Properties</b> (section <a href="#">2.2.3.139.3</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 0...1 (optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 16.1             | Yes             |

### 2.2.3.34 Conflict

The **Conflict** element is an optional child element of the **Options** element in **Sync** command requests that specifies how to resolve the conflict that occurs when an object has been changed on both the client and the server. The value specifies which object—the client object or the server object—to keep if there is a conflict.

All elements referenced in this section are defined in the **AirSync** namespace.

| Command request/response  | Parent elements                                       | Child elements | Data type  | Number allowed   |
|---|---|----------------|--|------------------|
| <b>Sync</b> command request (section <a href="#">2.2.1.21</a> ) | <b>Options</b> (section <a href="#">2.2.3.125.6</a> ) | None           | <b>unsignedByte</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.8) | 0...1 (optional) |

The following table lists valid values for the element.

| Value | Meaning                               |
|-------|---------------------------------------|
| 0     | Client object replaces server object. |
| 1     | Server object replaces client object. |

If the **Conflict** element is not present, the server object will replace the client object when a conflict occurs.

A value of 0 (zero) means to keep the client object; a value of 1 means to keep the server object. If the value is 1 and there is a conflict, a **Status** element (section [2.2.3.177.17](#)) value of 7 is returned to inform the client that the object that the client sent to the server was discarded.

The **Conflict** element applies to the entire collection; therefore, it is not possible to apply the **Conflict** element value to individual items within the collection.

The **Conflict** element is a child of the **Options** element, and therefore the **Conflict** element appears only in requests to the server from the client.

The result of including more than one **Conflict** element as the child of an **Options** element is undefined. The server MAY return a protocol status error in response to such a command request.

If a **Delete** element (section [2.2.3.42.2](#)) conflicts with an **Add** (section [2.2.3.7.2](#)) or **Change** element (section [2.2.3.24](#)), the **Delete** element takes precedence.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.35 ConversationId

The **ConversationId** element is used in the following command requests and responses:

- **ItemOperations** command requests and responses (section [2.2.1.10](#))
- **Search** command requests (section [2.2.1.16](#))

The definition of the **ConversationId** element differs according to the context in which it is used. For more details, see section [2.2.3.35.1](#) and section [2.2.3.35.2](#).

#### 2.2.3.35.1 ConversationId (ItemOperations)

The **ConversationId** element is a required child element of the **Move** element in **ItemOperations** command requests and responses that specifies the conversation to be moved.

All elements referenced in this section are defined in the **ItemOperations** namespace.

| Command request/response  | Parent elements                                    | Child elements | Data type   | Number allowed   |
|---|--|----------------|---|------------------|
| <b>ItemOperations</b> command request (section <a href="#">2.2.1.10</a> ) <b>Move</b> operation | <b>Move</b> (section <a href="#">2.2.3.117.1</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 1...1 (required) |
| <b>ItemOperations</b> command response <b>Move</b> operation                                    | <b>Move</b>  | None           | <b>string</b>   | 1...1 (required) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |

| Protocol version | Element support |
|------------------|-----------------|
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.35.2 ConversationId (Search)

The **ConversationId** element is an optional child element of the **And** element in **Search** command requests that specifies the conversation for which to search. The value is a **GUID**. For details, see [\[MS-ASCON\]](#).

All elements referenced in this section are defined in the **Search** namespace.

| Command request/response  | Parent elements                                | Child elements | Data type   | Number allowed   |
|---|--|----------------|---|------------------|
| <b>Search</b> command request (section <a href="#">2.2.1.16</a> ) | <b>And</b> (section <a href="#">2.2.3.10</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 0...1 (optional) |

If the **ConversationId** element is included as a child of any element other than the **And** element, the server responds with a **Status** element (section [2.2.3.177.13](#)) value of 8 (SearchTooComplex).

The result of including more than one **ConversationId** element in a **Search** command request is undefined. The server SHOULD return a protocol status error in response to such a command request.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.36 ConversationMode

The **ConversationMode** element is used in the following command requests:

- **GetItemEstimate** command requests (section [2.2.1.9](#))
- **Sync** command requests (section [2.2.1.21](#))

The definition of the **ConversationId** element differs according to the context in which it is used. For more details, see section [2.2.3.36.1](#) and section [2.2.3.36.2](#).

### 2.2.3.36.1 ConversationMode (GetItemEstimate)

The **airsync:ConversationMode** element is an optional child element of the **Collection** element in **GetItemEstimate** command requests that specifies whether to include items that are included within the **conversation** modality within the results of the **GetItemEstimate** command response (section [2.2.1.9](#)). A single conversation MAY span multiple collections and therefore **airsync:ConversationMode** is a child of the **Collection** element, rather than the **airsync:Options** element (section [2.2.3.125.2](#)).

Elements referenced in this section are defined in the **GetItemEstimate** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response               | Parent elements   | Child elements | Data type   | Number allowed   |
|--|---|----------------|---|------------------|
| <b>GetItemEstimate</b> command request | <b>Collection</b> (section <a href="#">2.2.3.29.1</a> ) | None           | <b>boolean</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.1) | 0...1 (optional) |

Setting the **airsync:ConversationMode** element to 0 (**FALSE**) in a **GetItemEstimate** request results in an **Estimate** element (section [2.2.3.65](#)) value that only includes items that meet the **airsync:FilterType** element (section [2.2.3.68.1](#)) value. Setting the **airsync:ConversationMode** element to 1 (**TRUE**) expands the result set to also include items with identical **email2:ConversationId** element (as specified in [[MS-AEMAIL](#)] section 2.2.2.21) values to those in the **airsync:FilterType** result set. The **airsync:ConversationMode** element value has no impact on items outside the collection specified by the **CollectionId** element (section [2.2.3.30.2](#)), the result set is always limited to items in the specified collection. The **airsync:ConversationMode** element value only limits or expands the results determined by the **airsync:FilterType** element value.

Specifying the **airsync:ConversationMode** element for collections that do not store email results in an invalid XML error, **Status** element (section [2.2.3.177.7](#)) value 103.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.36.2 ConversationMode (Sync)

The **ConversationMode** element is an optional child element of the **Collection** element in **Sync** command requests that specifies whether to include items that are included within the conversation modality within the results of the **Sync** response. A single conversation MAY span multiple classes, and therefore **ConversationMode** is a child of the **Collection** element as opposed to the **Options** element (section [2.2.3.125.6](#)).

Elements referenced in this section are defined in the **AirSync** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements   | Child elements | Data type   | Number allowed   |
|---|---|----------------|---|------------------|
| <b>Sync</b> command request (section <a href="#">2.2.1.21</a> ) | <b>Collection</b> (section <a href="#">2.2.3.29.2</a> ) | None           | <b>boolean</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.1) | 0...1 (optional) |

Setting the **ConversationMode** element value to 1 (**TRUE**) results in retrieving all emails that match the conversations received within the date filter specified. However, although the body of the emails outside of that time based filter will not be retrieved, the text previews will be retrieved if the previews were requested.

Setting the **ConversationMode** element value to 0 (**FALSE**) in a **Sync** request results in the synchronization of items that meet the criteria of the **FilterType** element (section [2.2.3.68](#)) value. Setting the **ConversationMode** element value to 1 (**TRUE**) expands the result set to also include any items with identical **email2:ConversationId** ([[MS-ASEMAIL](#)] section 2.2.2.21) values to those in the **FilterType** result set. The **ConversationMode** element value has no impact on items outside the collection specified by the **CollectionId** element (section [2.2.3.30.6](#)); the result set is always limited to items in the specified collection. The **ConversationMode** element value only limits or expands the results determined by the **FilterType** element value.

Specifying the **ConversationMode** element for collections that do not store emails results in an invalid XML error, **Status** element (section [2.2.3.177.17](#)) value 4.

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.37 Count

The **Count** element is an optional child element of the **Changes** element in **FolderSync** command responses that specifies the number of added, deleted, and updated folders on the server since the last folder synchronization. These changes are listed in the **Changes** element. If there are no changes since the last folder synchronization, a **Count** element value of 0 (zero) is returned.

All elements referenced in this section are defined in the **FolderHierarchy** namespace.

| Command request/response  | Parent elements                                    | Child elements | Data type   | Number allowed   |
|---|--|----------------|---|------------------|
| <b>FolderSync</b> command response (section <a href="#">2.2.1.5</a> ) | <b>Changes</b> (section <a href="#">2.2.3.25</a> ) | None           | unsigned <b>integer</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.6) | 0...1 (optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.38 Culture

The **Culture** element is an optional child element of the **Response** element in **Autodiscover** command responses that specifies the client culture, which is used to localize error messages.

All elements referenced in this section are defined in the <http://schemas.microsoft.com/exchange/autodiscover/mobilesync/responseschema/2006> namespace.

| Command request/response  | Parent elements  | Child elements | Data type   | Number allowed   |
|---|--|----------------|---|------------------|
| <b>Autodiscover</b> command response (section <a href="#">2.2.1.1</a> ) | <b>Response</b> (section <a href="#">2.2.3.153.1</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 0...1 (optional) |

The **string** value MUST be of the form "en:us".[<5>](#)

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.39 Data

The **Data** element is used in the following command responses:

- **Find** command responses (section [2.2.1.2](#))
- **ItemOperations** command responses (section [2.2.1.10](#))
- **ResolveRecipients** command responses (section [2.2.1.15](#))
- **Search** command response (section [2.2.1.16](#))

The definition of the **Data** element differs according to the context in which it is used. For more details, see section [2.2.3.39.1](#), section [2.2.3.39.2](#), section [2.2.3.39.3](#), and section [2.2.3.39.4](#).

#### 2.2.3.39.1 Data (Find)

The **gal:Data** element is an optional child element of the **gal:Picture** element in **Find** command responses that contains the binary data of the contact photo.

| Command request/response   | Parent elements   | Child elements | Data type         | Number allowed   |
|--|---|----------------|-------------------|------------------|
| <b>Find</b> command response (section <a href="#">2.2.1.16</a> ) | <b>gal:Picture</b> (section <a href="#">2.2.3.135.1</a> ) | None           | <b>Byte array</b> | 0...1 (optional) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.



| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.39.2 Data (ItemOperations)

The **Data** element is an optional child element of the **Properties** element in **ItemOperations** command responses that contains the item content for inline content responses.

All elements referenced in this section are defined in the **ItemOperations** namespace.

| Command request/response   | Parent elements  | Child elements | Data type  | Number allowed   |
|--|--|----------------|--|------------------|
| <b>ItemOperations</b> command response (section <a href="#">2.2.1.10</a> ) fetch operation | <b>Properties</b> (section <a href="#">2.2.3.139.2</a> ) | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 0...1 (optional) |

The content of the **Data** element is a **base64 encoding** of the binary document, attachment, or body data. The size of the data (in bytes) that is contained within the **Data** element is indicated by the **Range** element (section [2.2.3.143.2](#)). The total size of the item (in bytes) is indicated by the **Total** element (section [2.2.3.184.2](#)).

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.39.3 Data (ResolveRecipients)

The **Data** element is an optional child element of the **Picture** element in **ResolveRecipients** command responses that contains the binary data of the contact photo.

All elements referenced in this section are defined in the **ResolveRecipients** namespace.

| Command request/response  | Parent elements                                       | Child elements | Data type         | Number allowed   |
|---|---|----------------|-------------------|------------------|
| <b>ResolveRecipients</b> command response (section <a href="#">2.2.1.15</a> ) | <b>Picture</b> (section <a href="#">2.2.3.135.2</a> ) | None           | <b>Byte array</b> | 0...1 (optional) |

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.39.4 Data (Search)

The **gal:Data** element is an optional child element of the **gal:Picture** element in **Search** command responses that contains the binary data of the contact photo.

| Command request/response   | Parent elements   | Child elements | Data type         | Number allowed   |
|--|---|----------------|-------------------|------------------|
| <b>Search</b> command response (section <a href="#">2.2.1.16</a> ) | <b>gal:Picture</b> (section <a href="#">2.2.3.135.3</a> ) | None           | <b>Byte array</b> | 0...1 (optional) |

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.40 DebugData

The **DebugData** element is an optional child element of the **Error** element in **Autodiscover** command responses that represents information about the failure that can help the system administrator debug the source of the problem.

| Command request/response  | Parent elements                                  | Child elements | Data type   | Number allowed   |
|---|--|----------------|---|------------------|
| <b>Autodiscover</b> command response (section <a href="#">2.2.1.1</a> ) | <b>Error</b> (section <a href="#">2.2.3.63</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 0...1 (optional) |

This element is not intended for use by developers debugging their own data.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.41 DeepTraversal

The **DeepTraversal** element is used in the following command requests:

- **Find** command requests (section [2.2.1.2](#))
- **Search** command requests (section [2.2.1.16](#))

The definition of the **DeepTraversal** element differs according to the context in which it is used. For more details, see section [2.2.3.41.1](#) and section [2.2.3.41.2](#).

### 2.2.3.41.1 DeepTraversal (Find)

The **DeepTraversal** element is an optional child element of the **Options** element in **Find** command requests that indicates that the client wants the server to search all subfolders for the folder that is specified in the query.

All elements referenced in this section are defined in the **Find** namespace.

| Command request/response                                       | Parent elements                                       | Child elements | Data type | Number allowed   |
|--|---|----------------|-----------|------------------|
| <b>Find</b> command request (section <a href="#">2.2.1.2</a> ) | <b>Options</b> (section <a href="#">2.2.3.125.1</a> ) | None           | None      | 0...1 (optional) |

The **DeepTraversal** element is an empty tag element, meaning it has no value or data type. It is distinguished only by the presence or absence of the <DeepTraversal/> tag. If the **DeepTraversal** element and the **CollectionId** element are not present, all folders returned in **FolderSync** and their subfolders will be searched. If the **DeepTraversal** element and the **CollectionId** element are present, the folder specified by the **CollectionId** and all its subfolders are searched.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.41.2 DeepTraversal (Search)

The **DeepTraversal** element is an optional child element of the **Options** element in **Search** command requests that indicates that the client wants the server to search all subfolders for the folders that are specified in the query.

All elements referenced in this section are defined in the **Search** namespace.

| Command request/response  | Parent elements                                       | Child elements | Data type | Number allowed   |
|---|---|----------------|-----------|------------------|
| <b>Search</b> command request (section <a href="#">2.2.1.16</a> ) | <b>Options</b> (section <a href="#">2.2.3.125.5</a> ) | None           | None      | 0...1 (optional) |

The result of including more than one **DeepTraversal** element in a **Search** command request is undefined. The server MAY return a protocol status error in response to such a command request.

The **DeepTraversal** element is an empty tag element, meaning it has no value or data type. It is distinguished only by the presence or absence of the <DeepTraversal/> tag. If the **DeepTraversal** element is not present, the subfolders are not searched.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

## 2.2.3.42 Delete

The **Delete** element is used in the following command requests and responses:

- **FolderSync** command responses (section [2.2.1.5](#))
- **Sync** command requests and responses (section [2.2.1.21](#))

The definition of the **Delete** element differs according to the context in which it is used. For more details, see section [2.2.3.42.1](#) and section [2.2.3.42.2](#).

### 2.2.3.42.1 Delete (FolderSync)

The **Delete** element is an optional child element of the **Changes** element in **FolderSync** command responses that specifies that a folder on the server was deleted since the last folder synchronization.

All elements referenced in this section are defined in the **FolderHierarchy** namespace.

| Command request/response  | Parent elements | Child elements           | Data type                               | Number allowed |
|---------------------------|-----------------|--------------------------|---|----------------|
| <b>FolderSync</b> command | <b>Changes</b>  | <b>ServerId</b> (section | <b>container</b> ( <a href="#">[MS-</a> | 0...N          |

| Command request/response                    | Parent elements                     | Child elements                | Data type                            | Number allowed |
|---|-------------------------------------|-------------------------------|--------------------------------------|----------------|
| response (section <a href="#">2.2.1.5</a> ) | (section <a href="#">2.2.3.25</a> ) | <a href="#">2.2.3.166.4</a> ) | <a href="#">ASDTYPE</a> section 2.2) | (optional)     |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.42.2 Delete (Sync)

The **Delete** element is an optional child element of the **Commands** element in **Sync** command requests and responses that deletes an object on the client device or the server. The **Delete** element is an optional child element of the **Responses** element in **Sync** command responses. The object is identified by its **ServerId** element.

All elements referenced in this section are defined in the **AirSync** namespace.

| Command request/response  | Parent elements                                       | Child elements  | Data type  | Number allowed   |
|---|---|---|--|------------------|
| <b>Sync</b> command request (section <a href="#">2.2.1.21</a> ) | <b>Commands</b> (section <a href="#">2.2.3.32</a> )   | <b>ServerId</b> (section <a href="#">2.2.3.166.8</a> )<br><b>airsynibase:InstanceId</b> ( <a href="#">[MS-ASAIRS]</a> section 2.2.2.25) | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 0...N (optional) |
| <b>Sync</b> command response                                    | <b>Commands</b>                                       | <b>ServerId</b><br><b>Class</b> (section <a href="#">2.2.3.27.6</a> )   | <b>container</b>   | 0...N (optional) |
| <b>Sync</b> command response                                    | <b>Responses</b> (section <a href="#">2.2.3.154</a> ) | <b>ServerId</b><br><b>airsynibase:InstanceId</b><br><b>Status</b> (section <a href="#">2.2.3.177.17</a> )                               | <b>container</b>   | 0...N (optional) |

The server is not required to send an individual response for every operation that is sent by the client. The client only receives responses for successful additions, successful fetches, successful changes that include an attachment being added, and failed changes and deletions. When the client does not receive a response, the client MUST assume that the operation succeeded unless informed otherwise.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

The **Delete** element is not returned in the **Sync** response for an SMS deletion when protocol version 14.0 is used.

When protocol version 16.0 or 16.1 is used and the object is a **recurrence instance**, the object is identified by both the **ServerId** element of the master item as well as the **airsyncbase:InstanceId** element of the specific occurrence.

### 2.2.3.43 DeletesAsMoves

The **DeletesAsMoves** element is an optional child element of the **Collection** element in **Sync** command requests that indicates that any deleted items SHOULD be moved to the **Deleted Items folder**.

All elements referenced in this section are defined in the **AirSync** namespace.

| Command request/response  | Parent elements   | Child elements | Data type  | Number allowed   |
|---|---|----------------|--|------------------|
| <b>Sync</b> command request (section <a href="#">2.2.1.21</a> ) | <b>Collection</b> (section <a href="#">2.2.3.29.2</a> ) | None           | <b>boolean</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.1) | 0...1 (optional) |

The **DeletesAsMoves** element appears only in requests sent to the server from the client. If the **DeletesAsMoves** element is set to false, the deletion is permanent.

If the client wants to permanently delete items, the request MUST include the **DeletesAsMoves** element with a value of 0 (**FALSE**). A value of 1 (**TRUE**), which is the default, indicates that any deleted items are moved to the Deleted Items folder. The default is assumed when the **DeletesAsMoves** element is either empty or not present.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.44 DeleteSubFolders

The **DeleteSubFolders** element is an optional child element of the **Options** element in **ItemOperations** command requests for the **EmptyFolderContents** (section [2.2.3.58](#)) operation. It is a flag that indicates whether to delete the subfolders of the specified folder.

All elements referenced in this section are defined in the **ItemOperations** namespace.

| Command request/response   | Parent elements                                       | Child elements | Data type | Number allowed   |
|--|---|----------------|-----------|------------------|
| <b>ItemOperations</b> command request (section <a href="#">2.2.1.10</a> ) <b>EmptyFolderContents</b> operation | <b>Options</b> (section <a href="#">2.2.3.125.3</a> ) | None           | None      | 0...1 (optional) |

If the **DeleteSubFolders** element is not present in the request, the default behavior is to not delete subfolders.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |



### 2.2.3.45 DeviceInformation

The **DeviceInformation** element is an optional child element of the **Settings** element in **Settings** command requests and responses, and an optional child element of the **Provision** element in **Provision** command requests. In **Settings** and **Provision** command requests, it is a container node that is used for sending the client device's properties to the server. In **Settings** command responses, it is a container node that is used to return the status of the request.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response  | Parent elements  | Child elements  | Data type  | Number allowed   |
|---|--|---|--|------------------|
| <b>Settings</b> command request (section <a href="#">2.2.1.18</a> )         | <b>Settings</b> (section <a href="#">2.2.3.168.2</a> )           | <b>Set</b> (section <a href="#">2.2.3.167</a> )       | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 0...1 (optional) |
| <b>Settings</b> command response  | <b>Settings</b>  | <b>Status</b> (section <a href="#">2.2.3.177.15</a> ) | <b>container</b>   | 0...1 (optional) |
| <b>Provision</b> command request ( <a href="#">[MS-ASPROV]</a> section 2.2) | <b>Provision</b> ( <a href="#">[MS-ASPROV]</a> section 2.2.2.44) | <b>Set</b>  | <b>container</b>   | 0...1 (optional) |

If the protocol version is not 14.1, the client uses the **Settings** command to send **DeviceInformation** to the server, as specified in section [3.1.5.2](#). More details about the protocol versions are provided at the end of this section.

The **DeviceInformation** element allows the following information about a client device to be sent to the server:

- Device model
- International Mobile Equipment Identity (IMEI)
- Device friendly name
- Device operating system
- Telephone number
- Device operating system language
- User Agent
- Whether to enable outbound SMS (see [\[MS-ASMS\]](#))
- Mobile operator name

The device information is represented as a list of settings under the **DeviceInformation** node in the **Settings** command request and the **Provision** command request. The **DeviceInformation** element has only one child element, **Set**, which contains the list of device information items in the request and the status in the response. The **DeviceInformation** element supports only the **Set** element because the device information is write-only from the device.

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support, Settings | Element support, Provision |
|------------------|---------------------------|----------------------------|
| 2.5              |                           |                            |
| 12.0             | Yes                       |                            |
| 12.1             | Yes                       |                            |
| 14.0             | Yes                       |                            |
| 14.1             | Yes                       | Yes                        |
| 16.0             | Yes                       | Yes                        |
| 16.1             | Yes                       | Yes                        |

When protocol version 14.1, 16.0, or 16.1 is used, the **DeviceInformation** element MUST be present as a child element of the **Provision** element in the initial **Provision** command request. When protocol version 14.0, 12.1, or 12.0 is used, the **DeviceInformation** element MUST NOT be present as a child element of the **Provision** element in the initial **Provision** command request. In this case, the client uses the **Settings** command to send the device's properties to the server.

### 2.2.3.46 DevicePassword

The **DevicePassword** element is an optional child element of the **Settings** element in **Settings** command requests and responses. In **Settings** command requests, the **DevicePassword** element is a container node that is used to send the recovery password of the client device to the server. In **Settings** command responses, the **DevicePassword** element is a container node that is used to specify the status of the **Settings** command **DevicePassword Set** operation.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response  | Parent elements  | Child elements  | Data type  | Number allowed   |
|---|--|---|--|------------------|
| <b>Settings</b> command request (section <a href="#">2.2.1.18</a> ) | <b>Settings</b> (section <a href="#">2.2.3.168.2</a> ) | <b>Set</b> (section <a href="#">2.2.3.167</a> )       | container ([ <a href="#">MS-ASDTYPE</a> ] section 2.2) | 0...1 (optional) |
| <b>Settings</b> command response                                    | <b>Settings</b>  | <b>Status</b> (section <a href="#">2.2.3.177.15</a> ) | container  | 0...1 (optional) |

Clients use the **Set** operation within the **DevicePassword** element to enable the device to send or store a recovery password on the server. The recovery password is stored in the user's mailbox and can be retrieved by the administrator or the end-user if the user forgets his or her password.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |

| Protocol version | Element support |
|------------------|-----------------|
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.47 DisplayBcc

The **DisplayBcc** element is an optional child element of the **Properties** element in **Find** command responses that specifies the **blind carbon copy (Bcc) recipients** of an email as displayed to the user.

The value of this element contains one or more display names. If there are multiple display names, they are separated by semi-colons.

All elements referenced in this section are defined in the **Find** namespace.

| Command request/response  | Parent elements  | Child elements | Data type  | Number allowed   |
|---|--|----------------|--|------------------|
| <b>Find</b> command response (section <a href="#">2.2.1.2</a> ) | <b>Properties</b> (section <a href="#">2.2.3.139.1</a> ) | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 0...1 (optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.48 DisplayCc

The **DisplayCc** element is an optional child element of the **Properties** element in **Find** command responses that specifies the list of secondary **recipients** of a message as displayed to the user.

The value of this element contains one or more display names. If there are multiple display names, they are separated by semi-colons.

All elements referenced in this section are defined in the **Find** namespace.

| Command request/response  | Parent elements  | Child elements | Data type  | Number allowed   |
|---|--|----------------|--|------------------|
| <b>Find</b> command response (section <a href="#">2.2.1.2</a> ) | <b>Properties</b> (section <a href="#">2.2.3.139.1</a> ) | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 0...1 (optional) |

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.49 DisplayName

The **DisplayName** element is used in the following command requests and responses:

- **Autodiscover** command responses (section [2.2.1.1](#))
- **Find** command responses (section [2.2.1.2](#))
- **FolderCreate** command requests (section [2.2.1.3](#))
- **FolderSync** command responses (section [2.2.1.5](#))
- **FolderUpdate** command requests (section [2.2.1.6](#))
- **GetHierarchy** command response (section [2.2.1.8](#))
- **ResolveRecipients** command responses (section [2.2.1.15](#))
- **Search** command responses (section [2.2.1.16](#))

The definition of the **DisplayName** element differs according to the context in which it is used. For more details, see section [2.2.3.49.1](#), section [2.2.3.49.3](#), section [2.2.3.49.4](#), section [2.2.3.49.5](#), section [2.2.3.49.6](#), section [2.2.3.49.7](#) and section 2.2.3.49.7.

### 2.2.3.49.1 DisplayName (Autodiscover)

The **DisplayName** element is an optional child element of the **User** element in **Autodiscover** command responses that contains the user's display name in the directory service.

All elements referenced in this section are defined in the <http://schemas.microsoft.com/exchange/autodiscover/mobilesync/responseschema/2006> namespace.

| Command request/response  | Parent elements                                  | Child elements | Data type  | Number allowed   |
|---|--|----------------|--|------------------|
| <b>Autodiscover</b> command response (section <a href="#">2.2.1.1</a> ) | <b>User</b> (section <a href="#">2.2.3.189</a> ) | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 0...1 (optional) |

The client can choose to display or store this value on the device.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.49.2 DisplayName (Find)

The **DisplayName** element in the **GAL** namespace is an optional child element of the **find:Properties** element in **Find** command responses. It contains the display name of a recipient in the **GAL** that matched the search criteria from the corresponding **Find** command request.

| Command request/response  | Parent elements  | Child elements | Data type  | Number allowed   |
|---|--|----------------|--|------------------|
| <b>Find</b> command response (section <a href="#">2.2.1.2</a> ) | <b>Properties</b> (section <a href="#">2.2.3.139.1</a> ) | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 0...1 (optional) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.49.3 DisplayName (FolderCreate and FolderUpdate)

The **DisplayName** element is a required child element of the **FolderCreate** element in **FolderCreate** command requests and a required child element of the **FolderUpdate** element in **FolderUpdate** command requests. In both contexts, it specifies the name of the folder that is shown to the user.

All elements referenced in this section are defined in the **FolderHierarchy** namespace.

| Command request/response   | Parent elements   | Child elements | Data type   | Number allowed   |
|--|---|----------------|---|------------------|
| <b>FolderCreate</b> command request (section <a href="#">2.2.1.3</a> ) | <b>FolderCreate</b> (section <a href="#">2.2.3.72</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 1...1 (required) |
| <b>FolderUpdate</b> command request (section <a href="#">2.2.1.6</a> ) | <b>FolderUpdate</b> (section <a href="#">2.2.3.77</a> ) | None           | <b>string</b>   | 1...1 (required) |

The **DisplayName** element value MUST be between 1 and 256 characters in length.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support, FolderCreate | Element support, FolderUpdate |
|------------------|-------------------------------|-------------------------------|
| 2.5              | Yes                           | Yes                           |
| 12.0             | Yes                           | Yes                           |
| 12.1             | Yes                           | Yes                           |

| Protocol version | Element support, FolderCreate | Element support, FolderUpdate |
|------------------|-------------------------------|-------------------------------|
| 14.0             | Yes                           | Yes                           |
| 14.1             | Yes                           | Yes                           |
| 16.0             | Yes                           | Yes                           |
| 16.1             | Yes                           | Yes                           |

#### 2.2.3.49.4 DisplayName (FolderSync)

The **DisplayName** element is a required child element of the **Update** element and the **Add** element in **FolderSync** command responses that specifies the name of the folder that is shown to the user.

All elements referenced in this section are defined in the **FolderHierarchy** namespace.

| Command request/response  | Parent elements                                    | Child elements | Data type  | Number allowed   |
|---|--|----------------|--|------------------|
| <b>FolderSync</b> command response (section <a href="#">2.2.1.5</a> ) | <b>Update</b> (section <a href="#">2.2.3.187</a> ) | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 1...1 (required) |
| <b>FolderSync</b> command response                                    | <b>Add</b> (section <a href="#">2.2.3.7.1</a> )    | None           | <b>string</b>  | 1...1 (required) |

One **DisplayName** element is used in each **Update** element and in each **Add** element included in a **FolderSync** command response when a folder has been updated or added on the server. Subfolder display names MUST be unique within a folder.

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

#### 2.2.3.49.5 DisplayName (GetHierarchy)

The **DisplayName** element is a required child element of the **Folder** element in **GetHierarchy** command responses that specifies the display name of the folder.

All elements referenced in this section are defined in the **FolderHierarchy** namespace.

| Command request/response  | Parent elements                                     | Child elements | Data type   | Number allowed   |
|---|---|----------------|---|------------------|
| <b>GetHierarchy</b> command response (section <a href="#">2.2.1.8</a> ) | <b>Folder</b> (section <a href="#">2.2.3.71.1</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 1...1 (required) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             |                 |

### 2.2.3.49.6 DisplayName (ResolveRecipients)

The **DisplayName** element is a required child element of the **Recipient** element in **ResolveRecipients** command responses that contains the display name of the recipient.

All elements referenced in this section are defined in the **ResolveRecipients** namespace.

| Command request/response  | Parent elements                                       | Child elements | Data type   | Number allowed   |
|---|---|----------------|---|------------------|
| <b>ResolveRecipients</b> command response (section <a href="#">2.2.1.15</a> ) | <b>Recipient</b> (section <a href="#">2.2.3.145</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 1...1 (required) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-](#)



[ASHTTP](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.49.7 DisplayName (Search)

The **DisplayName** element in the **GAL** namespace is an optional child element of the **search:Properties** element in **Search** command responses. The **DisplayName** element is only present in response to **Search** command requests that contain a **search:Name** element with a value of "GAL", as specified in section [2.2.3.120.2](#). It contains the display name of a recipient in the **GAL** that matched the search criteria from the corresponding **Search** command request.

| Command request/response   | Parent elements  | Child elements | Data type                                | Number allowed   |
|--|--|----------------|--|------------------|
| <b>Search</b> command response (section <a href="#">2.2.1.16</a> ) | <b>Properties</b> (section <a href="#">2.2.3.139.3</a> ) | None           | <b>string</b> ([MS-ASDTYPE] section 2.7) | 0...1 (optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.50 documentlibrary:LinkId

The **documentlibrary:LinkId** element is an optional child element of the **itemoperations:Fetch** element in **ItemOperations** command requests and responses. The **documentlibrary:LinkId** element is a required child element of the **search:EqualTo** element in **Search** command requests and an optional child element of the **search:Properties** element in **Search** command responses. In all contexts, the **documentlibrary:LinkId** element specifies a **Uniform Resource Identifier (URI)** that is assigned by the server to certain **resources**, such as Windows SharePoint Services or **UNC** documents.

| Command request/response  | Parent elements   | Child elements | Data type   | Number allowed   |
|---|---|----------------|---|------------------|
| <b>ItemOperations</b> command request (section <a href="#">2.2.1.10</a> ) fetch operation | <b>itemoperations:Fetch</b> (section <a href="#">2.2.3.67.1</a> ) | None           | <b>URI</b> (as specified in <a href="#">RFC3986</a> ) | 0...1 (optional) |
| <b>ItemOperations</b> command response fetch operation                                    | <b>itemoperations:Fetch</b>                                       | None           | <b>URI</b>  | 0...1 (optional) |
| <b>Search</b> command request (section <a href="#">2.2.1.16</a> )                         | <b>search:EqualTo</b> (section <a href="#">2.2.3.62</a> )         | None           | <b>URI</b>  | 1...1 (required) |
| <b>Search</b> command response  | <b>search:Properties</b> (section <a href="#">2.2.3.139.3</a> )   | None           | <b>URI</b>  | 0...1 (optional) |

The client MUST store the **documentlibrary:LinkId** element value that is retrieved by the **Search** command (section 2.2.1.16) if the client will send requests using the **documentlibrary:LinkId** element value in the future. In an **ItemOperations** command request, the **documentlibrary:LinkId** element can be used by the **itemoperations:Fetch** element to refer to the location of an item.

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support, ItemOperations | Element support, Search |
|------------------|---------------------------------|-------------------------|
| 2.5              |                                 |                         |
| 12.0             | Yes                             | Yes                     |
| 12.1             | Yes                             | Yes                     |
| 14.0             | Yes                             | Yes                     |
| 14.1             | Yes                             | Yes                     |
| 16.0             | Yes                             | Yes                     |
| 16.1             | Yes                             | Yes                     |

### 2.2.3.51 DstFldId

The **DstFldId** element is used in the following command requests:

- **ItemOperations** command requests (section [2.2.1.10](#))
- **MoveItems** command requests (section [2.2.1.12](#))

The definition of the **DstFldId** element differs according to the context in which it is used. For more details, see section [2.2.3.51.1](#) and section [2.2.3.51.2](#).

#### 2.2.3.51.1 DstFldId (ItemOperations)

The **DstFldId** element is a required child element of the **Move** element in **ItemOperations** command requests that specifies the server ID of the destination folder (that is, the folder to which the items are moved).

Elements referenced in this section are defined in the **ItemOperations** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements                                    | Child elements | Data type                                | Number allowed   |
|---|--|----------------|--|------------------|
| <b>ItemOperations</b> command request (section <a href="#">2.2.1.10</a> ) <b>Move</b> operation | <b>Move</b> (section <a href="#">2.2.3.117.1</a> ) | None           | <b>string</b> ([MS-ASDTYPE] section 2.7) | 1...1 (required) |

The server ID of the destination folder is obtained from the **folderhierarchy:ServerId** element (section [2.2.3.166](#)) of a previous **FolderSync** command response (section [2.2.1.5](#)) or **FolderCreate** command response (section [2.2.1.3](#)). The **DstFldId** element value can be up to 64 characters in length.

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

#### 2.2.3.51.2 DstFldId (MoveItems)

The **DstFldId** element is a required child element of the **Move** element in **MoveItems** command requests that specifies the server ID of the destination folder (that is, the folder to which the items are moved).

Elements referenced in this section are defined in the **Move** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response   | Parent elements                                    | Child elements | Data type                                | Number allowed   |
|--|--|----------------|--|------------------|
| <b>MoveItems</b> command request (section <a href="#">2.2.1.12</a> ) | <b>Move</b> (section <a href="#">2.2.3.117.2</a> ) | None           | <b>String</b> ([MS-ASDTYPE] section 2.7) | 1...1 (required) |

The server ID of the destination folder is obtained from the **folderhierarchy:ServerId** element (section [2.2.3.168](#)) of a previous **FolderSync** command response (section [2.2.1.5](#)) or **FolderCreate** command response (section [2.2.1.3](#)). The **DstFldId** element value can be up to 64 characters in length.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.52 DstMsgId

The **DstMsgId** element is an optional child element of the **Response** element in **MoveItems** command responses that specifies the new server ID of the item after the item is moved to the destination folder.

All elements referenced in this section are defined in the **Move** namespace.

| Command request/response  | Parent elements  | Child elements | Data type                                | Number allowed   |
|---|--|----------------|--|------------------|
| <b>MoveItems</b> command response (section <a href="#">2.2.1.12</a> ) | <b>Response</b> (section <a href="#">2.2.3.153.5</a> ) | None           | <b>string</b> ([MS-ASDTYPE] section 2.7) | 0...1 (optional) |

The **DstMsgId** element value can be up to 64 characters in length.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.53 Email

The **Email** element is a required child element of the **Forwardee** element in **SmartForward** command requests and the **Forwardee** element in **Sync** command responses that specifies the email address of the forwarder.

All elements referenced in this section are defined in the **ComposeMail** namespace.

| Command request/response  | Parent elements                                      | Child elements | Data type   | Number allowed   |
|---|--|----------------|---|------------------|
| <b>SmartForward</b> command request (section <a href="#">2.2.1.19</a> ) | <b>Forwardee</b> (section <a href="#">2.2.3.78</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 1...1 (required) |
| <b>Sync</b> command response (section <a href="#">2.2.1.21</a> )        | <b>Forwardee</b> (section <a href="#">2.2.3.78</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 1...1 (required) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |

| Protocol version | Element support |
|------------------|-----------------|
| 14.0             |                 |
| 14.1             |                 |
| 16.0             | Yes             |
| 16.1             | Yes             |

The **Email** element as a required child element of the **Forwarder** element is not supported in **Sync** command responses in protocol version 16.0.

### 2.2.3.54 email:DateReceived

The **email:DateReceived** element is a required child element of the **GreaterThan** element and the **LessThan** element in **Search** command requests. The corresponding value that is to be compared to the **email:DateReceived** element on items in the mailbox is specified in the **Value** element, specified in section [2.2.3.196](#). The format and usage of the **email:DateReceived** element for command requests or responses other than the **Search** command is specified in [\[MS-ASEMAIL\]](#) section 2.2.2.24.

All elements referenced in this section are defined in the **Search** namespace.

| Command request/response  | Parent elements   | Child elements | Data type | Number allowed   |
|---|---|----------------|-----------|------------------|
| <b>Search</b> command request (section <a href="#">2.2.1.16</a> ) | <b>GreaterThan</b> (section <a href="#">2.2.3.86</a> )<br><b>LessThan</b> (section <a href="#">2.2.3.96</a> ) | None           | None      | 1...1 (required) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.55 EmailAddress

The **EmailAddress** element is used in the following command requests and responses:

- **Find** command responses (section [2.2.1.2](#))
- **ResolveRecipients** command responses (section [2.2.1.15](#))
- **Search** command responses (section [2.2.1.16](#))

The definition of the **EmailAddress** element differs according to the context in which it is used. For more details, see section [2.2.3.55.1](#), section [2.2.3.55.2](#), and section [2.2.3.55.3](#).

#### 2.2.3.55.1 EmailAddress (Find)

The **EmailAddress** element in the **GAL** namespace is an optional child element of the **find:Properties** element in **Find** command responses. The **EmailAddress** element is only present in response to **Find** command requests that contain the **GALSearchCriterion** element as specified in section [2.2.3.82](#). It contains the email address of a recipient in the **GAL** that matched the search criteria from the corresponding **Find** command request.

| Command request/response  | Parent elements  | Child elements | Data type  | Number allowed   |
|---|--|----------------|--|------------------|
| <b>Find</b> command response (section <a href="#">2.2.1.2</a> ) | <b>Properties</b> (section <a href="#">2.2.3.139.1</a> ) | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 0...1 (optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

#### 2.2.3.55.2 EmailAddress (ResolveRecipients)

The **EmailAddress** element is a required child element of the **Recipient** element in **ResolveRecipients** command responses that contains the email address of the recipient, in SMTP format.

All elements referenced in this section are defined in the **ResolveRecipients** namespace.

| Command request/response  | Parent elements                                       | Child elements | Data type   | Number allowed      |
|---|---|----------------|---|---------------------|
| <b>ResolveRecipients</b> command response (section <a href="#">2.2.1.15</a> ) | <b>Recipient</b> (section <a href="#">2.2.3.145</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 1...1<br>(required) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.55.3 EmailAddress (Search)

The **EmailAddress** element in the **GAL** namespace is an optional child element of the **search:Properties** element in **Search** command responses. The **EmailAddress** element is only present in response to **Search** command requests that contain a **search:Name** element with a value of "GAL", as specified in section [2.2.3.120.2](#). It contains the email address of a recipient in the **GAL** that matched the search criteria from the corresponding **Search** command request.

| Command request/response   | Parent elements  | Child elements | Data type   | Number allowed      |
|--|--|----------------|---|---------------------|
| <b>Search</b> command response (section <a href="#">2.2.1.16</a> ) | <b>Properties</b> (section <a href="#">2.2.3.139.3</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 0...1<br>(optional) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.



| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.56 EMailAddress

The **EMailAddress** element is a required child element of the **Request** element in **Autodiscover** command requests and a required child element of the **User** element in **Autodiscover** command responses. In both contexts, it contains the **SMTP** email address of the user and is used to identify the user's mailbox in the network.

| Command request/response   | Parent elements                                       | Child elements | Data type  | Number allowed   |
|--|---|----------------|--|------------------|
| <b>Autodiscover</b> command request (section <a href="#">2.2.1.1</a> ) | <b>Request</b> (section <a href="#">2.2.3.150.1</a> ) | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 1...1 (required) |
| <b>Autodiscover</b> command response                                   | <b>User</b> (section <a href="#">2.2.3.189</a> )      | None           | <b>string</b>  | 1...1 (required) |

If the user has multiple addresses, then the primary email address SHOULD be returned in the **Autodiscover** command response. The primary email address is the address that appears on the From line when a user sends an email message. This address can be the same as the email address that was sent in the request. The client device SHOULD record the address returned by the **Autodiscover** command response and SHOULD use this **string** value for all additional communication.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.57 EmailAddresses

The **EmailAddresses** element is an optional child element of the **Account** element or the **Get** element in **Settings** command responses that contains one or more email addresses for the user. The parent element of the **EmailAddresses** element depends on the protocol version being used. See the details about protocol versions at the end of this section.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response  | Parent elements  | Child elements  | Data type   | Number allowed      |
|---|--|---|---|---------------------|
| <b>Settings</b> command<br><b>UserInformation</b> response<br>(section <a href="#">2.2.1.18</a> ) | <b>Account</b><br>(section <a href="#">2.2.3.2</a> )<br><b>Get</b> (section <a href="#">2.2.3.83</a> ) | <b>SMTPAddress</b> (section <a href="#">2.2.3.171</a> )<br><b>PrimarySmtptAddress</b><br>(section <a href="#">2.2.3.138</a> ) | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a><br>section 2.2) | 0...1<br>(optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support, child of Get | Element support, child of Account |
|------------------|-------------------------------|-----------------------------------|
| 2.5              |                               |                                   |
| 12.0             | Yes                           |                                   |
| 12.1             | Yes                           |                                   |
| 14.0             | Yes                           |                                   |
| 14.1             |                               | Yes                               |
| 16.0             |                               | Yes                               |
| 16.1             |                               | Yes                               |

When protocol version 12.0, 12.1, or 14.0 is used, the parent element of the **EmailAddresses** element is the **Get** element. When protocol version 14.1, 16.0, or 16.1 is used, the parent element of the **EmailAddresses** element is the **Account** element.

The **PrimarySmtptAddress** element is supported as a child of the **EmailAddresses** element only when protocol version 14.1, 16.0, or 16.1 is used.

### 2.2.3.58 EmptyFolderContents

The **EmptyFolderContents** element is an optional child element of the **ItemOperations** element in **ItemOperations** command requests and an optional child element of the **Response** element in **ItemOperations** responses. In both contexts, the **EmptyFolderContents** element identifies the body of the request or response as containing the operation that deletes the contents of a folder.

Elements referenced in this section are defined in the **ItemOperations** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section 2.2.4).

| Command request/response                                 | Parent elements                          | Child elements   | Data type                                   | Number allowed   |
|--|--|--|---|------------------|
| <b>ItemOperations</b> command request (section 2.2.1.10) | <b>ItemOperations</b> (section 2.2.3.94) | <b>airsync:CollectionId</b> (section 2.2.3.30.3)<br><b>Options</b> (section 2.2.3.125.3) | <b>container</b> ([MS-ASDTYPE] section 2.2) | 0...N (optional) |
| <b>ItemOperations</b> command response                   | <b>Response</b> (section 2.2.3.153.4)    | <b>airsync:CollectionId</b> (section 2.2.3.30.3)<br><b>Status</b> (section 2.2.3.177.8)  | <b>container</b>                            | 0...N (optional) |

The **EmptyFolderContents** element enables the client to empty a folder of all its items. The element supports a single child element of the **Options** element, the **DeleteSubFolders** element (section 2.2.3.44), which determines whether subfolders contained in the folder are deleted. If the **DeleteSubFolders** option is not included in the request, the subfolders of the specified **airsync:CollectionId** are not deleted.

Specifically, clients use **EmptyFolderContents** to empty the **Deleted Items folder**. The client can clear out all items in the Deleted Items folder when the user runs out of storage quota (indicated by the return of an HTTP 507 status code from the server).

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.59 Enabled

The **Enabled** element is an optional child element of the **OofMessage** element in **Settings** command requests and responses that specifies whether an **OOF message** is sent to this audience while the sending user is **OOF**.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response  | Parent elements  | Child elements | Data type   | Number allowed   |
|---|--|----------------|---|------------------|
| <b>Settings</b> command <b>Oof</b> request and response (section <a href="#">2.2.1.18</a> ) | <b>OofMessage</b> (section <a href="#">2.2.3.123</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 0...1 (optional) |

The **Enabled** element is used in the **Settings** command **Oof Get** (section [2.2.3.83](#)) response to retrieve the current value. The **Enabled** element is used in the **Settings** command **Oof Set** request to set the value.

The value of the **Enabled** element is 1 if an OOF message is sent while the sending user is OOF; otherwise, the value is 0 (zero).

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes`            |
| 16.1             | Yes             |

### 2.2.3.60 EnableOutboundSMS

The **EnableOutboundSMS** element is an optional child element of the **Set** element in **Settings** command requests that specifies whether the server will send outbound **SMS** messages through the mobile device. For more details, see [\[MS-ASMS\]](#) section 2.2.2.2.2.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response  | Parent elements                                 | Child elements | Data type  | Number allowed   |
|---|---|----------------|--|------------------|
| <b>Settings</b> command <b>DeviceInformation</b> request (section <a href="#">2.2.3.167</a> ) | <b>Set</b> (section <a href="#">2.2.3.167</a> ) | None           | <b>integer</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 0...1 (optional) |

| Command request/response   | Parent elements | Child elements | Data type | Number allowed |
|----------------------------|-----------------|----------------|-----------|----------------|
| <a href="#">2.2.1.18</a> ) |                 |                | 2.6)      |                |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.61 EndTime

The **EndTime** element is used in the following command requests and responses:

- **ResolveRecipients** command requests (section [2.2.1.15](#))
- **Settings** command requests and responses (section [2.2.1.18](#))

The definition of the **EndTime** element differs according to the context in which it is used. For more details, see section [2.2.3.61.1](#) and section [2.2.3.61.2](#).

#### 2.2.3.61.1 EndTime (ResolveRecipients)

The **EndTime** element is an optional child element of the **Availability** element in **ResolveRecipients** command requests that identifies the end of the span of free/busy time requested by the client.

All elements referenced in this section are defined in the **ResolveRecipients** namespace.

| Command request/response   | Parent elements   | Child elements | Data type   | Number allowed   |
|--|---|----------------|---|------------------|
| <b>ResolveRecipients</b> command request (section <a href="#">2.2.1.15</a> ) | <b>Availability</b> (section <a href="#">2.2.3.16</a> ) | None           | <b>datetime</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.3) | 0...N (optional) |

If the **Availability** element is included in the request, the request MUST also include the **StartTime** (section [2.2.3.176.1](#)) element.

If the client sends an invalid **EndTime** element value, then the server returns a **Status** element (section [2.2.3.177.12](#)) value of 5 in the **ResolveRecipients** command response.

If no **EndTime** element is included in an **Availability** request, the server uses a default end time value of seven days after the **StartTime** value.

If the **EndTime** element value specified in the request is smaller than the **StartTime** element value plus 30 minutes, or the duration spanned by the **StartTime** element value and the **EndTime** element value is greater than a specific number [<6>](#) of days, then the server returns a **Status** element value of 5 in the **ResolveRecipients** command response.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.61.2 EndTime (Settings)

The **EndTime** element is an optional child element of the **Set** element in **Settings** command **Oof** requests and an optional child element of the **Get** element in **Settings** command **Oof** responses. It is used with the **StartTime** element (section [2.2.3.176.2](#)) to specify the range of time during which the user is out of office.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response   | Parent elements                                 | Child elements | Data type   | Number allowed   |
|--|---|----------------|---|------------------|
| <b>Settings</b> command <b>Oof</b> request (section <a href="#">2.2.1.18</a> ) | <b>Set</b> (section <a href="#">2.2.3.167</a> ) | None           | <b>datetime</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.3) | 0...1 (optional) |
| <b>Settings</b> command <b>Oof</b> response                                    | <b>Get</b> (section <a href="#">2.2.3.83</a> )  | None           | <b>datetime</b>   | 0...1 (optional) |

The **EndTime** element can be present within the **Get** element of the **Settings** response for the **Oof** element (section [2.2.3.122](#)) or within the **Set** element of the **Settings** request for the **Oof** element.

In a **Set Oof** node, both the **StartTime** element and the **EndTime** element MUST be included in the **Settings** request, or neither the **StartTime** element nor the **EndTime** element MUST be included in the **Settings** request. If either the **StartTime** element or the **EndTime** element is included in the

request without the other, a **Status** element (section [2.2.3.177.15](#)) value of 2 is returned as a child of the **Oof** element.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.62 EqualTo

The **EqualTo** element is an optional child element of the **Query** element in **Search** command requests that contains a property and a value that are compared for equality during a search.

Elements referenced in this section are defined in the **Search** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements                                     | Child elements   | Data type  | Number allowed   |
|---|---|--|--|------------------|
| <b>Search</b> command request (section <a href="#">2.2.1.16</a> ) | <b>Query</b> (section <a href="#">2.2.3.142.2</a> ) | <b>documentlibrary:LinkId</b> (section <a href="#">2.2.3.50</a> )<br><b>Value</b> (section <a href="#">2.2.3.196</a> ) | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 0...1 (optional) |

The result of including more than one **EqualTo** element in a **Search** command request is undefined. The server MAY return a protocol status error in response to such a command request.

The **Query** element is only supported as a parent element in a document library search.

The comparison is made between the value of the **Value** element and the **documentlibrary:LinkId** element value.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.63 Error

The **Error** element is an optional child element of the **Action** element and an optional child element of the **Response** element in **Autodiscover** command responses. In both contexts, it specifies information about the error that was encountered while processing the request.

| Command request/response  | Parent elements  | Child elements  | Data type   | Number allowed   |
|---|--|---|---|------------------|
| <b>Autodiscover</b> command response (section <a href="#">2.2.1.1</a> ) | <b>Action</b> (section <a href="#">2.2.3.6</a> )       | <b>Status</b> (section <a href="#">2.2.3.177.1</a> )<br><b>Message</b> (section <a href="#">2.2.3.108</a> )<br><b>DebugData</b> (section <a href="#">2.2.3.40</a> )<br><b>ErrorCode</b> (section <a href="#">2.2.3.64</a> ) | <b>container</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.2) | 0...1 (optional) |
| <b>Autodiscover</b> command response                                    | <b>Response</b> (section <a href="#">2.2.3.153.1</a> ) | <b>ErrorCode</b><br><b>Message</b><br><b>DebugData</b>  | <b>container</b>  | 0...1 (optional) |

When the **Error** element is a child of the **Response** element, it has two optional attributes as specified in the following table.

| Attribute   | Value   |
|-------------|---|
| <b>Time</b> | The value is a string that represents the time of day in that the request that generated the response was submitted. The format of this string follows the <b>Augmented Backus-Naur Form (ABNF)</b> syntax specified below. |
| <b>Id</b>   | The value is an unsigned integer that uniquely identifies the server (within its domain) that generated the response.   |

The value of the **Time** attribute is specified here using ABNF syntax, as specified in [\[RFC5234\]](#).

```
time_val = hours ":" minutes ":" seconds [ "." fractional_seconds ]
```



hours = 2\*DIGIT ; 00 - 23, representing a 24-hour clock  
 minutes = 2\*DIGIT ; 00 - 59  
 seconds = 2\*DIGIT ; 00 - 59  
 fractional\_seconds = 7\*DIGIT ; fractional seconds, always to 7 decimal places

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.64 ErrorCode

The **ErrorCode** element is an optional child element of the **Error** element in **Autodiscover** command responses that specifies an error number that indicates the cause of the error.

| Command request/response  | Parent elements                                  | Child elements | Data type  | Number allowed   |
|---|--|----------------|--|------------------|
| <b>Autodiscover</b> command response (section <a href="#">2.2.1.1</a> ) | <b>Error</b> (section <a href="#">2.2.3.63</a> ) | None           | <b>integer</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.6) | 0...1 (optional) |

If the provider cannot be found, or if the **AcceptableResponseSchema** element (section [2.2.3.1](#)) value cannot be matched, then the **ErrorCode** element is included in the command response. A value of 600 means an invalid request was sent to the server; a value of 601 means that a provider could not be found to handle the **AcceptableResponseSchema** element value that was specified.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.65 Estimate

The **Estimate** element is an optional child element of the **Collection** element in **GetItemEstimate** command responses that specifies the estimated number of items in the collection or folder that have to be synchronized.

All elements referenced in this section are defined in the **GetItemEstimate** namespace.

| Command request/response   | Parent elements   | Child elements | Data type   | Number allowed   |
|--|---|----------------|---|------------------|
| <b>GetItemEstimate</b> command response (section <a href="#">2.2.1.9</a> ) | <b>Collection</b> (section <a href="#">2.2.3.29.1</a> ) | None           | <b>integer</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.6) | 0...1 (optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.66 ExecuteSearch

The **ExecuteSearch** element is a required child element of the **Find** element in **Find** command requests that contains the **Find** command request parameters.

All elements referenced in this section are defined in the **Find** namespace.

| Command request/response                                       | Parent elements                                 | Child elements   | Data type  | Number allowed   |
|--|---|--|--|------------------|
| <b>Find</b> command request (section <a href="#">2.2.1.2</a> ) | <b>Find</b> (section <a href="#">2.2.3.69</a> ) | <b>MailBoxSearchCriterion</b> (section <a href="#">2.2.3.99</a> )<br><b>GALSearchCriterion</b> (section <a href="#">2.2.3.82</a> ) | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 1...1 (required) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.67 Fetch

The **Fetch** element is used in the following command requests and responses:

- **ItemOperations** command requests and responses (section [2.2.1.10](#))
- **Sync** command requests and responses (section [2.2.1.21](#))

The definition of the **Fetch** element differs according to the context in which it is used. For more details, see section [2.2.3.67.1](#) and section [2.2.3.67.2](#).

#### 2.2.3.67.1 Fetch (ItemOperations)

The **Fetch** element is an optional child element of the **ItemOperations** element in **ItemOperations** command requests and an optional child element of the **Response** element in **ItemOperations** responses. In both contexts, it retrieves an item from the server.

Elements referenced in this section are defined in the **ItemOperations** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements   | Child elements   | Data type                                   | Number allowed   |
|---|---|--|---|------------------|
| <b>ItemOperations</b> command request (section <a href="#">2.2.1.10</a> ) | <b>ItemOperations</b> (section <a href="#">2.2.3.94</a> ) | <b>Store</b> (section <a href="#">2.2.3.178.2</a> )<br><b>documentlibrary:LinkId</b> (section <a href="#">2.2.3.50</a> ) (optional)<br><b>search:LongId</b> (section <a href="#">2.2.3.98.1</a> ) (optional)<br><b>airsync:CollectionId</b> (optional) (section <a href="#">2.2.3.30.3</a> )<br><b>airsync:ServerId</b> (optional) (section <a href="#">2.2.3.166.7</a> )<br><b>Options</b> (optional) (section <a href="#">2.2.3.125.3</a> )<br><b>airsyncbase:FileReference</b> (optional) (section <a href="#">2.2.3.8</a> )<br><b>rm:RemoveRightsManagementProtection</b> ([MS-ASRM] section 2.2.2.11) | <b>container</b> ([MS-ASDTYPE] section 2.2) | 0...N (optional) |
| <b>ItemOperations</b> command response                                    | <b>Response</b> (section <a href="#">2.2.3.153.4</a> )    | <b>documentlibrary:LinkId</b> (optional)<br><b>search:LongId</b> (optional)<br><b>airsync:CollectionId</b> (optional)<br><b>airsync:ServerId</b> (optional)<br><b>Status</b> (section <a href="#">2.2.3.177.8</a> )<br><b>airsync:Class</b> (optional) (section <a href="#">2.2.3.27.3</a> )<br><b>airsyncbase:FileReference</b> (optional)<br><b>Properties</b> (optional) (section <a href="#">2.2.3.139.2</a> )   | <b>container</b>                            | 0...N (optional) |

The fetch operation is intended to be used on Windows SharePoint Services technology or **UNC** document metadata, search results, and items and attachments.

Because the **ItemOperations** response potentially contains large amounts of binary data, this protocol enables the client to choose a delivery method that is most efficient for its implementation by providing the following two methods to deliver content that is requested by the **Fetch** element:

- **Inline**—The binary content is encoded with **base64 encoding** and is included inside the **WBXML**.
- **Multipart**—This method involves a multipart structure in which the WBXML is the first part, and the requested data populates the subsequent parts. This format enables a client to handle large files without consuming large amounts of memory.

The inline approach generally requires the client to read the WBXML part into memory in order to parse it, thereby consuming a large amount of memory. The multipart approach enables the client to parse the small WBXML part, obtain references to the binary parts, and handle the binary parts as necessary, without reading the whole response into memory.

In the request, the client specifies the location and a byte range for the item. The location is indicated by either a link ID (**documentlibrary:LinkId** element) if the target item is identified by a **URI**, or a file reference (**airsyncbase:FileReference** element (section 2.2.3.8)) if the client is retrieving an email attachment. The location is indicated by a server ID (**airsync:ServerId** element) if an ActiveSync ID is being used to identify the item.

The **Fetch** element supports several options, such as byte ranges, body preference, and schema, as specified in section 2.2.3.125.3.

The **ItemOperations** command response contains either the requested byte range of the item, or an error code that indicates why the fetch failed.

Multiple fetch operations can be included within one **ItemOperations** request. In this case, the fetch operations are executed in the order that is specified.

For more information about the **Fetch** element, see section [2.2.1.10.1](#).

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.67.2 Fetch (Sync)

The **Fetch** element is an optional child element of the **Commands** element in **Sync** command requests and an optional child element of the **Responses** element in **Sync** command responses. In a request, the **Fetch** element is used to request the application data of an item that was truncated in a synchronization response from the server. The complete item is then returned to the client in a server response.

The **ItemOperations** command (section [2.2.1.10](#)) is the preferred way to fetch items.

All elements referenced in this section are defined in the **AirSync** namespace.

| Command request/response  | Parent elements                                       | Child elements   | Data type  | Number allowed   |
|---|---|--|--|------------------|
| <b>Sync</b> command request (section <a href="#">2.2.1.21</a> ) | <b>Commands</b> (section <a href="#">2.2.3.32</a> )   | <b>ServerId</b> (section <a href="#">2.2.3.166.8</a> )   | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 0...N (optional) |
| <b>Sync</b> command response                                    | <b>Responses</b> (section <a href="#">2.2.3.154</a> ) | <b>ServerId</b><br><b>Status</b> (section <a href="#">2.2.3.177.17</a> )<br><b>ApplicationData</b> (section <a href="#">2.2.3.11</a> ) | <b>container</b>   | 0...N (optional) |

The **Fetch** element cannot be used to get truncated calendar, contact, note, recipient information, or task items from the server.

The server is not required to send an individual response for every operation that is sent by the client. The client only receives responses for successful additions, successful fetches, successful changes that

include an attachment being added, and failed changes and deletions. When the client does not receive a response, the client **MUST** assume that the operation succeeded unless informed otherwise.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.68 FilterType

The **FilterType** element is used in the following command requests:

- **GetItemEstimate** command requests (section [2.2.1.9](#))
- **Sync** command requests (section [2.2.1.21](#))

The definition of the **FilterType** element differs according to the context in which it is used. For more details, see section [2.2.3.68.1](#) and section [2.2.3.68.2](#).

#### 2.2.3.68.1 FilterType (GetItemEstimate)

The **airsync:FilterType** element is an optional child element of the **airsync:Options** element and a required child element of the **Collection** element in **GetItemEstimate** command requests. In both contexts, it specifies a time window for the objects sent from the server to the client. The parent element of the **airsync:FilterType** element depends on the protocol version being used. See the details about protocol versions at the end of this section.

Elements referenced in this section are defined in the **GetItemEstimate** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements  | Child elements | Data type  | Number allowed  |
|---|--|----------------|--|---|
| <b>GetItemEstimate</b> command request (section <a href="#">2.2.1.9</a> ) | <b>Collection</b> (section <a href="#">2.2.3.29.1</a> )<br><b>airsync:Options</b> (section <a href="#">2.2.3.125.2</a> ) | None           | <b>integer</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.6) | 1...1 (required) for <b>Collection</b><br>0...1 (optional) for <b>airsync:Options</b> |

The **airsync:FilterType** element applies to email, calendar, and task collections. If a filter type is specified, then the server sends an estimate of the items within the filter specifications.

If the **airsync:FilterType** element is present in the request, then the server manages objects on the client to maintain the specified time window. New objects are added to the client when they are within the time window. The start time of the time window is determined by subtracting the period of time represented by the value of the **FilterType** element from the current time. Any items that are dated between the start time of the window and the current time are considered within the time window. For example, if the value of the **FilterType** element is 2, then the start time of the time window is three days prior to the current time. If the **airsync:FilterType** element is omitted, then all objects are sent from the server.

Calendar items that are in the future or that have recurrence, but no end date, are sent to the client regardless of the **airsync:FilterType** element value.

The **airsync:FilterType** element does not support contact collections. However, if the **airsync:FilterType** element is included in a **GetItemEstimate** request for a contact collection, no error is returned.

The valid values for each collections type are listed in the following table.

| Value | Meaning          | Applies to email                    | Applies to calendar  | Applies to tasks                    |
|-------|------------------|-------------------------------------|--|-------------------------------------|
| 0     | No filter        | Yes                                 | Yes  | Yes                                 |
| 1     | 1 day            | Yes                                 | No, <b>Status</b> element (section <a href="#">2.2.3.177.7</a> ) value 110 | No, <b>Status</b> element value 110 |
| 2     | 3 days           | Yes                                 | No, <b>Status</b> element value 110  | No, <b>Status</b> element value 110 |
| 3     | 1 week           | Yes                                 | No, <b>Status</b> element value 110  | No, <b>Status</b> element value 110 |
| 4     | 2 weeks          | Yes                                 | Yes  | No, <b>Status</b> element value 110 |
| 5     | 1 month          | Yes                                 | Yes  | No, <b>Status</b> element value 110 |
| 6     | 3 months         | No, <b>Status</b> element value 110 | Yes  | No, <b>Status</b> element value 110 |
| 7     | 6 months         | No, <b>Status</b> element value 110 | Yes  | No, <b>Status</b> element value 110 |
| 8     | Incomplete tasks | No, <b>Status</b> element value 110 | No, <b>Status</b> element value 110  | Yes                                 |

Specifying a **airsync:FilterType** of 9 or above for when the **CollectionId** element (section [2.2.3.30.2](#)) identifies any email, contact, calendar or task collection results in a **Status** element value of 103.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support, child of Collection | Element support, child of airsync:Options |
|------------------|--------------------------------------|---|
| 2.5              | Yes                                  |   |

| Protocol version | Element support, child of Collection | Element support, child of airsync:Options |
|------------------|--------------------------------------|---|
| 12.0             | Yes                                  |   |
| 12.1             | Yes                                  |   |
| 14.0             |                                      | Yes                                       |
| 14.1             |                                      | Yes                                       |
| 16.0             |                                      | Yes                                       |
| 16.1             |                                      | Yes                                       |

The **FilterType** element is a required child element of the **Collection** element when protocol version 2.5, 12.0, or 12.1 is used; the **FilterType** element is an optional child element of the **airsync:Options** element when protocol version 14.0, 14.1, 16.0, or 16.1 is used.

### 2.2.3.68.2 FilterType (Sync)

The **FilterType** element is an optional child element of the **Options** element in **Sync** command requests that specifies an optional time window for the objects that are sent from the server to the client. It applies to email and calendar collections. If a **FilterType** element is specified, the server sends only objects that are dated within the specified time window.

All elements referenced in this section are defined in the **AirSync** namespace.

| Command request/response  | Parent elements                                       | Child elements | Data type   | Number allowed   |
|---|---|----------------|---|------------------|
| <b>Sync</b> command request (section <a href="#">2.2.1.21</a> ) | <b>Options</b> (section <a href="#">2.2.3.125.6</a> ) | None           | <b>unsignedByte</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.8) | 0...1 (optional) |

The following table lists valid values for the element.

| Value | Meaning                          | Email | Calendar | Tasks |
|-------|----------------------------------|-------|----------|-------|
| 0     | No filter- synchronize all items | Yes   | Yes      | Yes   |
| 1     | 1 day                            | Yes   | No       | No    |
| 2     | 3 days                           | Yes   | No       | No    |
| 3     | 1 week                           | Yes   | No       | No    |
| 4     | 2 weeks                          | Yes   | Yes      | No    |
| 5     | 1 month                          | Yes   | Yes      | No    |
| 6     | 3 months                         | No    | Yes      | No    |
| 7     | 6 months                         | No    | Yes      | No    |
| 8     | Filter by incomplete tasks       | No    | No       | Yes   |

When the **FilterType** element is specified, the server manages objects on the client to maintain the time window. New objects are added when they are within the time window. The server sends **SoftDelete** (section [2.2.3.172](#)) operations for objects on the client when they become older than the window. The start time of the time window is determined by subtracting the period of time represented by the value of the **FilterType** element from the current time. Any items that are dated



between the start time of the window and the current time are considered within the time window. For example, if the value of the **FilterType** element is 2, then the start time of the time window is three days prior to the current time.

Calendar items that are in the future or that have recurrence but no end date are sent to the client regardless of the **FilterType** element value. Calendar items that fall between the **FilterType** element value and the present time are returned to the client. For example, an appointment that occurred two weeks ago is returned when the **FilterType** element value is set to 5 (one month back). The result of including a **FilterType** element value of 8 for a Calendar item is undefined. The server can return a protocol status error in response to such a command request.

The **FilterType** element is a child of the **Options** element. Therefore, it appears only in requests to the server from the client.

The result of including more than one **FilterType** element as the child of the **Options** element is undefined. The server MAY return a protocol status error in response to such a command request.

If the **FilterType** element is omitted, all objects are sent from the server without regard for their age. Clients MUST send a maximum of one **FilterType** element.

The server ignores the **FilterType** element if it is included in a contact **Sync** request, no error is thrown.

The server returns a **Status** element (section [2.2.3.177.17](#)) value of 4 if a **FilterType** element value of 8 is included in an email **Sync** request.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.69 Find

The **Find** element is a required element in **Find** command requests and responses that identifies the body of the HTTP **POST** as containing a **Find** command (section 2.2.3.69). It is the top-level element in the XML stream.

All elements referenced in this section are defined in the **Find** namespace.

| Command request/response                                       | Parent elements | Child elements   | Data type   | Number allowed   |
|--|-----------------|--|---|------------------|
| <b>Find</b> command request (section <a href="#">2.2.1.2</a> ) | None            | <b>SearchId</b> (section <a href="#">2.2.3.160</a> )<br><b>ExecuteSearch</b> (section <a href="#">2.2.3.66</a> ) | <b>container</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.2) | 1...1 (required) |
| <b>Find</b> command response                                   | None            | <b>Status</b> (section <a href="#">2.2.3.177.2</a> )<br><b>Response</b> (section <a href="#">2.2.3.153.2</a> )   | <b>container</b>  | 1...1 (required) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.70 FirstName

The **FirstName** element is used in the following command responses:

- **Find** command responses (section [2.2.1.2](#))
- **Search** command responses (section [2.2.1.16](#))

The definition of the **FirstName** element differs according to the context in which it is used. For more details, see section [2.2.3.70.1](#) and section [2.2.3.70.2](#).

#### 2.2.3.70.1 FirstName (Find)

The **FirstName** element in the **GAL** namespace is an optional child element of the **find:Properties** element in **Search** command responses. The **FirstName** element is only present in response to **Find** command requests that contain the **GALSearchCriterion** element as specified in section [2.2.3.82](#). It contains the first name of a recipient in the **GAL** that matched the search criteria from the corresponding **Find** command request.

| Command request/response  | Parent elements  | Child elements | Data type                                | Number allowed   |
|---|--|----------------|--|------------------|
| <b>Find</b> command response (section <a href="#">2.2.1.2</a> ) | <b>Properties</b> (section <a href="#">2.2.3.139.1</a> ) | None           | <b>string</b> ([MS-ASDTYPE] section 2.7) | 0...1 (optional) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.70.2 FirstName (Search)

The **FirstName** element in the **GAL** namespace is an optional child element of the **search:Properties** element in **Search** command responses. The **FirstName** element is only present in response to **Search** command requests that contain a **search:Name** element with a value of "GAL", as specified in section [2.2.3.120.2](#). It contains the first name of a recipient in the **GAL** that matched the search criteria from the corresponding **Search** command request.

| Command request/response   | Parent elements  | Child elements | Data type                                | Number allowed   |
|--|--|----------------|--|------------------|
| <b>Search</b> command response (section <a href="#">2.2.1.16</a> ) | <b>Properties</b> (section <a href="#">2.2.3.139.3</a> ) | None           | <b>string</b> ([MS-ASDTYPE] section 2.7) | 0...1 (optional) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.71 Folder

The **Folder** element is used in the following command requests and responses:

- **GetHierarchy** command responses (section [2.2.1.8](#))
- **Ping** command requests and responses (section [2.2.1.13](#))

The definition of the **Folder** element differs according to the context in which it is used. For more details, see section [2.2.3.71.1](#) and section [2.2.3.71.2](#).

#### 2.2.3.71.1 Folder (GetHierarchy)

The **Folder** element is a required child element of the **Folders** element in **GetHierarchy** command responses that contains details about a folder.

All elements referenced in this section are defined in the **FolderHierarchy** namespace.

| Command request/response  | Parent elements                                      | Child elements   | Data type   | Number allowed   |
|---|--|--|---|------------------|
| <b>GetHierarchy</b> command response (section <a href="#">2.2.1.8</a> ) | <b>Folders</b> (section <a href="#">2.2.3.75.1</a> ) | <b>DisplayName</b> (section <a href="#">2.2.3.49.5</a> )<br><b>ServerId</b> (section <a href="#">2.2.3.166.6</a> )<br><b>Type</b> (section <a href="#">2.2.3.186.4</a> )<br><b>ParentId</b> (section <a href="#">2.2.3.129.4</a> ) | <b>container</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.2) | 1...N (required) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             |                 |

### 2.2.3.71.2 Folder (Ping)

The **Folder** element is a required child element of the **Folders** element in **Ping** command requests that identifies the folder and folder type to be monitored by the client. The **Folder** element is a required child element of the **Folders** element in **Ping** command responses that identifies the folder that is being described by the returned status code.

All elements referenced in this section are defined in the **Ping** namespace.

| Command request/response  | Parent elements                                      | Child elements  | Data type  | Number allowed   |
|---|--|---|--|------------------|
| <b>Ping</b> command request (section <a href="#">2.2.1.13</a> ) | <b>Folders</b> (section <a href="#">2.2.3.75.2</a> ) | <b>Id</b> (section <a href="#">2.2.3.90</a> )<br><b>Class</b> (section <a href="#">2.2.3.27.4</a> ) | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 1...N (required) |
| <b>Ping</b> command response                                    | <b>Folders</b> (section <a href="#">2.2.3.75.2</a> ) | None  | <b>string</b> ([MS-ASDTYPE] section 2.7)                     | 1...N (required) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.72 FolderCreate

The **FolderCreate** element is a required element in **FolderCreate** command requests and **FolderCreate** command responses that identifies the body of the HTTP **POST** as containing a **FolderCreate** command (section [2.2.1.3](#)). It is the top-level element in the XML stream.

All elements referenced in this section are defined in the **FolderHierarchy** namespace.

| Command request/response                              | Parent elements | Child elements  | Data type  | Number allowed   |
|---|-----------------|---|--|------------------|
| <b>FolderCreate</b> command request (section 2.2.1.3) | None            | <b>SyncKey</b> (section <a href="#">2.2.3.181.1</a> )<br><b>ParentId</b> (section <a href="#">2.2.3.129.1</a> )<br><b>DisplayName</b> (section <a href="#">2.2.3.49.3</a> )<br><b>Type</b> (section <a href="#">2.2.3.186.2</a> ) | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 1...1 (required) |
| <b>FolderCreate</b> command response                  | None            | <b>SyncKey</b><br><b>ServerId</b> (section <a href="#">2.2.3.166.2</a> )<br><b>Status</b> (section <a href="#">2.2.3.177.3</a> )  | <b>container</b>   | 1...1 (required) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.73 FolderDelete

The **FolderDelete** element is a required element in **FolderDelete** command requests and **FolderDelete** command responses that identifies the body of the HTTP **POST** as containing a **FolderDelete** command (section [2.2.1.4](#)). It is the top-level element in the XML stream.

All elements referenced in this section are defined in the **FolderHierarchy** namespace.

| Command request/response             | Parent elements | Child elements  | Data type   | Number allowed   |
|--------------------------------------|-----------------|---|---|------------------|
| <b>FolderDelete</b> command request  | None            | <b>SyncKey</b> (section <a href="#">2.2.3.181.1</a> )<br><b>ServerId</b> (section <a href="#">2.2.3.166.3</a> ) | <b>container</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.2) | 1...1 (required) |
| <b>FolderDelete</b> command response | None            | <b>SyncKey</b><br><b>Status</b> (section <a href="#">2.2.3.177.4</a> )  | <b>container</b>  | 1...1 (required) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.74 FolderId

The **FolderId** element is an optional child element of the **Source** element in **SmartForward** command requests and **SmartReply** command requests that specifies the folder ID for the source message, which is returned in the **FolderSync** command response message (section [2.2.1.5](#)). If the **FolderId** element is present, the **ItemId** element (section [2.2.3.93](#)) MUST also be present. The **FolderId** element value can be up to 64 characters in length.

All elements referenced in this section are defined in the **ComposeMail** namespace.

| Command request/response  | Parent elements                                    | Child elements | Data type  | Number allowed   |
|---|--|----------------|--|------------------|
| <b>SmartForward</b> command request (section <a href="#">2.2.1.19</a> ) | <b>Source</b> (section <a href="#">2.2.3.173</a> ) | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 0...1 (optional) |
| <b>SmartReply</b> command request (section <a href="#">2.2.1.20</a> )   | <b>Source</b>                                      | None           | <b>string</b>  | 0...1 (optional) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support, SmartForward | Element support, SmartReply |
|------------------|-------------------------------|-----------------------------|
| 2.5              |                               |                             |
| 12.0             |                               |                             |
| 12.1             |                               |                             |
| 14.0             | Yes                           | Yes                         |
| 14.1             | Yes                           | Yes                         |
| 16.0             | Yes                           | Yes                         |
| 16.1             | Yes                           | Yes                         |

## 2.2.3.75 Folders

The **Folders** element is used in the following command requests and responses:

- **GetHierarchy** command responses (section [2.2.1.8](#))
- **Ping** command requests and responses (section [2.2.1.13](#))

The definition of the **Folders** element differs according to the context in which it is used. For more details, see section [2.2.3.75.1](#) and section [2.2.3.75.2](#).

### 2.2.3.75.1 Folders (GetHierarchy)

The **Folders** element is a required element in **GetHierarchy** command responses that specifies the folders in a **mailbox**. The **Folders** element identifies the body of the **HTTP POST** as containing a **GetHierarchy** command (section [2.2.1.8](#)). It is the top-level element in the **XML** stream of the **GetHierarchy** command response.

All elements referenced in this section are defined in the **FolderHierarchy** namespace.



| Command request/response                               | Parent elements | Child elements                                      | Data type                                   | Number allowed   |
|--|-----------------|---|---|------------------|
| <b>GetHierarchy</b> command response (section 2.2.1.8) | None            | <b>Folder</b> (section <a href="#">2.2.3.71.1</a> ) | <b>container</b> ([MS-ASDTYPE] section 2.2) | 1...1 (required) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             |                 |

### 2.2.3.75.2 Folders (Ping)

The **Folders** element is an optional child element of the **Ping** element in **Ping** command requests and responses that contains the **Folder** element.

All elements referenced in this section are defined in the **Ping** namespace.

| Command request/response  | Parent elements                                  | Child elements                                      | Data type                                   | Number allowed   |
|---|--|---|---|------------------|
| <b>Ping</b> command request (section <a href="#">2.2.1.13</a> ) | <b>Ping</b> (section <a href="#">2.2.3.136</a> ) | <b>Folder</b> (section <a href="#">2.2.3.71.2</a> ) | <b>container</b> ([MS-ASDTYPE] section 2.2) | 0...1 (optional) |
| <b>Ping</b> command response                                    | <b>Ping</b>                                      | <b>Folder</b>                                       | <b>container</b>                            | 0...1 (optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.76 FolderSync

The **FolderSync** element is a required element in **FolderSync** command requests and **FolderSync** command responses that identifies the body of the HTTP **POST** as containing a **FolderSync** command (section [2.2.1.5](#)). It is the top-level element in the XML stream.

All elements referenced in this section are defined in the **FolderHierarchy** namespace.

| Command request/response                            | Parent elements | Child elements   | Data type  | Number allowed   |
|---|-----------------|--|--|------------------|
| <b>FolderSync</b> command request (section 2.2.1.5) | None            | <b>SyncKey</b> (section <a href="#">2.2.3.181.2</a> )  | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 1...1 (required) |
| <b>FolderSync</b> command response                  | None            | <b>SyncKey</b><br><b>Status</b> (section <a href="#">2.2.3.177.5</a> )<br><b>Changes</b> (section <a href="#">2.2.3.25</a> ) | <b>container</b>   | 1...1 (required) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.77 FolderUpdate

The **FolderUpdate** element is a required element in **FolderUpdate** command requests and **FolderUpdate** command responses that identifies the body of the HTTP **POST** as containing a **FolderUpdate** command (section [2.2.1.6](#)). It is the top-level element in the XML stream.

All elements referenced in this section are defined in the **FolderHierarchy** namespace.

| Command request/response             | Parent elements | Child elements  | Data type   | Number allowed   |
|--------------------------------------|-----------------|---|---|------------------|
| <b>FolderUpdate</b> command request  | None            | <b>SyncKey</b> (section <a href="#">2.2.3.181.1</a> )<br><b>ServerId</b> (section <a href="#">2.2.3.166.5</a> )<br><b>ParentId</b> (section <a href="#">2.2.3.129.3</a> )<br><b>DisplayName</b> (section <a href="#">2.2.3.49.3</a> ) | <b>container</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.2) | 1...1 (required) |
| <b>FolderUpdate</b> command response | None            | <b>SyncKey</b><br><b>Status</b> (section <a href="#">2.2.3.177.6</a> )  | <b>container</b>  | 1...1 (required) |

Including the **Status** element in a **FolderUpdate** request results in a **Status** element value of 10 being returned in the response.

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.78 Forwarder

The **Forwarder** element is a required child element of the **Forwardees** element in **SmartForward** command requests and the **Forwardees** element in **Sync** command responses that specifies a recipient of a forwarded meeting invitation.

All elements referenced in this section are defined in the **ComposeMail** namespace.

| Command request/response  | Parent elements                                       | Child elements   | Data type                                   | Number allowed   |
|---|---|--|---|------------------|
| <b>SmartForward</b> command request (section <a href="#">2.2.1.19</a> ) | <b>Forwardees</b> (section <a href="#">2.2.3.79</a> ) | <b>Email</b> (section <a href="#">2.2.3.51</a> )<br><b>Name</b> (section <a href="#">2.2.3.113.3</a> ) | <b>container</b> ([MS-ASDTYPE] section 2.2) | 1...N (required) |
| <b>Sync</b> command response (section <a href="#">2.2.1.21</a> )        | <b>Forwardees</b> (section 2.2.3.79)                  | <b>Email</b> (section <a href="#">2.2.3.51</a> )<br><b>Name</b> (section <a href="#">2.2.3.113.3</a> ) | <b>container</b> ([MS-ASDTYPE] section 2.2) | 1...N (required) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             | Yes             |
| 16.1             | Yes             |

The **Forwardee** element as a required child element of the **Forwardees** element is not supported in **Sync** command responses in protocol version 16.0.

### 2.2.3.79 Forwardees

The **Forwardees** element is an optional child element of the **SmartForward** element in **SmartForward** command requests and the **MeetingRequest** element in **Sync** command responses that specifies the recipients of a forwarded meeting invitation.

Elements referenced in this section are defined in the **ComposeMail** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements  | Child elements                                       | Data type                                   | Number allowed   |
|---|--|--|---|------------------|
| <b>SmartForward</b> command request (section <a href="#">2.2.1.19</a> ) | <b>SmartForward</b> (section <a href="#">2.2.3.169</a> ) | <b>Forwardee</b> (section <a href="#">2.2.3.78</a> ) | <b>container</b> ([MS-ASDTYPE] section 2.2) | 0...1 (optional) |
| <b>Sync</b> command response  | <b>MeetingRequest</b>                                    | <b>Forwardee</b>                                     | <b>container</b> ([MS-                      | 0...1            |

| Command request/response            | Parent elements                                  | Child elements     | Data type             | Number allowed |
|-------------------------------------|--|--------------------|-----------------------|----------------|
| (section <a href="#">2.2.1.21</a> ) | ( <a href="#">[MS-ASEMAIL]</a> section 2.2.2.48) | (section 2.2.3.78) | ASDTYPE] section 2.2) | (optional)     |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             | Yes             |
| 16.1             | Yes             |

The **Forwardees** element as an optional child element of the **MeetingRequest** element is not supported in **Sync** command responses in protocol version 16.0.

### 2.2.3.80 FreeText

The **FreeText** element is used in the following command requests and responses:

- **Find** command requests (section [2.2.1.2](#))
- **Search** command requests and responses (section [2.2.1.16](#))

The definition of the **FreeText** element differs according to the context in which it is used. For more details, see section [2.2.3.80.1](#) and section [2.2.3.80.2](#).

#### 2.2.3.80.1 FreeText (Find)

The **FreeText** element is an optional child element of the **Query** element in **Find** command requests that specifies a Keyword Query Language (KQL) string value that defines the search criteria.

All elements referenced in this section are defined in the **Find** namespace.

| Command request/response                                       | Parent elements                                     | Child elements | Data type   | Number allowed   |
|--|---|----------------|---|------------------|
| <b>Find</b> command request (section <a href="#">2.2.1.2</a> ) | <b>Query</b> (section <a href="#">2.2.3.142.1</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 1...1 (required) |

Property restrictions are search predicates such as "from:", "to:", "subject:", etc. that can be used to search against specific keywords. For a detailed list of all supported property restrictions, see

[Advanced Query Search](#). For details on the syntax to construct the property restriction search, see [\[MS-KQL\]](#).

If no property restriction is provided, the basic keyword query is executed against all indexed properties.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.80.2 FreeText (Search)

The **FreeText** element is an optional child element of the **And or Or** element in **Search** command requests that specifies a **string** value for which to search.

All elements referenced in this section are defined in the **Search** namespace.

| Command request/response  | Parent elements  | Child elements | Data type   | Number allowed   |
|---|--|----------------|---|------------------|
| <b>Search</b> command request (section <a href="#">2.2.1.16</a> ) | <b>And</b> (section <a href="#">2.2.3.10</a> )<br><b>Or</b> (section <a href="#">2.2.3.120</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 0...1 (optional) |

If the **FreeText** element is included as a child element of any element other than the **And** element or **Or** element, the server responds with a **Status** element (section [2.2.3.177.13](#)) value of 8 (SearchTooComplex).

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |

| Protocol version | Element support |
|------------------|-----------------|
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.81 FriendlyName

The **FriendlyName** element is an optional child element of the **Set** element in **Settings** command requests that specifies a name that MUST uniquely describe the client device.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response  | Parent elements                                 | Child elements | Data type  | Number allowed      |
|---|---|----------------|--|---------------------|
| <b>Settings</b> command<br><b>DeviceInformation</b> request (section <a href="#">2.2.1.18</a> ) | <b>Set</b> (section <a href="#">2.2.3.167</a> ) | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 0...1<br>(optional) |

The friendly name of the device is a string that is meaningful to the user. The server does not validate this value. The **FriendlyName** element value can be up to 1024 characters in length.

The friendly name of the device is specified during partnership creation if the user creates a desktop-device partnership with a desktop. For more information about creating a desktop-device partnership, see [\[MSDN-ADDP\]](#).

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.82 GALSearchCriterion

The **GALSearchCriterion** element is a required child element of the **ExecuteSearch** element in **Find** command requests that contains the criterion for a GAL search.

All elements referenced in this section are defined in the **Find** namespace.

| Command request/response                                       | Parent elements  | Child elements   | Data type  | Number allowed   |
|--|--|--|--|------------------|
| <b>Find</b> command request (section <a href="#">2.2.1.2</a> ) | <b>ExecuteSearch</b> (section <a href="#">2.2.3.66</a> ) | <b>Query</b> (section <a href="#">2.2.3.142.1</a> )<br><b>Options</b> (section <a href="#">2.2.3.125.1</a> ) | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 1...1 (required) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.83 Get

The **Get** element is a required child element of the **RightsManagementInformation** element in **Settings** command **RightsManagementInformation** requests and responses, an optional child element of the **Oof** element in **Settings** command **Oof** requests and responses, and a required child element of the **UserInformation** element in **Settings** command **UserInformation** requests and responses.

In requests, the **Get** element enables the client to retrieve rights management information settings, **OOF** settings, or user information settings from the server. In responses, the **Get** element contains rights management information settings, **OOF** information, or user information settings retrieved from the server.

Elements referenced in this section are defined in the **Settings** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).



| Command request/response   | Parent elements   | Child elements  | Data type  | Number allowed   |
|--|---|---|--|------------------|
| <b>Settings</b> command <b>RightsManagementInformation</b> request (section <a href="#">2.2.1.18</a> ) | <b>RightsManagementInformation</b> (section <a href="#">2.2.3.156</a> ) | None  | None   | 1...1 (required) |
| <b>Settings</b> command <b>RightsManagementInformation</b> response                                    | <b>RightsManagementInformation</b>                                      | <b>rm:RightsManagementTemplates</b> ( <a href="#">[MS-ASRM]</a> section 2.2.2.17)   | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 1...1 (required) |
| <b>Settings</b> command <b>Oof</b> request   | <b>Oof</b> (section <a href="#">2.2.3.122</a> )                         | <b>BodyType</b> (section <a href="#">2.2.3.17</a> )   | <b>container</b>   | 0...1 (optional) |
| <b>Settings</b> command <b>Oof</b> response  | <b>Oof</b>  | <b>OofState</b> (section <a href="#">2.2.3.124</a> )<br><b>StartTime</b> (section <a href="#">2.2.3.176.2</a> )<br><b>EndTime</b> (section <a href="#">2.2.3.61.2</a> )<br><b>OofMessage</b> (section <a href="#">2.2.3.123</a> ) | <b>container</b>   | 0...1 (optional) |
| <b>Settings</b> command <b>UserInformation</b> request   | <b>UserInformation</b> (section <a href="#">2.2.3.192</a> )             | None  | None   | 1...1 (required) |
| <b>Settings</b> command <b>UserInformation</b> response  | <b>UserInformation</b>  | <b>EmailAddresses</b> (section <a href="#">2.2.3.57</a> )<br><b>Accounts</b> (section <a href="#">2.2.3.5</a> )   | <b>container</b>   | 1...1 (required) |

In a **Settings** command **Oof** request, the client specifies the body type (**BodyType** element) to be retrieved and the server will return all OOF settings and messages for that body type.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support, child of Oof, UserInformation | Element support, child of RightsManagementInformation |
|------------------|--|---|
| 2.5              |  |   |
| 12.0             | Yes  |   |
| 12.1             | Yes  |   |
| 14.0             | Yes  |   |
| 14.1             | Yes  | Yes   |
| 16.0             | Yes  | Yes   |

| Protocol version | Element support, child of Oof, UserInformation | Element support, child of RightsManagementInformation |
|------------------|--|---|
| 16.1             | Yes  | Yes   |

The **EmailAddresses** element is supported as a child element of the **Get** element only when the protocol version 12.0, 12.1 or 14.0 is used.

The **RightsManagementInformation** element is supported as a parent element of the **Get** element only when the protocol version 14.1, 16.0, or 16.1 is used.

### 2.2.3.84 GetChanges

The **GetChanges** element is an optional child element of the **Collection** element in **Sync** command requests that request the server to include in its response any pending changes to the collection that is specified by the **ServerId** element (section [2.2.3.166.8](#)). If there have been changes since the last synchronization, the server response includes a **Commands** element (section [2.2.3.32](#)) that contains additions, deletions, and changes.

All elements referenced in this section are defined in the **AirSync** namespace.

| Command request/response  | Parent elements   | Child elements | Data type   | Number allowed   |
|---|---|----------------|---|------------------|
| <b>Sync</b> command request (section <a href="#">2.2.1.21</a> ) | <b>Collection</b> (section <a href="#">2.2.3.29.2</a> ) | None           | <b>boolean</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.1) | 0...1 (optional) |

The **GetChanges** element appears only in requests to the server from the client.

If the client does not want the server changes returned, the request MUST include the **GetChanges** element with a value of 0 (**FALSE**). A value of 1 (**TRUE**) indicates that the client wants the server changes to be returned. A value of 1 (**TRUE**) is assumed when the **GetChanges** element is empty.

When the **GetChanges** element is not present in the request, the behavior depends on the value of the **SyncKey** element, as specified in section [2.2.3.181.4](#). If the **SyncKey** element has a value of 0, then the request is handled as if the **GetChanges** element were set to 0 (**FALSE**). If the **SyncKey** element has a non-zero value, then the request is handled as if the **GetChanges** element were set to 1 (**TRUE**).

A **Status** element (section [2.2.3.177.17](#)) value of 4 is returned if the **GetChanges** element is present and empty or set to 1 (**TRUE**) when the **SyncKey** element value is 0 (zero). No error is returned if the **GetChanges** element is absent or set to 0 (**FALSE**) when the **SyncKey** value is 0 (zero).

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.85 GetItemEstimate

The **GetItemEstimate** element is a required element in **GetItemEstimate** command requests and **GetItemEstimate** command responses that identifies the body of the HTTP **POST** as containing a **GetItemEstimate** command (section [2.2.1.9](#)). It is the top-level element in the XML stream.

All elements referenced in this section are defined in the **GetItemEstimate** namespace.

| Command request/response                | Parent elements | Child elements   | Data type  | Number allowed   |
|---|-----------------|--|--|------------------|
| <b>GetItemEstimate</b> command request  | None            | <b>Collections</b> (section <a href="#">2.2.3.31.1</a> )   | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 1...1 (required) |
| <b>GetItemEstimate</b> command response | None            | <b>Status</b> (section <a href="#">2.2.3.166.6</a> )<br><b>Response</b> (section <a href="#">2.2.3.153.3</a> ) | <b>container</b>   | 1...1 (required) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.86 GreaterThan

The **GreaterThan** element is an optional child element of the **And** or **Or** element in **Search** command requests that contains elements that specify a property and a value that are compared for a "greater than" **condition** during a search.

Elements referenced in this section are defined in the **Search** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements  | Child elements   | Data type  | Number allowed   |
|---|--|--|--|------------------|
| <b>Search</b> command request (section <a href="#">2.2.1.16</a> ) | <b>And</b> (section <a href="#">2.2.3.10</a> )<br><b>Or</b> (section <a href="#">2.2.3.120</a> ) | <b>email:DateReceived</b> (section <a href="#">2.2.3.54</a> )<br><b>Value</b> (section <a href="#">2.2.3.196</a> ) | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 0...1 (optional) |

The result of including more than one **GreaterThan** element in a **Search** command request is undefined. The server MAY return a protocol status error in response to such a command request.

The **GreaterThan** element is supported only in mailbox searches. It is not supported for document library searches. The comparison is made between the value of the **Value** element and the date that a mailbox item was received. The **email:DateReceived** element MUST be present before the **Value** element.

Typically, this element is used to filter results by the date on which they were received so that the date received is greater than the specified value.

If the **GreaterThan** element is included as a child element of any element other than the **And** element (section [2.2.3.10](#)) or **Or** element (section [2.2.3.120](#)), the server responds with a **Status** element (section [2.2.3.177.13](#)) value of 8 (SearchTooComplex).

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |

### 2.2.3.87 HasAttachments

The **HasAttachments** element is an optional child element of the **Properties** element in **Find** command responses that specifies whether or not a message contains attachments.

All elements referenced in this section are defined in the **Find** namespace.

| Command request/response  | Parent elements  | Child elements | Data type  | Number allowed   |
|---|--|----------------|--|------------------|
| <b>Find</b> command response (section <a href="#">2.2.1.2</a> ) | <b>Properties</b> (section <a href="#">2.2.3.139.1</a> ) | None           | <b>boolean</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.1) | 0...1 (optional) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.88 HeartbeatInterval

The **HeartbeatInterval** element is used in the following command requests and responses:

- **Ping** command requests and responses (section [2.2.1.13](#))
- **Sync** command requests (section [2.2.1.21](#))

The definition of the **HeartbeatInterval** element differs according to the context in which it is used. For more details, section [2.2.3.88.1](#) and section [2.2.3.88.2](#).

#### 2.2.3.88.1 HeartbeatInterval (Ping)

The **HeartbeatInterval** element is a child element of the **Ping** element in **Ping** command requests and responses. In **Ping** command requests, it specifies the length of time, in seconds, that the server SHOULD wait before sending a response if no new items are added to the specified set of folders, as specified in section [3.1.5.8](#). The **HeartbeatInterval** element is also returned by the server with a status code of 5 and specifies either the minimum or maximum interval that is allowed when the client has requested a heartbeat interval that is outside the acceptable range.

All elements referenced in this section are defined in the **Ping** namespace.

| Command request/response  | Parent elements                                  | Child elements | Data type   | Number allowed                     |
|---|--|----------------|---|------------------------------------|
| <b>Ping</b> command request (section <a href="#">2.2.1.13</a> ) | <b>Ping</b> (section <a href="#">2.2.3.136</a> ) | None           | <b>integer</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.6) | 1 (required in first request only) |
| <b>Ping</b> command response                                    | <b>Ping</b>                                      | None           | <b>integer</b>  | 0...1 (optional)                   |

Valid values for the **HeartbeatInterval** element are implementation-specific. [<7>](#)

The **HeartbeatInterval** element is required only in the first **Ping** command request from a device by a given user. The server then caches the heartbeat interval value so that in later requests the **HeartbeatInterval** element is necessary only if the client is changing the interval.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

## 2.2.3.88.2 HeartbeatInterval (Sync)

The **HeartbeatInterval** element is an optional child element of the **Sync** element in **Sync** command requests that specifies the number of seconds that the server SHOULD delay a response if no new items are added to the included folders, as specified in section [3.1.5.4](#).

All elements referenced in this section are defined in the **AirSync** namespace.

| Command request/response  | Parent elements                                  | Child elements | Data type   | Number allowed   |
|---|--|----------------|---|------------------|
| <b>Sync</b> command request (section <a href="#">2.2.1.21</a> ) | <b>Sync</b> (section <a href="#">2.2.3.180</a> ) | None           | <b>integer</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.6) | 0...1 (optional) |

Valid values for the **HeartbeatInterval** element are implementation-specific. [<8>](#) When the client requests an interval that is outside the acceptable range, the server will send a response that includes a **Status** element (section [2.2.3.177.17](#)) value of 14 and a **Limit** element.

Either the **HeartbeatInterval** element or the **Wait** element (section [2.2.3.198](#)) can be included in a **Sync** command request, but not both. If both elements are included, the server response will contain a **Status** element value of 4.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

## 2.2.3.89 HomePhone

The **HomePhone** element is used in the following command responses:

- **Find** command responses (section [2.2.1.2](#))
- **Search** command responses (section [2.2.1.16](#))

The definition of the **HomePhone** element differs according to the context in which it is used. For more details, see section [2.2.3.89.1](#) and section [2.2.3.89.2](#).

### 2.2.3.89.1 HomePhone (Find)

The **HomePhone** element in the **GAL** namespace is an optional child element of the **find:Properties** element in **Find** command responses. The **HomePhone** element is only present in response to **Find** command requests that contain the **GALSearchCriterion** element as specified in section [2.2.3.82](#). It contains the home phone number of a recipient in the **GAL** that matched the search criteria from the corresponding **Find** command request.

| Command request/response  | Parent elements  | Child elements | Data type   | Number allowed   |
|---|--|----------------|---|------------------|
| <b>Find</b> command response (section <a href="#">2.2.1.2</a> ) | <b>Properties</b> (section <a href="#">2.2.3.139.1</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 0...1 (optional) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.89.2 HomePhone (Search)

The **HomePhone** element in the **GAL** namespace is an optional child element of the **search:Properties** element in **Search** command responses. The **HomePhone** element is only present in response to **Search** command requests that contain a **search:Name** element with a value of "GAL", as specified in section [2.2.3.120.2](#). It contains the home phone number of a recipient in the **GAL** that matched the search criteria from the corresponding **Search** command request.

| Command request/response   | Parent elements  | Child elements | Data type   | Number allowed   |
|--|--|----------------|---|------------------|
| <b>Search</b> command response (section <a href="#">2.2.1.16</a> ) | <b>Properties</b> (section <a href="#">2.2.3.139.3</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 0...1 (optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |



| Protocol version | Element support |
|------------------|-----------------|
| 16.1             | Yes             |

### 2.2.3.90 Id

The **Id** element is a required child element of the **Folder** element in **Ping** command requests that specifies the server ID of the folder to be monitored.

Elements referenced in this section are defined in the **Ping** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements                                     | Child elements | Data type   | Number allowed   |
|---|---|----------------|---|------------------|
| <b>Ping</b> command request (section <a href="#">2.2.1.13</a> ) | <b>Folder</b> (section <a href="#">2.2.3.71.2</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 1...1 (required) |

The server ID of the folder is obtained from the **folderhierarchy:ServerId** element (section [2.2.3.166](#)) of a previous **FolderSync** command response (section [2.2.1.5](#)) or **FolderCreate** command response (section [2.2.1.3](#)). The **Id** element value can be up to 64 characters in length. The server returns a **Status** element (section [2.2.3.177.11](#)) value of 4 if the value of the **Id** element is the same for two or more folders listed in a **Ping** request.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.91 IMEI

The **IMEI** element is an optional child element of the **Set** element in **Settings** command requests that specifies a 15-character code that MUST uniquely identify a device.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response  | Parent elements                                 | Child elements | Data type  | Number allowed   |
|---|---|----------------|--|------------------|
| <b>Settings</b> command<br><b>DeviceInformation</b> request (section <a href="#">2.2.1.18</a> ) | <b>Set</b> (section <a href="#">2.2.3.167</a> ) | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 0...1 (optional) |

The **IMEI** element value can be up to 1024 characters in length. The server does not validate the format of the **IMEI** element value.

The device ID parameter that is currently included in the request URL is not precisely defined; protocol implementers are free to populate the field as they want. To enable workable inventory-type report generation, an ID that uniquely identifies a device in the space of all devices is required. The **IMEI** element satisfies this requirement.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

## 2.2.3.92 InstanceId

The **InstanceId** element is used in the following command requests:

- **MeetingResponse** command requests and responses (section [2.2.1.11](#))
- **SmartForward** command requests (section [2.2.1.19](#))
- **SmartReply** command requests (section [2.2.1.20](#))

The definition of the **InstanceId** element differs according to the context in which it is used. For more details, see section [2.2.3.92.1](#) and section [2.2.3.92.2](#).

### 2.2.3.92.1 InstanceId (MeetingResponse)

The **InstanceId** element is an optional child element of the **Request** element in **MeetingResponse** command requests and an optional child element of the **Result** element in **MeetingResponse** command responses that specifies the instance of the recurring meeting to be modified.

Elements referenced in this section are defined in the **MeetingResponse** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response   | Parent elements                                       | Child elements | Data type   | Number allowed   |
|--|---|----------------|---|------------------|
| <b>MeetingResponse</b> command request (section <a href="#">2.2.1.11</a> ) | <b>Request</b> (section <a href="#">2.2.3.150.2</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 0...1 (optional) |
| <b>MeetingResponse</b> command response                                    | <b>Result</b> (section <a href="#">2.2.3.155.2</a> )  | None           | <b>string</b>   | 0...1 (optional) |

The **InstanceId** element contains the original, unmodified, **UTC** date and time of the appointment or meeting instance to be modified. If the **InstanceId** element is not included in the **MeetingResponse** request, then the action is to be taken on every instance of the recurring item. The **InstanceId** element can specify the start time of an exception to a recurring appointment or meeting.

The **InstanceId** element can be used with the **search:LongId** element (section [2.2.3.98.2](#)) to identify a calendar item, or it can be used with the **CollectionId** (section [2.2.3.30.4](#)) and **RequestId** (section [2.2.3.151](#)) elements to identify a calendar item.

The format of the **InstanceId** value is a **string** in **dateTime** ([MS-ASDTYPE] section 2.3) format with the punctuation separators, for example, 2010-04-08T18:16:00.000Z. If the **InstanceId** element passes schema validation but the value is not specified in the proper format, the server responds with a **Status** element (section [2.2.3.177.9](#)) value of 104. If the **InstanceId** element value specifies a non-recurring meeting, the server responds with a **Status** element value of 146. A **Status** element value of 2 or an **HTTP** 400 response is returned if the request includes the **InstanceId** element when a non-supporting protocol version is used. [<9>](#) Details about protocol versions are provided at the end of this section.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

The **InstanceId** element is included in a **MeetingResponse** command response only when protocol version 16.0 or 16.1 is used.

### 2.2.3.92.2 InstanceId (SmartForward and SmartReply)

The **InstanceId** element is an optional child element of the **Source** element in **SmartForward** command requests and **SmartReply** command requests that specifies the instance of a recurrence for the source item. If the **InstanceId** element is present, both the **FolderId** (section [2.2.3.74](#)) and **ItemId** (section [2.2.3.93](#)) elements SHOULD be present.

All elements referenced in this section are defined in the **ComposeMail** namespace.

| Command request/response  | Parent elements                                    | Child elements | Data type  | Number allowed   |
|---|--|----------------|--|------------------|
| <b>SmartForward</b> command request (section <a href="#">2.2.1.19</a> ) | <b>Source</b> (section <a href="#">2.2.3.173</a> ) | None           | <b>datetime</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.3) | 0...1 (optional) |
| <b>SmartReply</b> command request (section <a href="#">2.2.1.20</a> )   | <b>Source</b>                                      | None           | <b>datetime</b>  | 0...1 (optional) |

The format of the **InstanceId** element is a **dateTime** value that includes the punctuation separators. For example, 2010-03-20T22:40:00.000Z.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support, SmartForward | Element support, SmartReply |
|------------------|-------------------------------|-----------------------------|
| 2.5              |                               |                             |
| 12.0             |                               |                             |
| 12.1             |                               |                             |
| 14.0             | Yes                           | Yes                         |
| 14.1             | Yes                           | Yes                         |
| 16.0             | Yes                           | Yes                         |
| 16.1             | Yes                           | Yes                         |

### 2.2.3.93 ItemId

The **ItemId** element is an optional child element of the **Source** element in **SmartForward** command requests and **SmartReply** command requests that specifies the item ID for the source message, which is returned in the **Sync** command response message (section [2.2.1.21](#)). If the **ItemId** element is present, the **FolderId** element (section [2.2.3.74](#)) MUST also be present if the message being forwarded or replied to is stored in a folder other than the **Inbox folder**. The **ItemId** element value can be up to 64 characters in length.

All elements referenced in this section are defined in the **ComposeMail** namespace.

| Command request/response  | Parent elements                                    | Child elements | Data type  | Number allowed   |
|---|--|----------------|--|------------------|
| <b>SmartForward</b> command request (section <a href="#">2.2.1.19</a> ) | <b>Source</b> (section <a href="#">2.2.3.173</a> ) | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.3) | 0...1 (optional) |

| Command request/response  | Parent elements | Child elements | Data type     | Number allowed   |
|---|-----------------|----------------|---------------|------------------|
|   |                 |                | 2.7)          |                  |
| <b>SmartReply</b> command request (section <a href="#">2.2.1.20</a> ) | <b>Source</b>   | None           | <b>string</b> | 0...1 (optional) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support, SmartForward | Element support, SmartReply |
|------------------|-------------------------------|-----------------------------|
| 2.5              |                               |                             |
| 12.0             |                               |                             |
| 12.1             |                               |                             |
| 14.0             | Yes                           | Yes                         |
| 14.1             | Yes                           | Yes                         |
| 16.0             | Yes                           | Yes                         |
| 16.1             | Yes                           | Yes                         |

### 2.2.3.94 ItemOperations

The **ItemOperations** element is a required element in **ItemOperations** command requests and **ItemOperations** command responses that identifies the body of the HTTP **POST** as containing an **ItemOperations** command (section [2.2.1.10](#)). It is the top-level element in the XML stream.

All elements referenced in this section are defined in the **ItemOperations** namespace.

| Command request/response               | Parent elements | Child elements   | Data type                                   | Number allowed   |
|--|-----------------|--|---|------------------|
| <b>ItemOperations</b> command request  | None            | <b>EmptyFolderContents</b> (section <a href="#">2.2.3.58</a> )<br><b>Fetch</b> (section <a href="#">2.2.3.67.1</a> )<br><b>Move</b> (section <a href="#">2.2.3.117.1</a> ) | <b>container</b> ([MS-ASDTYPE] section 2.2) | 1...1 (required) |
| <b>ItemOperations</b> command response | None            | <b>Status</b> (section <a href="#">2.2.3.177.8</a> )<br><b>Response</b> (section <a href="#">2.2.3.153.4</a> )   | <b>container</b>                            | 1...1 (required) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.95 LastName

The **LastName** element is used in the following command responses:

- **Find** command responses (section [2.2.1.2](#))
- **Search** command responses (section [2.2.1.16](#))

The definition of the **LastName** element differs according to the context in which it is used. For more details, see section [2.2.3.95.1](#) and section [2.2.3.95.2](#).

#### 2.2.3.95.1 LastName (Find)

The **LastName** element in the **GAL** namespace is an optional child element of the **find:Properties** element in **Find** command responses. The **LastName** element is only present in response to **find** command requests that contain the **GALSearchCriterion** element as specified in section [2.2.3.82](#). It contains the last name of a recipient in the **GAL** that matched the search criteria from the corresponding **Find** command request.

| Command request/response  | Parent elements  | Child elements | Data type   | Number allowed   |
|---|--|----------------|---|------------------|
| <b>Find</b> command response (section <a href="#">2.2.1.2</a> ) | <b>Properties</b> (section <a href="#">2.2.3.139.1</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 0...1 (optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.95.2 LastName (Search)

The **LastName** element in the **GAL** namespace is an optional child element of the **search:Properties** element in **Search** command responses. The **LastName** element is only present in response to **Search** command requests that contain a **search:Name** element with a value of "GAL", as specified in section [2.2.3.120.2](#). It contains the last name of a recipient in the **GAL** that matched the search criteria from the corresponding **Search** command request.

| Command request/response   | Parent elements  | Child elements | Data type  | Number allowed   |
|--|--|----------------|--|------------------|
| <b>Search</b> command response (section <a href="#">2.2.1.16</a> ) | <b>Properties</b> (section <a href="#">2.2.3.139.3</a> ) | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 0...1 (optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.96 LessThan

The **LessThan** element is an optional child element of the **And** or **Or** element in **Search** command requests that contains elements that specify a property and a value that are compared for a "less than" condition during a search.

Elements referenced in this section are defined in the **Search** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements  | Child elements   | Data type  | Number allowed   |
|---|--|--|--|------------------|
| <b>Search</b> command request (section <a href="#">2.2.1.16</a> ) | <b>And</b> (section <a href="#">2.2.3.10</a> )<br><b>Or</b> (section <a href="#">2.2.3.120</a> ) | <b>email:DateReceived</b> (section <a href="#">2.2.3.54</a> )<br><b>Value</b> (section <a href="#">2.2.3.196</a> ) | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 0...1 (optional) |

The result of including more than one **LessThan** element in a **Search** command request is undefined. The server MAY return a protocol status error in response to such a command request.

The **LessThan** element is supported only in mailbox searches. It is not supported for document library searches. The comparison is made between the value of the **Value** element and the date that a mailbox item was received. The **email:DateReceived** element MUST be present before the **Value** element.

Typically, this element is used to filter results by the date on which they were received so that the date received is less than the specified value.

If the **LessThan** element is included as a child element of any element other than the **And** element (section 2.2.3.10) or **Or** element (section [2.2.3.120](#)), the server responds with a **Status** element (section [2.2.3.177.13](#)) value of 8 (SearchTooComplex).

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |



### 2.2.3.97 Limit

The **Limit** element is an optional child element of the **Sync** element in **Sync** command responses that specifies either the maximum number of collections that can be synchronized or the maximum/minimum value that is allowed for the **Wait** interval (section [2.2.3.198](#)) or **HeartbeatInterval** interval (section [2.2.3.88.2](#)).

All elements referenced in this section are defined in the **AirSync** namespace.

| Command request/response   | Parent elements                                  | Child elements | Data type   | Number allowed   |
|--|--|----------------|---|------------------|
| <b>Sync</b> command response (section <a href="#">2.2.1.21</a> ) | <b>Sync</b> (section <a href="#">2.2.3.180</a> ) | None           | integer ( <a href="#">[MS-ASDTYPE]</a> section 2.6) | 0...1 (optional) |

The **Limit** element is returned in a response with a status code of 14 or 15. The value of the **Status** element (section [2.2.3.177.17](#)) indicates whether the limit applies to the **Wait** interval or **HeartbeatInterval** interval or the number of collections, as follows:

- A status code 14 indicates that the **Limit** element specifies the minimum or maximum wait-interval that is acceptable. When the value of the **Wait** element or **HeartbeatInterval** element is outside of the acceptable range, the server responds with the closest acceptable value. If a **Wait** element value of less than 1 is sent, the server returns a **Limit** element value of 1, indicating the minimum value of the **Wait** element is 1. If a **Wait** element value greater than 59 is sent, the server returns a **Limit** element value of 59, indicating the maximum value of the **Wait** element is 59. If a **HeartbeatInterval** element value of less than 60 is sent, the server returns a **Limit** element value of 60, indicating the minimum value of the **HeartbeatInterval** element is 60. If a **HeartbeatInterval** element value greater than 3540 is sent, the server returns a **Limit** element value of 3540, indicating the maximum value of **HeartbeatInterval** element is 3540.
- A status code 15 indicates that the **Limit** element specifies the maximum number of collections that can be synchronized.

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

## 2.2.3.98 LongId

The **LongId** element is used in the following command requests and responses:

- **ItemOperations** command requests (section [2.2.1.10](#))
- **MeetingResponse** command requests (section [2.2.1.11](#))
- **Search** command responses (section [2.2.1.16](#))
- **SmartForward** command requests (section [2.2.1.19](#))
- **SmartReply** command requests (section [2.2.1.20](#))

The definition of the **LongId** element differs according to the context in which it is used. For more details, see section [2.2.3.98.1](#), section [2.2.3.98.3](#), and section [2.2.3.98.4](#).

### 2.2.3.98.1 LongId (ItemOperations)

The **search:LongId** element is an optional child element of the **Fetch** element in **ItemOperations** command requests that specifies a unique identifier that was assigned by the server to each result returned by a previous **Search** response. The **search:LongId** element value can be up to 256 characters in length.

Elements referenced in this section are defined in the **ItemOperations** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements                                    | Child elements | Data type   | Number allowed   |
|---|--|----------------|---|------------------|
| <b>ItemOperations</b> command request (section <a href="#">2.2.1.10</a> ) fetch operation | <b>Fetch</b> (section <a href="#">2.2.3.67.1</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 0...1 (optional) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.98.2 LongId (MeetingResponse)

The **search:LongId** element is an optional child element of the **Request** element in **MeetingResponse** command requests. This element specifies the long ID for the source meeting request, which is returned in the **Search** command response message (section 2.2.1.16). If the **search:LongId** element is present, the **CollectionId** (section 2.2.3.30.4) and **RequestId** (section 2.2.3.151) elements MUST NOT be present. The **search:LongId** element value can be up to 256 characters in length.

All elements referenced in this section are defined in the **MeetingResponse** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section 2.2.4).

| Command request/response                                  | Parent elements                      | Child elements | Data type                                | Number allowed   |
|---|--------------------------------------|----------------|--|------------------|
| <b>MeetingResponse</b> command request (section 2.2.1.11) | <b>Request</b> (section 2.2.3.150.2) | None           | <b>string</b> ([MS-ASDTYPE] section 2.7) | 0...1 (optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.98.3 LongId (Search)

The **LongId** element is an optional child element of the **Result** element in **Search** command responses that specifies a unique identifier that is assigned by the server to each result set that is returned.

All elements referenced in this section are defined in the **Search** namespace.

| Command request/response                          | Parent elements                     | Child elements | Data type                                | Number allowed   |
|---|-------------------------------------|----------------|--|------------------|
| <b>Search</b> command response (section 2.2.1.16) | <b>Result</b> (section 2.2.3.155.3) | None           | <b>string</b> ([MS-ASDTYPE] section 2.7) | 0...1 (optional) |

The value of the **LongId** element can be used as the long ID specified in the **ItemOperations** command request (section [2.2.1.10](#)), the **SmartReply** command request (section [2.2.1.20](#)), the **SmartForward** command request (section [2.2.1.19](#)), or the **MeetingResponse** command request (section [2.2.1.11](#)) to reference the result set.

The client MUST store the value of **LongId** as an opaque **string** of up to 256 characters.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.98.4 LongId (SmartForward and SmartReply)

The **LongId** element is an optional child element of the **Source** element in **SmartForward** command requests and **SmartReply** command requests that specifies the long ID for the source message, which is returned in the **Search** command response message (section [2.2.1.16](#)). If the **LongId** element is present, the **FolderId** (section [2.2.3.74](#)) and **ItemId** (section [2.2.3.93](#)) elements MUST NOT be present. The **LongId** element value can be up to 256 characters in length.

All elements referenced in this section are defined in the **ComposeMail** namespace.

| Command request/response  | Parent elements                                    | Child elements | Data type   | Number allowed   |
|---|--|----------------|---|------------------|
| <b>SmartForward</b> command request (section <a href="#">2.2.1.19</a> ) | <b>Source</b> (section <a href="#">2.2.3.173</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 0...1 (optional) |
| <b>SmartReply</b> command request (section <a href="#">2.2.1.20</a> )   | <b>Source</b>                                      | None           | <b>string</b>   | 0...1 (optional) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support, SmartForward | Element support, SmartReply |
|------------------|-------------------------------|-----------------------------|
| 2.5              |                               |                             |
| 12.0             |                               |                             |
| 12.1             |                               |                             |
| 14.0             | Yes                           | Yes                         |
| 14.1             | Yes                           | Yes                         |
| 16.0             | Yes                           | Yes                         |
| 16.1             | Yes                           | Yes                         |

### 2.2.3.99 MailBoxSearchCriterion

The **MailBoxSearchCriterion** element is a required child element of the **ExecuteSearch** element in **Find** command requests that contains the criterion for a mailbox search.

All elements referenced in this section are defined in the **Find** namespace.

| Command request/response                                       | Parent elements  | Child elements   | Data type  | Number allowed   |
|--|--|--|--|------------------|
| <b>Find</b> command request (section <a href="#">2.2.1.2</a> ) | <b>ExecuteSearch</b> (section <a href="#">2.2.3.66</a> ) | <b>Query</b> (section <a href="#">2.2.3.142.1</a> )<br><b>Options</b> (section <a href="#">2.2.3.125.1</a> ) | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 1...1 (required) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.100 MaxAmbiguousRecipients

The **MaxAmbiguousRecipients** element is an optional child element of the **Options** element in **ResolveRecipients** command requests that limits the number of suggestions that are returned for each ambiguous recipient node in the response.

All elements referenced in this section are defined in the **ResolveRecipients** namespace.

| Command request/response   | Parent elements                                       | Child elements | Data type   | Number allowed   |
|--|---|----------------|---|------------------|
| <b>ResolveRecipients</b> command request (section <a href="#">2.2.1.15</a> ) | <b>Options</b> (section <a href="#">2.2.3.125.4</a> ) | None           | integer ( <a href="#">[MS-ASDTYPE]</a> section 2.6) | 0...1 (optional) |

The value of the **MaxAmbiguousRecipients** element is limited to a range of 0–9999. Each ambiguous recipient node receives only this many suggestions and no more. The recipient count, returned in the **RecipientCount** element (section [2.2.3.146](#)), can be used by the client to determine the total number of suggestions available for that recipient.

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.101 MaxCertificates

The **MaxCertificates** element is an optional child element of the **Options** element in **ResolveRecipients** command requests that limits the total number of certificates that are returned by the server.

All elements referenced in this section are defined in the **ResolveRecipients** namespace.

| Command request/response   | Parent elements                                       | Child elements | Data type   | Number allowed   |
|--|---|----------------|---|------------------|
| <b>ResolveRecipients</b> command request (section <a href="#">2.2.1.15</a> ) | <b>Options</b> (section <a href="#">2.2.3.125.4</a> ) | None           | integer ( <a href="#">[MS-ASDTYPE]</a> section 2.6) | 0...1 (optional) |

The value of the **MaxCertificates** element is limited to a range of 0–9999. This limit ensures that no individual recipient receives an incomplete set of certificates. If the **MaxCertificates** limit is reached while enumerating certificates for an **address list**, that address list will not get back any certificates and a **Status** element (section [2.2.3.177.12](#)) value of 8 is returned. The client can then use the certificate count returned to determine the number of certificates that are available for that recipient node.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

## 2.2.3.102 MaxFolders

The **MaxFolders** element is an optional child element of the **Ping** element in **Ping** command responses that specifies the maximum number of folders that can be monitored.

All elements referenced in this section are defined in the **Ping** namespace.

| Command request/response   | Parent elements                                  | Child elements | Data type  | Number allowed   |
|--|--|----------------|--|------------------|
| <b>Ping</b> command response (section <a href="#">2.2.1.13</a> ) | <b>Ping</b> (section <a href="#">2.2.3.136</a> ) | None           | <b>integer</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.6) | 0...1 (optional) |

The **MaxFolders** element is returned in a response with a status code of 6.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.103 MaxItems

The **MaxItems** element is used in the following command requests:

- **GetItemEstimate** command requests (section [2.2.1.9](#))
- **Sync** command requests (section [2.2.1.21](#))

The definition of the **MaxItems** element differs according to the context in which it is used. For more details, see section [2.2.3.103.1](#) and section [2.2.3.103.2](#).

#### 2.2.3.103.1 MaxItems (GetItemEstimate)

The **airsync:MaxItems** element is an optional child element of the **airsync:Options** element in **GetItemEstimate** command requests that specifies the maximum number of items to include in the response. This element can only be included in a request when the **CollectionId** element (section [2.2.3.30.2](#)) is set to "RI" to specify a recipient information store; otherwise, the server will respond with a status 2 error.

Elements referenced in this section are defined in the **GetItemEstimate** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements   | Child elements | Data type  | Number allowed   |
|---|---|----------------|--|------------------|
| <b>GetItemEstimate</b> command request (section <a href="#">2.2.1.9</a> ) | <b>airsync:Options</b> (section <a href="#">2.2.3.125.2</a> ) | None           | <b>integer</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.6) | 0...1 (optional) |

Including **airsync:MaxItems** when the **CollectionId** element is set to anything other than "RI" results in an invalid XML error, **Status** element (section [2.2.3.177.7](#)) value of 2.

The result of including more than one **airsync:MaxItems** element as the child of the **airsync:Options** element is undefined. The server MAY return a protocol status error in response to such a command request.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.



| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.103.2 MaxItems (Sync)

The **MaxItems** element is an optional child element of the **Options** element in **Sync** command requests that specifies the maximum number of recipients (that is, the top N most frequently used recipients) to keep synchronized from within the recipient information cache. This element **MUST** only be included in a request when the value of the **CollectionId** element (section [2.2.3.30.6](#)) maps to the recipient information cache. The value of the **MaxItems** element does not specify the maximum estimate of additions and deletions to make to the recipient information cache, it only specifies the number of recipients to keep synchronized. A complete replacement of each recipient would be double the number of **MaxItems** or items in the cache, as each recipient update requires a deletion and an addition.

All elements referenced in this section are defined in the **AirSync** namespace.

| Command request/response  | Parent elements                                       | Child elements | Data type   | Number allowed   |
|---|---|----------------|---|------------------|
| <b>Sync</b> command request (section <a href="#">2.2.1.21</a> ) | <b>Options</b> (section <a href="#">2.2.3.125.6</a> ) | None           | integer ( <a href="#">[MS-ASDTYPE]</a> section 2.6) | 0...1 (optional) |

The result of including more than one **MaxItems** element as the child element of the **Options** element is undefined. The server **MAY** return a protocol status error in response to such a command request.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             | Yes             |
| 14.1             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.104 MaxPictures

The **MaxPictures** element is used in the following command requests:

- **Find** command requests (section [2.2.1.2](#))
- **ResolveRecipients** command requests (section [2.2.1.15](#))
- **Search** command requests (section [2.2.1.16](#))

The definition of the **MaxPictures** element differs according to the context in which it is used. For more details, see section [2.2.3.104.1](#), section [2.2.3.104.2](#), and section [2.2.3.104.3](#).

#### 2.2.3.104.1 MaxPictures (Find)

The **MaxPictures** element is an optional child element of the **Picture** element in **Find** command requests that limits the number of contact photos returned in the server response.

All elements referenced in this section are defined in the **Find** namespace.

| Command request/response                                       | Parent elements                                       | Child elements | Data type   | Number allowed     |
|--|---|----------------|---|--------------------|
| <b>Find</b> command request (section <a href="#">2.2.1.2</a> ) | <b>Picture</b> (section <a href="#">2.2.3.135.1</a> ) | None           | <b>integer</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.6) | 0.....1 (optional) |

The server returns the first N results that have contact photos, where N is the value of the **MaxPictures** element. After the **MaxPictures** limit is reached, the server returns **Status** element (section [2.2.3.177.2](#)) value 173 (NoPicture) if the contact has no photo, **Status** element value 174 (PictureTooLarge) if the contact's photo is too large, or **Status** element value 175 (PictureLimitReached) if the contact has a photo but the **MaxPictures** limit was reached.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |

| Protocol version | Element support |
|------------------|-----------------|
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.104.2 MaxPictures (ResolveRecipients)

The **MaxPictures** element is an optional child element of the **Picture** element in **ResolveRecipients** command requests that limits the number of contact photos returned in the server response.

All elements referenced in this section are defined in the **ResolveRecipients** namespace.

| Command request/response   | Parent elements                                       | Child elements | Data type   | Number allowed     |
|--|---|----------------|---|--------------------|
| <b>ResolveRecipients</b> command request (section <a href="#">2.2.1.15</a> ) | <b>Picture</b> (section <a href="#">2.2.3.135.2</a> ) | None           | integer ( <a href="#">[MS-ASDTYPE]</a> section 2.6) | 0.....1 (optional) |

The server returns the first N results that have contact photos, where N is the value of the **MaxPictures** element. After the **MaxPictures** limit is reached, the server returns **Status** element (section [2.2.3.177](#)) value 173 (NoPicture) if the contact has no photo, **Status** element value 174 (PictureTooLarge) if the contact's photo is too large, or **Status** element value 175 (PictureLimitReached) if the contact has a photo but the **MaxPictures** limit was reached.

Note that the **MaxPictures** element identifies the number of contact photos returned per query. Therefore, if the client includes three recipients to resolve and sets the **MaxPictures** element value to 3 in the **ResolveRecipients** command request, a maximum of 9 contact photos can be returned.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.104.3 MaxPictures (Search)

The **MaxPictures** element is an optional child element of the **Picture** element in **Search** command requests that limits the number of contact photos returned in the server response.

All elements referenced in this section are defined in the **Search** namespace.

| Command request/response  | Parent elements                                       | Child elements | Data type   | Number allowed     |
|---|---|----------------|---|--------------------|
| <b>Search</b> command request (section <a href="#">2.2.1.16</a> ) | <b>Picture</b> (section <a href="#">2.2.3.135.3</a> ) | None           | <b>integer</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.6) | 0.....1 (optional) |

The server returns the first N results that have contact photos, where N is the value of the **MaxPictures** element. After the **MaxPictures** limit is reached, the server returns **Status** element (section [2.2.3.177](#)) value 173 (NoPicture) if the contact has no photo, **Status** element value 174 (PictureTooLarge) if the contact's photo is too large, or **Status** element value 175 (PictureLimitReached) if the contact has a photo but the **MaxPictures** limit was reached.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.105 MaxSize

The **MaxSize** element is used in the following command requests:

- **Find** command requests (section [2.2.1.2](#))
- **ResolveRecipients** command requests (section [2.2.1.15](#))
- **Search** command requests (section [2.2.1.16](#))

The definition of the **MaxSize** element differs according to the context in which it is used. For more details, see section [2.2.3.105.1](#), section [2.2.3.105.2](#), and section [2.2.3.105.3](#).

#### 2.2.3.105.1 MaxSize (Find)

The **MaxSize** element is an optional child element of the **Picture** element in **Find** command requests that limits the size of contact photos returned in the server response.

All elements referenced in this section are defined in the **Find** namespace.

| Command request/response                                       | Parent elements                                       | Child elements | Data type   | Number allowed   |
|--|---|----------------|---|------------------|
| <b>Find</b> command request (section <a href="#">2.2.1.2</a> ) | <b>Picture</b> (section <a href="#">2.2.3.135.1</a> ) | None           | <b>integer</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.6) | 0...1 (optional) |

The maximum value of the **MaxSize** element is 100 KB or 102400 bytes.

The **MaxSize** element specifies the maximum size of an individual contact photo that is returned in the response, in bytes. The **MaxPictures** element (section [2.2.3.104.1](#)) specifies the maximum number of contact photos to return in the server response.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.105.2 MaxSize (ResolveRecipients)

The **MaxSize** element is an optional child element of the **Picture** element in **ResolveRecipients** command requests that limits the size of contact photos returned in the server response.

All elements referenced in this section are defined in the **ResolveRecipients** namespace.

| Command request/response   | Parent elements                                       | Child elements | Data type   | Number allowed   |
|--|---|----------------|---|------------------|
| <b>ResolveRecipients</b> command request (section <a href="#">2.2.1.15</a> ) | <b>Picture</b> (section <a href="#">2.2.3.135.2</a> ) | None           | <b>integer</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.6) | 0...1 (optional) |

The maximum value of the **MaxSize** element is 100 KB or 102400 bytes.

The **MaxSize** element specifies the maximum size of an individual contact photo that is returned in the response, in bytes. The **MaxPictures** element (section [2.2.3.104](#)) specifies the maximum number of contact photos to return in the server response.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.105.3 MaxSize (Search)

The **MaxSize** element is an optional child element of the **Picture** element in **Search** command requests that limits the size of contact photos returned in the server response.

All elements referenced in this section are defined in the **Search** namespace.

| Command request/response  | Parent elements                                       | Child elements | Data type  | Number allowed   |
|---|---|----------------|--|------------------|
| <b>Search</b> command request (section <a href="#">2.2.1.16</a> ) | <b>Picture</b> (section <a href="#">2.2.3.135.3</a> ) | None           | <b>integer</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.6) | 0...1 (optional) |

The maximum value of the **MaxSize** element is 100 KB or 102400 bytes.

The **MaxSize** element specifies the maximum size of an individual contact photo that is returned in the response, in bytes. The **MaxPictures** element (section [2.2.3.104](#)) specifies the maximum number of contact photos to return in the server response.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.106 MeetingResponse

The **MeetingResponse** element is a required element in **MeetingResponse** command requests and **MeetingResponse** command responses that identifies the body of the HTTP **POST** as containing a **MeetingResponse** command (section [2.2.1.11](#)). It is the top-level element in the XML stream.

All elements referenced in this section are defined in the **MeetingResponse** namespace.

| Command request/response                | Parent elements | Child elements  | Data type  | Number allowed   |
|---|-----------------|---|--|------------------|
| <b>MeetingResponse</b> command request  | None            | <b>Request</b> (section <a href="#">2.2.3.150.2</a> ) | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 1...1 (required) |
| <b>MeetingResponse</b> command response | None            | <b>Result</b> (section <a href="#">2.2.3.155.2</a> )  | <b>container</b>   | 1...1 (required) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.107 MergedFreeBusy

The **MergedFreeBusy** element is an optional child element of the **Availability** element in **ResolveRecipients** command responses that specifies the free/busy information for the users or distribution list identified in the request.

All elements referenced in this section are defined in the **ResolveRecipients** namespace.

| Command request/response  | Parent elements   | Child elements | Data type  | Number allowed   |
|---|---|----------------|--|------------------|
| <b>ResolveRecipients</b> command response (section <a href="#">2.2.1.15</a> ) | <b>Availability</b> (section <a href="#">2.2.3.16</a> ) | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 0...1 (optional) |

The **MergedFreeBusy** element value string has a maximum length of 32 KB. To retrieve more than 32 KB of availability data, the client **MUST** issue a new request with the appropriate start time and end time.

Each digit in the **MergedFreeBusy** element value string indicates the free/busy status for the user or distribution list for every 30 minute interval. The following table lists the valid values.

| Value | Meaning                    |
|-------|----------------------------|
| 0     | Free                       |
| 1     | Tentative                  |
| 2     | Busy                       |
| 3     | <b>Out of Office (OOF)</b> |
| 4     | No data                    |

A string value of "32201" would represent that this user or group of users is out of the office for the first 30 minutes, busy for the next hour, free for 30 minutes, and then has a tentative meeting for the last 30 minutes. If the user or group of users has a change in availability that lasts less than the interval value of 30 minutes, the availability value with the higher digit value is assigned to the whole interval period. For example, if a user has a 25 minutes of free time (value 0) followed by 5 minutes of busy time (value 2), the 30 minute interval is assigned a value of 2 in the server response.

The server determines the number of digits to include in the **MergedFreeBusy** element by dividing the time interval specified by the **StartTime** element (section [2.2.3.176.1](#)) value and the **EndTime** element (section [2.2.3.61.1](#)) value by 30 minutes, and rounding the result up to the next integer.

The **MergedFreeBusy** element value string is populated from the **StartTime** element value onwards, therefore the last digit represents between a millisecond and 30 minutes. A query for data from 13:00:00 to 13:30:00 returns a single digit but a query from 12:59:59 to 13:30:00 or 13:00:00 to 13:30:01 returns two digits.

Any appointment that ends inside a second of the interval requested shall impact the digit representing that timeframe. For example, given a calendar that contains a 5 minute OOF appointment from 12:00 to 12:05, and is free the rest of the day, queries would result in the following:

- If a query is made for 12:00:00 to 13:00:00, the result is "30", where each digit represents exactly 30 minutes.
- If a query is made for 12:04:59 to 13:00:00, the result is "30", where the "0" maps to 12:34:59 to 13:00:00.
- If a query is made for 12:05:00 to 13:00:00, the result is "00" where the second 0 maps the last 25 minutes of the interval.

The client **MUST** consider daylight saving time transitions and might need to add or remove time intervals from the **MergedFreeBusy** element value string, as there are days that have more or less than 24 hours.



If the **Availability** element is included in the response, the response MUST also include the **Status** element (section [2.2.3.177.12](#)). The **MergedFreeBusy** element is also included if the **Status** element value indicates success.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.108 Message

The **Message** element is an optional child element of the **Error** element in **Autodiscover** command responses that contains the error string localized using the **Culture** (section [2.2.3.38](#)) value specified in the **Response** element, enabling the client to display error status to the end-user.

| Command request/response  | Parent elements                                  | Child elements | Data type   | Number allowed   |
|---|--|----------------|---|------------------|
| <b>Autodiscover</b> command response (section <a href="#">2.2.1.1</a> ) | <b>Error</b> (section <a href="#">2.2.3.63</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 0...1 (optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.109 Mime

The **Mime** element is a required child element of the **SendMail** element in **SendMail** command requests, a required child element of the **SmartForward** element in **SmartForward** command requests, and a required child element of the **SmartReply** element in **SmartReply** command requests. In all contexts, it contains the **MIME**-encoded message.

All elements referenced in this section are defined in the **ComposeMail** namespace.

| Command request/response  | Parent elements  | Child elements | Data type         | Number allowed   |
|---|--|----------------|-------------------|------------------|
| <b>SendMail</b> command request (section <a href="#">2.2.1.17</a> )     | <b>SendMail</b> (section <a href="#">2.2.3.162</a> )     | None           | <b>Byte array</b> | 1...1 (required) |
| <b>SmartForward</b> command request (section <a href="#">2.2.1.19</a> ) | <b>SmartForward</b> (section <a href="#">2.2.3.169</a> ) | None           | <b>Byte array</b> | 1...1 (required) |
| <b>SmartReply</b> command request (section <a href="#">2.2.1.20</a> )   | <b>SmartReply</b> (section <a href="#">2.2.3.170</a> )   | None           | <b>Byte array</b> | 1...1 (required) |

The **Mime** element content is transferred as an opaque **BLOB** within the **WBXML** tags, as specified in [\[WBXML1.2\]](#).

If the message contains a meeting request, the **Mime** element contains the details of meeting in iCalendar format [\[MS-OXCICAL\]](#) or **Transport Neutral Encapsulation Format (TNEF)** format [\[MS-OXTNEF\]](#). As specified in [\[RFC2447\]](#) section 3.4, iCalendar meeting requests have a content type of "text/calendar" with the **method** parameter set to "REQUEST".

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support, SendMail | Element support, SmartForward | Element support, SmartReply |
|------------------|---------------------------|-------------------------------|-----------------------------|
| 2.5              |                           |                               |                             |
| 12.0             |                           |                               |                             |
| 12.1             |                           |                               |                             |
| 14.0             | Yes                       | Yes                           | Yes                         |
| 14.1             | Yes                       | Yes                           | Yes                         |
| 16.0             | Yes                       | Yes                           | Yes                         |

| Protocol version | Element support, SendMail | Element support, SmartForward | Element support, SmartReply |
|------------------|---------------------------|-------------------------------|-----------------------------|
| 16.1             | Yes                       | Yes                           | Yes                         |

### 2.2.3.110 MIMESupport

The **MIMESupport** element is used in the following command requests:

- **ItemOperations** command requests (section [2.2.1.10](#))
- **Search** command requests (section [2.2.1.16](#))
- **Sync** command requests (section [2.2.1.21](#))

The definition of the **MIMESupport** element differs according to the context in which it is used. For more details, see section [2.2.3.110.1](#), section [2.2.3.110.2](#), and section [2.2.3.110.3](#).

#### 2.2.3.110.1 MIMESupport (ItemOperations)

The **airsync:MIMESupport** element is an optional child element of the **Options** element in **ItemOperations** command requests that enables **MIME** support for email items that are sent from the server to the client. For an example, see section [4.10.2](#).

Elements referenced in this section are defined in the **ItemOperations** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements                                       | Child elements | Data type  | Number allowed   |
|---|---|----------------|--|------------------|
| <b>ItemOperations</b> command request (section <a href="#">2.2.1.10</a> ) fetch operation | <b>Options</b> (section <a href="#">2.2.3.125.3</a> ) | None           | <b>unsignedByte</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.8) | 0...1 (optional) |

The following table lists the valid values for this element. If the **MIMESupport** element is not present, the default value of 0 is used.

| Value | Meaning   |
|-------|---|
| 0     | Never send MIME data.   |
| 1     | Send MIME data for S/MIME messages only. Send regular body for all other messages.                                    |
| 2     | Send MIME data for all messages. This flag could be used by clients to build a more rich and complete Inbox solution. |

To support fetching of the full **S/MIME** message, the **ItemOperations** command request MUST include the following elements in the **Options** element:

- The **airsync:MIMESupport** element (section [2.2.3.110.3](#)) to indicate to the server to return MIME for S/MIME-only messages, all messages, or no messages.
- The **airsyncbase:BodyPreference** element ([[MS-ASAIRS](#)] section 2.2.2.12) with its child element, **Type** ([[MS-ASAIRS](#)] section 2.2.2.41.4), having a value of 4 to inform the server that the device can read the MIME **binary large object (BLOB)**.

The server's response MUST include the **airsyncbase:Body** element ([MS-ASAIRS] section 2.2.2.9), which is a child element of the **Properties** element (section [2.2.3.139.2](#)). The **airsyncbase:Body** element is a complex element and MUST contain the following child elements in an S/MIME response:

- The **airsyncbase:Type** element ([MS-ASAIRS] section 2.2.2.41.1) with a value of 4 to inform the device that the data is a MIME BLOB.
- The **airsyncbase:EstimatedDataSize** element ([MS-ASAIRS] section 2.2.2.23.2) to specify the rough total size of the data.
- The **airsyncbase:Data** element ([MS-ASAIRS] section 2.2.2.20.1) that contains the full MIME BLOB.

For more details about the **airsyncbase:Body** element or the **airsyncbase:BodyPreference** element, see [MS-ASAIRS] section 2.2.2.9 or [MS-ASAIRS] section 2.2.2.12, respectively.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.110.2 MIMESupport (Search)

The **airsync:MIMESupport** element is an optional child element of the **Options** element in **Search** command requests that enables **MIME** support for email items that are sent from the server to the client.

Elements referenced in this section are defined in the **Search** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements                                       | Child elements | Data type                                 | Number allowed   |
|---|---|----------------|---|------------------|
| <b>Search</b> command request (section <a href="#">2.2.1.16</a> ) | <b>Options</b> (section <a href="#">2.2.3.125.5</a> ) | None           | <b>integer</b> ([MS-ASDTYPE] section 2.6) | 0...1 (optional) |

The result of including more than one **airsync:MIMESupport** element in a **Search** command request is undefined. The server MAY return a protocol status error in response to such a command request.

The following table lists the valid values for the element. If the **MIMESupport** element is not present, the default value of 0 is used.

| Value | Meaning   |
|-------|---|
| 0     | Never send MIME data.   |
| 1     | Send MIME data for <b>S/MIME</b> <a href="#">RFC5751</a> messages only. Send regular body (non S/MIME) data for all other messages. |
| 2     | Send MIME data for all messages. This flag could be used by clients to build a more rich and complete Inbox solution.               |

The **Search** response can include the S/MIME **BLOB** of a signed/encrypted message.

If the **airsync:MIMESupport** element is set to 1 or 2 in the **Search** request:

- The child element of the **airsyncbase:BodyPreference** element ([\[MS-ASAIRS\]](#) section 2.2.2.12), the **Type** element ([\[MS-ASAIRS\]](#) section 2.2.2.41.4), SHOULD be included in the **Search** request, containing a value of 4 to inform the server that the device can read the MIME BLOB.
- The response from the server MUST include the **airsyncbase:Body** element ([\[MS-ASAIRS\]](#) section 2.2.2.9), which is a child element of the **Properties** element (section [2.2.3.139.3](#)). The **airsyncbase:Body** element is a complex element and MUST contain the following child elements in an S/MIME **Search** response:
  - The **airsyncbase:Type** element ([\[MS-ASAIRS\]](#) section 2.2.2.41.1) with a value of 4 to inform the device that the data is a MIME BLOB.
  - The **airsyncbase:EstimatedDataSize** element ([\[MS-ASAIRS\]](#) section 2.2.2.23.2) to specify the rough total size of the data.
  - The **airsyncbase:Truncated** element ([\[MS-ASAIRS\]](#) section 2.2.2.39.1) to indicate whether the MIME BLOB is truncated.
  - The **airsyncbase:Data** element ([\[MS-ASAIRS\]](#) section 2.2.2.20.1) that contains the full MIME BLOB.

For more details about the **airsyncbase:Body** element or the **airsyncbase:BodyPreference** element, see [\[MS-ASAIRS\]](#) section 2.2.2.9 or [\[MS-ASAIRS\]](#) section 2.2.2.12, respectively.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 16.1             | Yes             |

### 2.2.3.110.3 MIMESupport (Sync)

The **MIMESupport** element is an optional child element of the **Options** element in **Sync** command requests that enables **MIME** support for email items that are sent from the server to the client.

Elements referenced in this section are defined in the **AirSync** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements                                       | Child elements | Data type   | Number allowed   |
|---|---|----------------|---|------------------|
| <b>Sync</b> command request (section <a href="#">2.2.1.21</a> ) | <b>Options</b> (section <a href="#">2.2.3.125.6</a> ) | None           | <b>unsignedByte</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.8) | 0...1 (optional) |

The following table shows valid values for the element. If the **MIMESupport** element is not present, the default value of 0 is used.

| Value | Meaning   |
|-------|---|
| 0     | Never send MIME data.   |
| 1     | Send MIME data for S/MIME messages only. Send regular body for all other messages.                                    |
| 2     | Send MIME data for all messages. This flag could be used by clients to build a more rich and complete Inbox solution. |

The client MUST send a maximum of one **MIMESupport** element. The result of including more than one **MIMESupport** element as the child element of the **Options** element is undefined. The server MAY return a protocol status error in response to such a command request.

The **Sync** request MUST include the following elements in the **Options** element when handling **S/MIME** content:

- The **MIMESupport** element to tell the server to return MIME for S/MIME-only/All/None messages.
- The **airsyncbase:BodyPreference** element ([\[MS-ASAIRS\]](#) section 2.2.2.12) with its child element, **airsyncbase:Type** ([\[MS-ASAIRS\]](#) section 2.2.2.41.4), which contains a value of 4 to inform the server that the device can read the MIME **BLOB**.

When handling S/MIME content in the response, the server MUST include the **airsyncbase:Body** element ([\[MS-ASAIRS\]](#) section 2.2.2.9), which is a child of the **ApplicationData** element (section [2.2.3.11](#)). The **airsyncbase:Body** element is a complex element and MUST contain the following child elements in an S/MIME synchronization response:

- The **airsyncbase:Type** element ([\[MS-ASAIRS\]](#) section 2.2.2.41.1) with a value of 4 to inform the device that the data is a MIME BLOB.
- The **airsyncbase:EstimatedDataSize** element ([\[MS-ASAIRS\]](#) section 2.2.2.23.2) to specify the rough total size of the data.
- The **airsyncbase:Truncated** element ([\[MS-ASAIRS\]](#) section 2.2.2.39.1) to indicate whether the MIME BLOB is truncated.

- The **airsynibase:Data** element ([MS-ASAIRS] section 2.2.2.20.1) that contains the full MIME BLOB.

For more details about the **airsynibase:Body** element or the **airsynibase:BodyPreference** element, see [MS-ASAIRS] section 2.2.2.9 or [MS-ASAIRS] section 2.2.2.12, respectively.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

This section provides details about using the **airsynibase:BodyPreference** element, the **airsynibase:Body** element, and the child elements of these elements when handling S/MIME content. Protocol version 2.5 does not support these elements. If protocol version 2.5 is used, the server uses the **email:MIMEData**, **email:MIMETruncated**, and **email:MIMESize** elements, as specified in [MS-ASEMAIL], when returning MIME data.

### 2.2.3.111 MIMETruncation

The **MIMETruncation** element is an optional child element of the **Options** element in **Sync** command requests that specifies whether the **MIME** data of the email item SHOULD be truncated when it is sent from the server to the client.

All elements referenced in this section are defined in the **AirSync** namespace.

| Command request/response                       | Parent elements                      | Child elements | Data type                                      | Number allowed   |
|--|--------------------------------------|----------------|--|------------------|
| <b>Sync</b> command request (section 2.2.1.21) | <b>Options</b> (section 2.2.3.125.6) | None           | <b>unsignedByte</b> ([MS-ASDTYPE] section 2.8) | 0...1 (optional) |

The following table lists valid values for the element.

| Value | Meaning                              |
|-------|--------------------------------------|
| 0     | Truncate all body text.              |
| 1     | Truncate text over 4,096 characters. |
| 2     | Truncate text over 5,120 characters. |

| Value | Meaning                                   |
|-------|---|
| 3     | Truncate text over 7,168 characters.      |
| 4     | Truncate text over 10,240 characters.     |
| 5     | Truncate text over 20,480 characters.     |
| 6     | Truncate text over 51,200 characters.     |
| 7     | Truncate text over 102,400 characters.    |
| 8     | Do not truncate; send complete MIME data. |

The size of the truncated message returned in the response is not the exact size of the **MIMETruncation** element value; the size specified by the **MIMETruncation** element is an approximate value. This is because line feeds are treated as one character locally, but are counted as two characters during truncation.

The result of including more than one **MIMETruncation** element as the child element of the **Options** element is undefined. The server MAY return a protocol status error in response to such a command request.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.112 MiniCertificate

The **MiniCertificate** element is an optional child element of the **Certificates** element in **ResolveRecipients** command responses that contains the mini-certificate **BLOB** that is encoded with **base64 encoding**.

All elements referenced in this section are defined in the **ResolveRecipients** namespace.

| Command request/response | Parent elements     | Child elements | Data type                               | Number allowed |
|--------------------------|---------------------|----------------|---|----------------|
| <b>ResolveRecipients</b> | <b>Certificates</b> | None           | string ( <a href="#">[MS-ASDTYPE]</a> ) | 0...1 per      |



| Command request/response                             | Parent elements                       | Child elements | Data type                                   | Number allowed                        |
|--|---------------------------------------|----------------|---|---------------------------------------|
| command response (section <a href="#">2.2.1.15</a> ) | (section <a href="#">2.2.3.23.1</a> ) |                | section 2.7) (encoded with base64 encoding) | <b>Certificates</b><br>parent element |

This element is returned only if the client specifies a value of 3 in the **CertificateRetrieval** element (section [2.2.3.22](#)) in the **ResolveRecipients** command request and the resolved recipient has a valid **S/MIME** certificate.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.113 MobileOperator

The **MobileOperator** element is an optional child element of the **Set** element in **Settings** command requests that specifies the name of the mobile operator to which a mobile device is connected. The **MobileOperator** element value can be up to 1024 characters in length.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response   | Parent elements                                 | Child elements | Data type   | Number allowed      |
|--|---|----------------|---|---------------------|
| <b>Settings</b> command <b>DeviceInformation</b> request (section <a href="#">2.2.1.18</a> ) | <b>Set</b> (section <a href="#">2.2.3.167</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 0...1<br>(optional) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.114 MobilePhone

The **MobilePhone** element is used in the following command responses:

- **Find** command responses (section [2.2.1.2](#))
- **Search** command responses (section [2.2.1.16](#))

The definition of the **MobilePhone** element differs according to the context in which it is used. For more details, see section [2.2.3.114.1](#) and section [2.2.3.114.2](#).

#### 2.2.3.114.1 MobilePhone (Find)

The **MobilePhone** element in the **GAL** namespace is an optional child element of the **find:Properties** element in **Find** command responses. The **MobilePhone** element is only present in response to **Find** command requests that contain a **GALSearchCriterion** element as specified in section [2.2.3.82](#). It contains the mobile phone number of a recipient in the **GAL** that matched the search criteria from the corresponding **Find** command request.

| Command request/response  | Parent elements  | Child elements | Data type  | Number allowed   |
|---|--|----------------|--|------------------|
| <b>Find</b> command response (section <a href="#">2.2.1.2</a> ) | <b>Properties</b> (section <a href="#">2.2.3.139.1</a> ) | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 0...1 (optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |

| Protocol version | Element support |
|------------------|-----------------|
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.114.2 MobilePhone (Search)

The **MobilePhone** element in the **GAL** namespace is an optional child element of the **search:Properties** element in **Search** command responses. The **MobilePhone** element is only present in response to **Search** command requests that contain a **search:Name** element with a value of "GAL", as specified in section [2.2.3.120.2](#). It contains the mobile phone number of a recipient in the **GAL** that matched the search criteria from the corresponding **Search** command request.

| Command request/response   | Parent elements  | Child elements | Data type  | Number allowed   |
|--|--|----------------|--|------------------|
| <b>Search</b> command response (section <a href="#">2.2.1.16</a> ) | <b>Properties</b> (section <a href="#">2.2.3.139.3</a> ) | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 0...1 (optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.115 Model

The **Model** element is an optional child element of the **Set** element in **Settings** command requests that specifies a name that generally describes the device of the client. The **Model** element value can be up to 1024 characters in length.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response  | Parent elements                                 | Child elements | Data type   | Number allowed   |
|---|---|----------------|---|------------------|
| <b>Settings</b> command<br><b>DeviceInformation</b> request (section <a href="#">2.2.1.18</a> ) | <b>Set</b> (section <a href="#">2.2.3.167</a> ) | None           | <b>string</b> ([ <b>MS-ASDTYPE</b> ] section 2.7) | 0...1 (optional) |

The descriptive name of the device can be any string that the client chooses, typically a general description of the device. For example, the name of the manufacturer, the model name, or the model number can be used. The server does not perform any validation of this string, so the client can submit any string.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [**MS-ASHTTP**] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [**MS-ASHTTP**] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

## 2.2.3.116 MoreAvailable

The **MoreAvailable** element is an optional child element of the **Collection** element in **Sync** command responses that indicates there are more changes than the number that are requested in the **WindowSize** element (section [2.2.3.199](#)).

All elements referenced in this section are defined in the **AirSync** namespace.

| Command request/response   | Parent elements   | Child elements | Data type | Number allowed   |
|--|---|----------------|-----------|------------------|
| <b>Sync</b> command response (section <a href="#">2.2.1.21</a> ) | <b>Collection</b> (section <a href="#">2.2.3.29.2</a> ) | None           | None      | 0...1 (optional) |

The **MoreAvailable** element is an empty tag element, meaning it has no value or data type. It is distinguished only by the presence or absence of the <MoreAvailable/> tag.

The **MoreAvailable** element appears only in responses that are sent from the server to the client. It appears only if the client request contained a **WindowSize** element and there are still changes to be returned to the client.

The server includes the **MoreAvailable** element in **Sync** responses that contain no additions, changes, or deletions when the server encounters elements external to the protocol. [<10>](#) If the client receives multiple Sync responses that contain the MoreAvailable element and fewer changes than requested by the WindowSize element value included in the Sync request the client SHOULD continue to send **Sync** requests to retrieve additional changes until no additional results are sent by the server, but MAY stop sending **Sync** requests if the Sync request and response loop is affecting network performance and synchronizing the client is of less importance than network performance.

The **MoreAvailable** element has no body. It is omitted if no additional changes are available. The maximum value for the **WindowSize** element is 512. The server interprets **WindowSize** element values above 512 and 0 (zero) as 512.

If the **WindowSize** element is omitted, the server behaves as if a **WindowSize** element with a value of 100 was submitted. The **MoreAvailable** element is returned by the server if there are more than 512 changes, regardless of whether the **WindowSize** element is included in the request.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.117 Move

The **Move** element is used in the following command requests and responses:

- **ItemOperations** command requests and responses (section [2.2.1.10](#))
- **MoveItems** command request (section [2.2.1.12](#))

The definition of the **Move** element differs according to the context in which it is used. For more details, see section [2.2.3.117.1](#) and section [2.2.3.117.2](#).

#### 2.2.3.117.1 Move (ItemOperations)

The **Move** element is an optional child element of the **ItemOperations** element in **ItemOperations** command requests and an optional child element of the **Response** element in **ItemOperations** command responses. It identifies the body of the request or response as containing the operation that moves a given conversation.

All elements referenced in this section are defined in the **ItemOperations** namespace.

| Command request/response  | Parent elements   | Child elements  | Data type   | Number allowed   |
|---|---|---|---|------------------|
| <b>ItemOperations</b> command request (section <a href="#">2.2.1.10</a> ) | <b>ItemOperations</b> (section <a href="#">2.2.3.94</a> ) | <b>ConversationId</b> (section <a href="#">2.2.3.35.1</a> )<br><b>DstFldId</b> (section <a href="#">2.2.3.51.1</a> )<br><b>Options</b> (section <a href="#">2.2.3.125.3</a> ) | <b>container</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.2) | 0...N (optional) |
| <b>ItemOperations</b> command response                                    | <b>Response</b> (section <a href="#">2.2.3.153.4</a> )    | <b>ConversationId</b><br><b>Status</b> (section <a href="#">2.2.3.177.8</a> )   | <b>container</b>  | 0...N (optional) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.117.2 Move (MoveItems)

The **Move** element is a required child element of the **MoveItems** element in **MoveItems** command requests that contains elements that describe details of the items to be moved.

All elements referenced in this section are defined in the **Move** namespace.

| Command request/response   | Parent elements                                       | Child elements  | Data type   | Number allowed   |
|--|---|---|---|------------------|
| <b>MoveItems</b> command request (section <a href="#">2.2.1.12</a> ) | <b>MoveItems</b> (section <a href="#">2.2.3.119</a> ) | <b>SrcMsgId</b> (section <a href="#">2.2.3.175</a> )<br><b>SrcFldId</b> (section <a href="#">2.2.3.174</a> )<br><b>DstFldId</b> (section <a href="#">2.2.3.51.2</a> ) | <b>container</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.2) | 1...N (required) |

The **Move** element's child elements specify the item to be moved, the folder it's currently located in, and the folder it will be moved to.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.118 MoveAlways

The **MoveAlways** element is an optional child element of the **Options** element in **ItemOperations** command requests that indicates whether to always move the specified conversation, including all future emails in the conversation, to the folder specified by the **DstFldId** element (section 2.2.3.51.1) value.

All elements referenced in this section are defined in the **ItemOperations** namespace.

| Command request/response   | Parent elements                      | Child elements | Data type | Number allowed   |
|--|--------------------------------------|----------------|-----------|------------------|
| <b>ItemOperations</b> command request (section 2.2.1.10) <b>Move</b> operation | <b>Options</b> (section 2.2.3.125.3) | None           | None      | 0...1 (optional) |

The **MoveAlways** element is an empty tag element, meaning it has no value or data type. It is distinguished only by the presence or absence of the <MoveAlways/> tag.

The **MoveAlways** element MUST be included in an **ItemOperations** request when performing a move operation on a conversation. A **Status** element (section 2.2.3.177.8) value of 155 is returned if the **MoveAlways** element is not included in the **ItemOperations** request for a move operation.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.119 MoveItems

The **MoveItems** element is a required element in **MoveItems** command requests and responses that identifies the body of the HTTP **POST** as containing a **MoveItems** command (section [2.2.1.12](#)). It is the top-level element in the XML stream.

All elements referenced in this section are defined in the **Move** namespace.

| Command request/response          | Parent elements | Child elements   | Data type  | Number allowed   |
|-----------------------------------|-----------------|--|--|------------------|
| <b>MoveItems</b> command request  | None            | <b>Move</b> (section <a href="#">2.2.3.117.1</a> )     | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 1...1 (required) |
| <b>MoveItems</b> command response | None            | <b>Response</b> (section <a href="#">2.2.3.153.5</a> ) | <b>container</b>   | 1...1 (required) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |



### 2.2.3.120 Name

The **Name** element is used in the following command requests and responses:

- **Autodiscover** command responses (section [2.2.1.1](#))
- **Search** command requests (section [2.2.1.16](#))
- **SmartForward** command requests (section [2.2.2.18](#))

The definition of the **Name** element differs according to the context in which it is used. For more details, see section [2.2.3.120.1](#), section [2.2.3.113.2](#) and section [2.2.3.113.3](#).

#### 2.2.3.120.1 Name (Autodiscover)

The **Name** element is an optional child element of the **Server** element in **Autodiscover** command responses that specifies a URL if the **Type** element (section [2.2.3.186.1](#)) value is set to "MobileSync".

All elements referenced in this section are defined in the <http://schemas.microsoft.com/exchange/autodiscover/mobilesync/responseschema/2006> namespace.

| Command request/response  | Parent elements                                    | Child elements | Data type  | Number allowed   |
|---|--|----------------|--|------------------|
| <b>Autodiscover</b> command response (section <a href="#">2.2.1.1</a> ) | <b>Server</b> (section <a href="#">2.2.3.164</a> ) | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 0...1 (optional) |

If the **Type** element value is "MobileSync", then the **Name** element specifies the **URL** that conveys the protocol. If the **Type** element value is "CertEnroll", then the **Name** element value is NULL.

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

#### 2.2.3.120.2 Name (Search)

The **Name** element is a required child element of the **Store** element in **Search** command requests that specifies the store to search.

All elements referenced in this section are defined in the **Search** namespace.

| Command request/response  | Parent elements                                     | Child elements | Data type                                | Number allowed   |
|---|---|----------------|--|------------------|
| <b>Search</b> command request (section <a href="#">2.2.1.16</a> ) | <b>Store</b> (section <a href="#">2.2.3.178.3</a> ) | None           | <b>string</b> ([MS-ASDTYPE] section 2.7) | 1...1 (required) |

The **Name** element value can be up to 256 characters in length. The following values are valid for the **Name** element for most protocol versions. Details about protocol versions are provided at the end of this section.

- "GAL"—The client specifies "GAL" when it intends to search the **Global Address List**.
- "Mailbox"—The client specifies "Mailbox" when it intends to search the **mailbox**.
- "DocumentLibrary"—The client specifies "DocumentLibrary" when it intends to search a Windows SharePoint Services library or a **UNC** library.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

The protocol version 2.5 does not support searches of the mailbox, a Windows SharePoint Services library, or a UNC library. Therefore, the values "Mailbox" and "DocumentLibrary" are not valid when protocol version 2.5 is used.

### 2.2.3.120.3 Name (SmartForward and Sync)

The **Name** element is an optional child element of the **Forwarder** element in **SmartForward** command requests and the **MeetingRequest** element in **Sync** command responses that specifies the name of the forwarder.

All elements referenced in this section are defined in the **ComposeMail** namespace.

| Command request/response  | Parent elements                                      | Child elements | Data type                                | Number allowed   |
|---|--|----------------|--|------------------|
| <b>SmartForward</b> command request (section <a href="#">2.2.1.19</a> ) | <b>Forwarder</b> (section <a href="#">2.2.3.78</a> ) | None           | <b>string</b> ([MS-ASDTYPE] section 2.7) | 0...1 (optional) |

| Command request/response   | Parent elements                     | Child elements | Data type                                | Number allowed   |
|--|-------------------------------------|----------------|--|------------------|
| <b>Sync</b> command response (section <a href="#">2.2.1.21</a> ) | <b>Forwarder</b> (section 2.2.3.78) | None           | <b>string</b> ([MS-ASDTYPE] section 2.7) | 0...1 (optional) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             | Yes             |
| 16.1             | Yes             |

The **Name** element as an optional child element of the **MeetingRequest** element is not supported in **Sync** command responses in protocol version 16.0.

### 2.2.3.121 Office

The **Office** element is used in the following command responses:

- **Find** command responses (section [2.2.1.2](#))
- **Search** command responses (section [2.2.1.16](#))

The definition of the **Office** element differs according to the context in which it is used. For more details, see section [2.2.3.121.1](#) and section [2.2.3.121.2](#).

#### 2.2.3.121.1 Office (Find)

The **Office** element in the **GAL** namespace is an optional child element of the **find:Properties** element in **Find** command responses. The **Office** element is only present in response to **Find** command requests that contain the **GALSearchCriterion** element as specified in section [2.2.3.82](#). It contains the office location or number of a recipient in the **GAL** that matched the search criteria from the corresponding **Find** command request.

| Command request/response  | Parent elements  | Child elements | Data type   | Number allowed   |
|---|--|----------------|---|------------------|
| <b>Find</b> command response (section <a href="#">2.2.1.2</a> ) | <b>Properties</b> (section <a href="#">2.2.3.139.1</a> ) | None           | <b>string</b> ([MS-ASDTYPE] section <a href="#">2.7</a> ) | 0...1 (optional) |

| Command request/response | Parent elements | Child elements | Data type | Number allowed |
|--------------------------|-----------------|----------------|-----------|----------------|
|                          |                 |                | 2.7)      |                |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.121.2 Office (Search)

The **Office** element in the **GAL** namespace is an optional child element of the **search:Properties** element in **Search** command responses. The **Office** element is only present in response to **Search** command requests that contain a **search:Name** element with a value of "GAL", as specified in section 2.2.3.120.2. It contains the office location or number of a recipient in the **GAL** that matched the search criteria from the corresponding **Search** command request.

| Command request/response                          | Parent elements                         | Child elements | Data type                                | Number allowed   |
|---|---|----------------|--|------------------|
| <b>Search</b> command response (section 2.2.1.16) | <b>Properties</b> (section 2.2.3.139.3) | None           | <b>string</b> ([MS-ASDTYPE] section 2.7) | 0...1 (optional) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.122 Oof

The **Oof** element is an optional child element of the **Settings** element in **Settings** command requests and responses that specifies a named property node for retrieving and setting **Out of Office (OOF)** information.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response  | Parent elements  | Child elements  | Data type  | Number allowed   |
|---|--|---|--|------------------|
| <b>Settings</b> command request (section <a href="#">2.2.1.18</a> ) | <b>Settings</b> (section <a href="#">2.2.3.168.2</a> ) | <b>Get</b> (section <a href="#">2.2.3.83</a> )<br><b>Set</b> (section <a href="#">2.2.3.167</a> ) | <b>container</b> ( <a href="#">IMS-ASDTYPE1</a> section 2.2) | 0...1 (optional) |
| <b>Settings</b> command response                                    | <b>Settings</b>  | <b>Get Status</b> (section <a href="#">2.2.3.177.15</a> )   | <b>container</b>   | 0...1 (optional) |

The **Settings** command request supports **Get** and **Set** operations for the **Oof** element. The **Oof** element enables a user to do the following:

- Specify whether the user is currently out of office.
- Schedule an out of office message to be sent between a particular start date and end date.
- Specify the message that is to be shown to various audiences when the mobile device user is out of office.

#### Oof Get Request and Response

The **Get** element within the **Oof** element of a **Settings** command request enables the client to retrieve OOF information from the server. The client specifies the body type (**BodyType** element (section [2.2.3.17](#))) to be retrieved and the server will return all OOF information and messages.

In a **Settings** command **Oof Get** response, there is one **OofMessage** node (section [2.2.3.123](#)) per audience. If the sender group is allowed, but is disabled and has no reply message (specified by the **ReplyMessage** element (section [2.2.3.149](#))), an **OofMessage** node is still reported to the client.

If the client does not receive a group, it is presumably because the client does not have permission to enter settings for that group; in such a case, any attempt to set those properties results in an Access Denied status code.

## Oof Set Request and Response

The **Set** element within the **Oof** element of a **Settings** command request enables the client to set the OOF status, time OOF, and **OOF messages** for one or more of the following groups:

- Internal
- External Known Senders (such as contacts)
- External Unknown Senders

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.123 OofMessage

The **OofMessage** element is an optional child element of the **Set** element in **Settings** command requests and an optional child element of the **Get** element in **Settings** command responses. It specifies the **OOF message** for a particular audience.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response   | Parent elements                                 | Child elements  | Data type  | Number allowed   |
|--|---|---|--|------------------|
| <b>Settings</b> command <b>Oof</b> request (section <a href="#">2.2.1.18</a> ) | <b>Set</b> (section <a href="#">2.2.3.167</a> ) | <b>AppliesToInternal</b> (section <a href="#">2.2.3.14</a> )<br><b>AppliesToExternalKnown</b> (section <a href="#">2.2.3.12</a> )<br><b>AppliesToExternalUnknown</b> (section <a href="#">2.2.3.13</a> )<br><b>Enabled</b> (section <a href="#">2.2.3.59</a> )<br><b>ReplyMessage</b> (section <a href="#">2.2.3.149</a> )<br><b>BodyType</b> (section <a href="#">2.2.3.17</a> ) | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 0...3 (optional) |
| <b>Settings</b> command <b>Oof</b> response                                    | <b>Get</b> (section <a href="#">2.2.3.83</a> )  | <b>AppliesToInternal</b>  | <b>container</b>   | 0...3 (optional) |

| Command request/response | Parent elements | Child elements   | Data type | Number allowed |
|--------------------------|-----------------|--|-----------|----------------|
|                          |                 | <b>AppliesToExternalKnown</b><br><b>AppliesToExternalUnknown</b><br><b>Enabled</b><br><b>ReplyMessage</b><br><b>BodyType</b> |           |                |

The **Oof** property (section [2.2.3.122](#)) supports the following three audiences for an OOF message: [<11>](#)

- Internal—A user who is in the same organization as the sending user.
- Known external—A user who is outside the sending user's organization, but is represented in the sending user's contacts.
- Unknown external—A user who is outside the sending user's organization and is not represented in the sending user's contacts.

The presence of one of the following elements, which are mutually exclusive, indicates the audience to which an **OOF** message pertains:

- **AppliesToInternal**—The OOF message is relevant to an internal audience.
- **AppliesToExternalKnown**—The OOF message is relevant to a known external audience.
- **AppliesToExternalUnknown**—The OOF message is relevant to an unknown external audience.

There is one **OofMessage** node per audience in a **Settings** command **Oof Get** response. If a sender group is allowed, but is disabled and has no reply message (specified by the **ReplyMessage** element), an **OofMessage** node is reported to the client. If **AppliesToExternalKnown** or **AppliesToExternalUnknown** are not allowed and are disabled by the administrator but are sent by the client in the **Settings** command **Oof Set** request, the response returns a successful **Status** element (section [2.2.3.177.15](#)) value of 1 even though the user does not have access to these settings. Similarly, the **AppliesToExternalKnown** element and the **AppliesToExternalUnknown** element are returned to the client the response even if the sender group is not allowed and is disabled.

In a **Settings** command **Oof Set** request, the client MUST NOT include the same **AppliesTo\*** element in more than one **OofMessage** element.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.124 OofState

The **OofState** element is an optional child element of the **Set** element in **Settings** command requests and an optional child element of the **Get** element in **Settings** command responses. It specifies the availability of the **Oof** property (section [2.2.3.122](#)).

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response   | Parent elements                                 | Child elements | Data type  | Number allowed   |
|--|---|----------------|--|------------------|
| <b>Settings</b> command <b>Oof</b> request (section <a href="#">2.2.1.18</a> ) | <b>Set</b> (section <a href="#">2.2.3.167</a> ) | None           | <b>integer</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.6) | 0...1 (optional) |
| <b>Settings</b> command <b>Oof</b> response                                    | <b>Get</b> (section <a href="#">2.2.3.83</a> )  | None           | <b>integer</b>   | 0...1 (optional) |

The following table lists the valid values for **OofState**.

| Value | Meaning                                |
|-------|--|
| 0     | The <b>Oof</b> property is disabled.   |
| 1     | The <b>Oof</b> property is global.     |
| 2     | The <b>Oof</b> property is time-based. |

The **OofState** element value MUST be set to 2 if the **StartTime** (section [2.2.3.176.2](#)) and **EndTime** (section [2.2.3.61.2](#)) elements are present. If the **OofState** element value is not set to 2 and the **StartTime** and **EndTime** elements are submitted in the request, the client does receive a successful response message, but the server does not store the **StartTime** and **EndTime** element values.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |



| Protocol version | Element support |
|------------------|-----------------|
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.125 Options

The **Options** element is used in the following command requests:

- **Find** command requests (section [2.2.1.2](#))
- **GetItemEstimate** command requests (section [2.2.1.9](#))
- **ItemOperations** command requests (section [2.2.1.10](#))
- **ResolveRecipients** command requests (section [2.2.1.15](#))
- **Search** command requests (section [2.2.1.16](#))
- **Sync** command requests (section [2.2.1.21](#))

The definition of the **Options** element differs according to the context in which it is used. For more details, see section [2.2.3.125.1](#), section [2.2.3.125.2](#), section [2.2.3.125.3](#), section [2.2.3.125.4](#), section [2.2.3.125.5](#) and section [2.2.3.125.6](#).

#### 2.2.3.125.1 Options (Find)

The **Options** element is an optional child element of the **MailBoxSearchCriterion** element in **Find** command requests that contains the search options.

Elements referenced in this section are defined in the **Find** namespace.

| Command request/response                                       | Parent elements  | Child elements   | Data type  | Number allowed   |
|--|--|--|--|------------------|
| <b>Find</b> command request (section <a href="#">2.2.1.2</a> ) | <b>MailBoxSearchCriterion</b> (section <a href="#">2.2.3.99</a> )<br><b>GALSearchCriterion</b> (section <a href="#">2.2.3.82</a> ) | <b>Range</b> (section <a href="#">2.2.3.143.1</a> )<br><b>DeepTraversal</b> (section <a href="#">2.2.3.41.1</a> )<br><b>Picture</b> (section <a href="#">2.2.3.135.1</a> ) | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 0...1 (optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |

| Protocol version | Element support |
|------------------|-----------------|
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.125.2 Options (GetItemEstimate)

The **airsync:Options** element is an optional child element of the **Collection** element in **GetItemEstimate** command requests that contains elements that filter the results of the **GetItemEstimate** command.

Elements referenced in this section are defined in the **GetItemEstimate** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements   | Child elements  | Data type  | Number allowed  |
|---|---|---|--|-----------------|
| <b>GetItemEstimate</b> command request (section <a href="#">2.2.1.9</a> ) | <b>Collection</b> (section <a href="#">2.2.3.29.1</a> ) | <b>airsync:Class</b> (section <a href="#">2.2.3.27.2</a> )<br><b>airsync:FilterType</b> (section <a href="#">2.2.3.68.1</a> )<br><b>airsync:MaxItems</b> (section <a href="#">2.2.3.103.1</a> ) | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 0..2 (optional) |

This element is optional; however, when it is present, it MUST include at least one child element. The **airsync:Options** element appears only in requests to the server from the client. If the **airsync:Options** element is not included in a request, then the **GetItemEstimate** command (section 2.2.1.9) will enumerate all of the items within the collection, without any filter (up to a maximum of 512 items).

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 16.1             | Yes             |

### 2.2.3.125.3 Options (ItemOperations)

The **Options** element is an optional child element of the **EmptyFolderContents** element, the **Fetch** element, and the **Move** element in **ItemOperations** command requests. It contains the options for the **EmptyFolderContents** operation, the fetch operation, or the move operation.

Elements referenced in this section are defined in the **ItemOperations** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements  | Child elements   | Data type                                   | Number allowed   |
|---|--|--|---|------------------|
| <b>ItemOperations</b> command request (section <a href="#">2.2.1.10</a> )<br><b>EmptyFolderContents</b> operation | <b>EmptyFolderContents</b> (section <a href="#">2.2.3.58</a> ) | <b>DeleteSubFolders</b> (section <a href="#">2.2.3.44</a> )  | <b>container</b> ([MS-ASDTYPE] section 2.2) | 0...1 (optional) |
| <b>ItemOperations</b> command request fetch operation   | <b>Fetch</b> (section <a href="#">2.2.3.67.1</a> )             | <b>Schema</b> (section <a href="#">2.2.3.158</a> )<br><b>Range</b> (section <a href="#">2.2.3.143.2</a> )<br><b>UserName</b> (section <a href="#">2.2.3.193.1</a> )<br><b>Password</b> (section <a href="#">2.2.3.132.1</a> )<br><b>airsync:MIMESupport</b> (section <a href="#">2.2.3.110.1</a> )<br><b>airsyncbase:BodyPreference</b> ([MS-ASAIRS] section 2.2.2.12)<br><b>airsyncbase:BodyPartPreference</b> ([MS-ASAIRS] section 2.2.2.11)<br><b>rm:RightsManagementSupport</b> ([MS-ASRM] section 2.2.2.15) | <b>container</b>                            | 0...1 (optional) |
| <b>ItemOperations</b> command request <b>Move</b> operation   | <b>Move</b> (section <a href="#">2.2.3.117.1</a> )             | <b>MoveAlways</b> (section <a href="#">2.2.3.118</a> )   | <b>container</b>                            | 0...1 (optional) |

If the client specifies an option that is invalid for the parent element, the server returns a **Status** element (section [2.2.3.177.8](#)) value of 2.

The following options are supported for the fetch operation:

- Schema
  - Per-class settings on format for fetch results.
  - This protocol supports schemas for **Personal Information Manager (PIM)** items only; it does not support schemas for document library items or attachments.
  - Supports all top-level property nodes.
  - For more information about the **Schema** element, section 2.2.3.158.
- Byte ranges

- Facilitates a checkpoint to improve the reliability of large data downloads.
- This protocol supports ranges for document library items and attachments; it does not support ranges for other item types—that is, PIM items, such as email, contact, calendar, or task items.
- For attachments, the range applies to the file content.
- For document library items, this applies to the file content.
- For more information about the **Range** element, section 2.2.3.143.2.
- User name and password
  - Identifies the username and password required to fetch the desired item.
  - For more information about **UserName** and **Password** elements, see section 2.2.3.193.1 and section 2.2.3.132.1 respectively.
- **MIME** support
  - Indicates whether the server returns MIME content for **S/MIME**-only messages, all messages, or no messages
  - For more information about the **airsync:MIMESupport** element, section 2.2.3.110.1.
- Body format preference
  - Per-class settings on preferred body format.
  - This protocol supports body preferences for PIM items only; it does not support body format preferences for document library items or attachments.
  - For more information about the **airsyncbase:BodyPreference** element, see [MS-ASAIRS] section 2.2.2.12.
- Body part preference
  - Per email settings on preferred body part format.
  - When the **airsyncbase:BodyPartPreference** element is specified, the server returns the unique parts of the email **message body** with reference to the parent item across all collections.
  - For more information about the **airsyncbase:BodyPartPreference** element, see [MS-ASAIRS] section 2.2.2.11.
- Rights management support
  - Indicates whether the device has information rights management enabled. If information rights management is enabled, the client requests that the information rights management content be returned in its schematized form in the response.

If the **airsyncbase:FileReference** element (section [2.2.3.8](#)) is present, then the **Range** element is the only valid child element of the **Options** element.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

The same protocol versions that support the **Options** element in an **ItemOperations** command request also support the **airsynbase:BodyPreference** element as a child element of the **Options** element. The **airsynbase:BodyPartPreference** element and the **rm:RightsManagementSupport** element are supported as a child elements of the **Options** element only when protocol version 14.1, 16.0, or 16.1 is used. Protocol version support of other elements referenced in this section is specified in the individual sections that define those elements.

#### 2.2.3.125.4 Options (ResolveRecipients)

The **Options** element is an optional child element of the **ResolveRecipients** element in **ResolveRecipients** command requests that contains the options for resolving the list of recipients.

All elements referenced in this section are defined in the **ResolveRecipients** namespace.

| Command request/response   | Parent elements   | Child elements   | Data type  | Number allowed   |
|--|---|--|--|------------------|
| <b>ResolveRecipients</b> command request (section <a href="#">2.2.1.15</a> ) | <b>ResolveRecipients</b> (section <a href="#">2.2.3.152</a> ) | <b>CertificateRetrieval</b> (section <a href="#">2.2.3.22</a> )<br><b>MaxCertificates</b> (section <a href="#">2.2.3.101</a> )<br><b>MaxAmbiguousRecipients</b> (section <a href="#">2.2.3.100</a> )<br><b>Availability</b> (section <a href="#">2.2.3.16</a> )<br><b>Picture</b> (section <a href="#">2.2.3.135.2</a> ) | <b>container</b> ([ <b>MS-ASDTYPE</b> ] section 2.2) | 0...1 (optional) |

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [**MS-ASHTTP**] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [**MS-ASHTTP**] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

The **Picture** element is not supported as a child element of the **Options** element when the protocol version is 2.5, 12.0, 12.1 or 14.0. The **Availability** element is not supported as a child element of the **Options** element when the protocol version is 2.5, 12.0, or 12.1.

### 2.2.3.125.5 Options (Search)

The **Options** element is an optional child element of the **Store** element in **Search** command requests that contains the search options.

Elements referenced in this section are defined in the **Search** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements                                     | Child elements  | Data type                                   | Number allowed   |
|---|---|---|---|------------------|
| <b>Search</b> command request (section <a href="#">2.2.1.16</a> ) | <b>Store</b> (section <a href="#">2.2.3.178.3</a> ) | <b>airsync:MIMESupport</b> (section <a href="#">2.2.3.110.2</a> )<br><b>airsyncbase:BodyPreference</b> ([MS-ASAIRS] section 2.2.2.12)<br><b>airsyncbase:BodyPartPreference</b> ([MS-ASAIRS] section 2.2.2.11)<br><b>rm:RightsManagementSupport</b> ([MS-ASRM] section 2.2.2.15)<br><b>Range</b> (section <a href="#">2.2.3.143.3</a> )<br><b>UserName</b> (section <a href="#">2.2.3.193.2</a> )<br><b>Password</b> (section <a href="#">2.2.3.132.2</a> )<br><b>DeepTraversal</b> (section <a href="#">2.2.3.41.2</a> )<br><b>RebuildResults</b> (section <a href="#">2.2.3.144</a> )<br><b>Picture</b> (section <a href="#">2.2.3.135.3</a> ) | <b>container</b> ([MS-ASDTYPE] section 2.2) | 0...1 (optional) |

The **UserName** element and **Password** element can only be sent in the request after receiving a **Status** element (section [2.2.3.177.13](#)) value of 14 (see section 2.2.3.177.13 for more details). The server requires these credentials to access the requested **resources**. The client **MUST** only send these over a secure or trusted connection, and only in response to a **Status** value of 14. The **UserName** and **Password** element values are defined as strings consisting of at most 100 characters.

The supported options vary according to the **message store** that is being searched. The following table lists the valid options for each store.

| Options  | Store   |
|--|---------|
| <b>Range</b><br><b>UserName</b><br><b>Password</b><br><b>Picture</b> | GAL     |
| <b>Range</b>   | Mailbox |

| Options  | Store            |
|--|------------------|
| <b>DeepTraversal</b><br><b>RebuildResults</b><br><b>airsyncbase:BodyPreference</b><br><b>airsyncbase:BodyPartPreference</b><br><b>rm:RightsManagementSupport</b> |                  |
| <b>Range</b><br><b>UserName</b><br><b>Password</b>   | Document Library |

The **airsyncbase:BodyPartPreference** element is only valid in **Search** command requests that include a **ConversationId** element, as specified in section [2.2.3.35.2](#).

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

All protocol versions except 2.5 support the **airsyncbase:BodyPreference** element as a child element of the **Options** element in a **Search** command request. The **airsyncbase:BodyPartPreference** element and the **rm:RightsManagementSupport** element are supported as a child elements of the **Options** element only when protocol version 14.1, 16.0, or 16.1 is used. Protocol version support of other elements referenced in this section is specified in the individual sections that define those elements.

### 2.2.3.125.6 Options (Sync)

The **Options** element is an optional child element of the **Collection** element in **Sync** command requests that contains elements that control certain aspects of how the synchronization is performed.

Elements referenced in this section are defined in the **AirSync** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response | Parent elements   | Child elements  | Data type        | Number allowed |
|--------------------------|-------------------|---|------------------|----------------|
| <b>Sync</b> command      | <b>Collection</b> | <b>FilterType</b> (section <a href="#">2.2.3.68.2</a> ) | <b>container</b> | 0...2          |

| Command request/response                    | Parent elements                       | Child elements  | Data type                                   | Number allowed |
|---|---------------------------------------|---|---|----------------|
| request (section <a href="#">2.2.1.21</a> ) | (section <a href="#">2.2.3.29.2</a> ) | <b>Conflict</b> (section <a href="#">2.2.3.34</a> )<br><b>MIMETruncation</b> (section <a href="#">2.2.3.111</a> )<br><b>MIMESupport</b> (section <a href="#">2.2.3.110.3</a> )<br><b>Class</b> (section <a href="#">2.2.3.27.6</a> )<br><b>MaxItems</b> (section <a href="#">2.2.3.103.2</a> )<br><b>Truncation</b> (section <a href="#">2.2.3.185</a> )<br><b>airsyncbase:BodyPreference</b> ( <a href="#">[MS-ASAIRS]</a> section 2.2.2.12)<br><b>airsyncbase:BodyPartPreference</b> ( <a href="#">[MS-ASAIRS]</a> section 2.2.2.11)<br><b>rm:RightsManagementSupport</b> ( <a href="#">[MS-ASRM]</a> section 2.2.2.15) | ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | (optional)     |

This element is optional, but if it is present, it SHOULD include at least one child element. The **Options** element appears only in requests to the server from the client.

Synchronization options enable the client to specify truncation and content settings. These settings are encapsulated within a **airsyncbase:BodyPreference** child element, as specified in [\[MS-ASAIRS\]](#) section 2.2.2.12.

Because synchronization options are specified on a collection, the client can specify a unique **airsyncbase:BodyPreference** element value for each collection that it is being synchronized. For more details about the **airsyncbase:BodyPreference** element, see [\[MS-ASAIRS\]](#) section 2.2.2.12.

The server preserves the **Options** block across requests, using a concept referred to as "sticky options". If the **Options** block is not included in a request, the previous **Options** block is used. Whenever the client specifies new options by including an **Options** block in the request, the server MUST replace the original **Options** block with the new **Options** block.

If two **Options** elements are included in a single **Sync** command request, one of the **Options** elements MUST specify the synchronization options for the **SMS** class, while the other **Options** element specifies the options for the default class of the given folder.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |



All protocol versions except 2.5 support the **airsyncbase:BodyPreference** element as a child element of the **Options** element in a **Sync** command request. The **airsyncbase:BodyPartPreference** element and the **rm:RightsManagementSupport** element are supported as a child elements of the **Options** element only when protocol version 14.1, 16.0, or 16.1 is used. Protocol version support of other elements referenced in this section is specified in the individual sections that define those elements.

### 2.2.3.126 Or

The **Or** element is an optional child element of the **And** element in **Search** command requests. It contains elements that specify items on which to perform an **OR** operation.

Elements referenced in this section are defined in the **Search** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements                                | Child elements   | Data type  | Number allowed   |
|---|--|--|--|------------------|
| <b>Search</b> command request (section <a href="#">2.2.1.16</a> ) | <b>And</b> (section <a href="#">2.2.3.10</a> ) | <b>FreeText</b> (section <a href="#">2.2.3.80.2</a> )<br><b>GreaterThan</b> (section <a href="#">2.2.3.86</a> )<br><b>LessThan</b> (section <a href="#">2.2.3.96</a> ) | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 0...1 (optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.127 OS

The **OS** element is an optional child element of the **Set** element in **Settings** command requests that specifies the operating system of the client device.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response  | Parent elements                                 | Child elements | Data type  | Number allowed      |
|---|---|----------------|--|---------------------|
| <b>Settings</b> command<br><b>DeviceInformation</b> request (section <a href="#">2.2.1.18</a> ) | <b>Set</b> (section <a href="#">2.2.3.167</a> ) | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 0...1<br>(optional) |

Some information about the operating system of the device can be collected from the user agent string that is associated with requests from that client. The mapping from user agent to operating system is not one to one, however, and therefore does not provide sufficient information to troubleshoot and establish an inventory.

The **OS** element is a **string** value (up to 1024 characters in length) that enables the client to precisely specify the operating system of the device. The server does not perform any validation of this value, but clients SHOULD [<12>](#) use the following convention:

<Operating System Product Name> <Operating System Major Version> <Operating System Minor Version>

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.128 OSLanguage

The **OSLanguage** element is an optional child element of the **Set** element in **Settings** command requests that specifies the language that is used by the operating system of the client device.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response  | Parent elements                                 | Child elements | Data type  | Number allowed      |
|---|---|----------------|--|---------------------|
| <b>Settings</b> command<br><b>DeviceInformation</b> request (section <a href="#">2.2.1.18</a> ) | <b>Set</b> (section <a href="#">2.2.3.167</a> ) | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 0...1<br>(optional) |

Knowledge of the user's language facilitates localization if the server is required to send localizable content to the client device. The **OS** element value can be up to 1024 characters in length. The server does not validate the value of the **OSLanguage** element.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

## 2.2.3.129 ParentId

The **ParentId** element is used in the following command requests and responses:

- **FolderCreate** command requests (section [2.2.1.3](#))
- **FolderSync** command responses (section [2.2.1.5](#))
- **FolderUpdate** command requests (section [2.2.1.6](#))
- **GetHierarchy** command response (section [2.2.1.8](#))

The definition of the **ParentId** element differs according to the context in which it is used. For more details, see section [2.2.3.129.1](#), section [2.2.3.129.2](#), section [2.2.3.129.3](#), and section [2.2.3.129.4](#).

### 2.2.3.129.1 ParentId (FolderCreate)

The **ParentId** element is a required child element of the **FolderCreate** element in **FolderCreate** command requests that specifies the server ID of the parent folder. The server ID of the parent folder is obtained from the **ServerId** element (section [2.2.3.166.4](#)) of a previous **FolderSync** command (section [2.2.1.5](#)). A parent ID of 0 (zero) signifies the mailbox **Root folder**. The **ParentId** element value can be up to 64 characters in length.

All elements referenced in this section are defined in the **FolderHierarchy** namespace.

| Command request/response   | Parent elements   | Child elements | Data type                                | Number allowed   |
|--|---|----------------|--|------------------|
| <b>FolderCreate</b> command request (section <a href="#">2.2.1.3</a> ) | <b>FolderCreate</b> (section <a href="#">2.2.3.72</a> ) | None           | <b>string</b> ([MS-ASDTYPE] section 2.7) | 1...1 (required) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.129.2 ParentId (FolderSync)

The **ParentId** element is a required child element of the **Update** element and the **Add** element in **FolderSync** command responses that specifies the server ID of the parent folder of the folder on the server that has been updated or added.

All elements referenced in this section are defined in the **FolderHierarchy** namespace.

| Command request/response                             | Parent elements                   | Child elements | Data type                                | Number allowed   |
|--|-----------------------------------|----------------|--|------------------|
| <b>FolderSync</b> command response (section 2.2.1.5) | <b>Update</b> (section 2.2.3.187) | None           | <b>string</b> ([MS-ASDTYPE] section 2.7) | 1...1 (required) |
| <b>FolderSync</b> command response                   | <b>Add</b> (section 2.2.3.7.1)    | None           | <b>string</b>                            | 1...1 (required) |

The client MUST store the parent ID as an opaque string of up to 64 characters.

Each **Update** element and each **Add** element included in a **FolderSync** response MUST contain one **ParentId** element.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.129.3 ParentId (FolderUpdate)

The **ParentId** element is a required child element of the **FolderUpdate** element in **FolderUpdate** command requests that specifies the server ID of the parent folder of the folder to be renamed or the destination folder of the folder to be moved.

All elements referenced in this section are defined in the **FolderHierarchy** namespace.

| Command request/response   | Parent elements   | Child elements | Data type                         | Number allowed   |
|--|---|----------------|-----------------------------------|------------------|
| <b>FolderUpdate</b> command request (section <a href="#">2.2.1.6</a> ) | <b>FolderUpdate</b> (section <a href="#">2.2.3.77</a> ) | None           | string ([MS-ASDTYPE] section 2.7) | 1...1 (required) |

The **ParentId** element value is obtained from the **ServerId** element (section [2.2.3.166.4](#)) of a previous **FolderSync** command response (section [2.2.1.5](#)) or **FolderCreate** command response (section [2.2.1.3](#)). The client MUST store the **ParentId** element value as an opaque string of up to 64 characters.

A **ParentId** element value of 0 (zero) signifies the mailbox **Root folder**.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

#### 2.2.3.129.4 ParentId (GetHierarchy)

The **ParentId** element is a required child element of the **Folder** element in **GetHierarchy** command responses that specifies the server ID of the folder's parent folder. A parent ID of 0 (zero) signifies the mailbox **Root folder**.

All elements referenced in this section are defined in the **FolderHierarchy** namespace.

| Command request/response  | Parent elements                                     | Child elements | Data type                                | Number allowed   |
|---|---|----------------|--|------------------|
| <b>GetHierarchy</b> command response (section <a href="#">2.2.1.8</a> ) | <b>Folder</b> (section <a href="#">2.2.3.71.1</a> ) | None           | <b>string</b> ([MS-ASDTYPE] section 2.7) | 1...1 (required) |

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             |                 |

#### 2.2.3.130 Part

The **Part** element is an optional child element of the **Properties** element or the **airsyncbase:Body** element in **ItemOperations** command responses that specifies an integer index into the metadata of the multipart response.

All elements referenced in this section are defined in the **ItemOperations** namespace.

| Command request/response   | Parent elements   | Child elements | Data type                                 | Number allowed   |
|--|---|----------------|---|------------------|
| <b>ItemOperations</b> command response (section <a href="#">2.2.1.10</a> ) fetch operation | <b>Properties</b> (section <a href="#">2.2.3.139.2</a> )<br><b>airsyncbase:Body</b> ([MS-ASAIRS] section 2.2.2.9) | None           | <b>integer</b> ([MS-ASDTYPE] section 2.6) | 0...1 (optional) |

The **Part** element is present only in a multipart **ItemOperations** response. When the item being fetched is located in a document library, the **Part** element is a child of the **Properties** element. When the item being fetched is an attachment located in a mailbox, the **Part** element is a child of the **Properties** element if the item's data is not requested, and is a child of the **airsyncbase:Body** element if the item's data is requested. The **Part** element replaces the **Data** element (section [2.2.3.39.2](#)) as a child of the **airsyncbase:Body** element.

The **Part** element can be used to locate the [start, end] tuple that specifies the starting byte and ending byte for this item's binary content in the command response.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.131 Partial

The **Partial** element is an optional child element of the **Sync** element in **Sync** command requests that indicates to the server that the client sent a partial list of collections, in which case the server obtains the rest of the collections from its cache.

All elements referenced in this section are defined in the **AirSync** namespace.

| Command request/response  | Parent elements                                  | Child elements | Data type | Number allowed   |
|---|--|----------------|-----------|------------------|
| <b>Sync</b> command request (section <a href="#">2.2.1.21</a> ) | <b>Sync</b> (section <a href="#">2.2.3.180</a> ) | None           | None      | 0...1 (optional) |

The **Partial** element is an empty tag element, meaning it has no value or data type. It is distinguished only by the presence or absence of the <Partial/> tag.

The client MUST NOT send a **Partial** element without any other elements in the **Sync** request. A **Sync** command request is valid with only a **Partial** element and either a **Wait** element (section [2.2.3.198](#)) or **HeartbeatInterval** element (section [2.2.3.88.2](#)), a **WindowSize** element (section [2.2.3.199](#)), a **Collections** element (section [2.2.3.31.2](#)), or any combination of the three. A **Sync** command request requires, at least, either a **Partial** element or a **Collections** element.

When a **Sync** command request includes a **Partial** element but does not specify some collections, the settings and synchronization key for each of those unspecified collections specified in the previous

**Sync** request remain the same as specified in the previous request. Such a request is equivalent to a request that specifies each of these collections with the same settings and synchronization key as in the previous request. This enables the client to modify some aspect of the previous request (one of the collections, the wait time, the global window size, and so on) without sending up every unchanged collection.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

## 2.2.3.132 Password

The **Password** element is used in the following command requests:

- **ItemOperations** command requests (section [2.2.1.10](#))
- **Search** command requests (section [2.2.1.16](#))
- **Settings** command requests (section [2.2.1.18](#))

The definition of the **Password** element differs according to the context in which it is used. For more details, see section [2.2.3.132.1](#), section [2.2.3.132.2](#), and section [2.2.3.132.3](#).

### 2.2.3.132.1 Password (ItemOperations)

The **Password** element is an optional child element of the **Options** element in **ItemOperations** command requests that specifies the password for the given **UserName** (section [2.2.3.193.1](#)).

All elements referenced in this section are defined in the **ItemOperations** namespace.

| Command request/response  | Parent elements                                       | Child elements | Data type   | Number allowed   |
|---|---|----------------|---|------------------|
| <b>ItemOperations</b> command request (section <a href="#">2.2.1.10</a> ) fetch operation | <b>Options</b> (section <a href="#">2.2.3.125.3</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 0...1 (optional) |

The server accepts password values up to 256 characters in length. However, logon dialog boxes can limit password lengths to a smaller value.



## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.132.2 Password (Search)

The **Password** element is an optional child element of the **Options** element in **Search** command requests that specifies the password for the given **UserName** (section [2.2.3.193.2](#)). The value of the **Password** element has a maximum length of 100 characters.

All elements referenced in this section are defined in the **Search** namespace.

| Command request/response  | Parent elements                                       | Child elements | Data type   | Number allowed   |
|---|---|----------------|---|------------------|
| <b>Search</b> command request (section <a href="#">2.2.1.16</a> ) | <b>Options</b> (section <a href="#">2.2.3.125.5</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 0...1 (optional) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.132.3 Password (Settings)

The **Password** element is a required child element of the **Set** element in **Settings** command **DevicePassword Set** operation requests that specifies the recovery password of the client device, which is stored by the server.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response  | Parent elements                                 | Child elements | Data type   | Number allowed      |
|---|---|----------------|---|---------------------|
| <b>Settings</b> command <b>DevicePassword</b> request (section <a href="#">2.2.1.18</a> ) | <b>Set</b> (section <a href="#">2.2.3.167</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 1...1<br>(required) |

The value of the **Password** element has a maximum length of 255 characters.

To clear an existing recovery password, the client MUST send a **Settings** command **DevicePassword Set** request with an empty **Password** element.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.133 Phone

The **Phone** element is used in the following command responses:

- **Find** command responses (section [2.2.1.2](#))
- **Search** command responses (section [2.2.1.16](#))

The definition of the **Phone** element differs according to the context in which it is used. For more details, see section [2.2.3.133.1](#) and section [2.2.3.133.2](#).

### 2.2.3.133.1 Phone (Find)

The **Phone** element in the **GAL** namespace is an optional child element of the **find:Properties** element in **Find** command responses. The **Phone** element is only present in response to **Find** command requests that contain the **GALSearchCriterion** element as specified in section [2.2.3.82](#). It contains the phone number of a recipient in the **GAL** that matched the search criteria from the corresponding **Find** command request.

| Command request/response  | Parent elements  | Child elements | Data type                                | Number allowed   |
|---|--|----------------|--|------------------|
| <b>Find</b> command response (section <a href="#">2.2.1.2</a> ) | <b>Properties</b> (section <a href="#">2.2.3.139.1</a> ) | None           | <b>string</b> ([MS-ASDTYPE] section 2.7) | 0...1 (optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.133.2 Phone (Search)

The **Phone** element in the **GAL** namespace is an optional child element of the **search:Properties** element in **Search** command responses. The **Phone** element is only present in response to **Search** command requests that contain a **search:Name** element with a value of "GAL", as specified in section [2.2.3.120.2](#). It contains the phone number of a recipient in the **GAL** that matched the search criteria from the corresponding **Search** command request.

| Command request/response   | Parent elements  | Child elements | Data type                                | Number allowed   |
|--|--|----------------|--|------------------|
| <b>Search</b> command response (section <a href="#">2.2.1.16</a> ) | <b>Properties</b> (section <a href="#">2.2.3.139.3</a> ) | None           | <b>string</b> ([MS-ASDTYPE] section 2.7) | 0...1 (optional) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.134 PhoneNumber

The **PhoneNumber** element is an optional child element of the **Set** element in **Settings** command requests that specifies a unique number that identifies the client device.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response  | Parent elements                                 | Child elements | Data type   | Number allowed      |
|---|---|----------------|---|---------------------|
| <b>Settings</b> command<br><b>DeviceInformation</b> request (section <a href="#">2.2.1.18</a> ) | <b>Set</b> (section <a href="#">2.2.3.167</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 0...1<br>(optional) |

The telephone number facilitates troubleshooting and device management by providing a well-known and unique identifier for the client device. The **PhoneNumber** element value can be up to 1024 characters in length. The server does not validate the value of the **PhoneNumber** element. [<13>](#)

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

## 2.2.3.135 Picture

The **Picture** element is used in the following command requests and responses:

- **Find** command responses (section [2.2.1.2](#))
- **ResolveRecipients** command requests and responses (section [2.2.1.15](#))
- **Search** command requests and responses (section [2.2.1.16](#))

The definition of the **Picture** element differs according to the context in which it is used. For more details, see section [2.2.3.135.2](#) and section [2.2.3.135.3](#).

### 2.2.3.135.1 Picture (Find)

The **find:Picture** element is an optional child element of the **Options** element in **Find** command requests that indicates that the client is requesting that contact photos be returned in the server response. The **gal:Picture** element is an optional child element of the **Properties** element in **Find** command responses that contains the data related to the contact photos.

Elements referenced in this section are defined in the **Find** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response                                       | Parent elements  | Child elements   | Data type  | Number allowed   |
|--|--|--|--|------------------|
| <b>Find</b> command request (section <a href="#">2.2.1.2</a> ) | <b>Options</b> (section <a href="#">2.2.3.125.1</a> )    | <b>MaxSize</b> (section <a href="#">2.2.3.105.1</a> )<br><b>MaxPictures</b> (section <a href="#">2.2.3.104.1</a> ) | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) or None | 0...1 (optional) |
| <b>Find</b> command response                                   | <b>Properties</b> (section <a href="#">2.2.3.139.1</a> ) | <b>Status</b> (section <a href="#">2.2.3.177.2</a> )<br><b>gal:Data</b> (section <a href="#">2.2.3.39.1</a> )      | <b>container</b>   | 0...1 (optional) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support, Find namespace | Element support, GAL namespace |
|------------------|---------------------------------|--------------------------------|
| 2.5              |                                 |                                |
| 12.0             |                                 |                                |
| 12.1             |                                 |                                |
| 14.0             |                                 |                                |
| 14.1             |                                 |                                |
| 16.0             |                                 |                                |
| 16.1             | Yes                             | Yes                            |

### 2.2.3.135.2 Picture (ResolveRecipients)

The **Picture** element is an optional child element of the **Options** element in **ResolveRecipients** command requests that indicates that the client is requesting that contact photos be returned in the server response. The **Picture** element is an optional child element of the **Recipient** element in **ResolveRecipients** command responses that contains the data related to the contact photos.

All elements referenced in this section are defined in the **ResolveRecipients** namespace.

| Command request/response   | Parent elements                                       | Child elements   | Data type  | Number allowed   |
|--|---|--|--|------------------|
| <b>ResolveRecipients</b> command request (section <a href="#">2.2.1.15</a> ) | <b>Options</b> (section <a href="#">2.2.3.125.4</a> ) | <b>MaxSize</b> (section <a href="#">2.2.3.105.2</a> )<br><b>MaxPictures</b> (section <a href="#">2.2.3.104.2</a> ) | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) or None | 0...1 (optional) |
| <b>ResolveRecipients</b> command response                                    | <b>Recipient</b> (section <a href="#">2.2.3.145</a> ) | <b>Status</b> (section <a href="#">2.2.3.177.12</a> )<br><b>Data</b> (section <a href="#">2.2.3.39.3</a> )         | <b>container</b>   | 0...1 (optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |

| Protocol version | Element support |
|------------------|-----------------|
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.135.3 Picture (Search)

The **search:Picture** element is an optional child element of the **Options** element in **Search** command requests that indicates that the client is requesting that contact photos be returned in the server response. The **gal:Picture** element is an optional child element of the **Properties** element in **Search** command responses that contains the data related to the contact photos.

Elements referenced in this section are defined in the **Search** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements  | Child elements   | Data type  | Number allowed   |
|---|--|--|--|------------------|
| <b>Search</b> command request (section <a href="#">2.2.1.16</a> ) | <b>Options</b> (section <a href="#">2.2.3.125.5</a> )    | <b>MaxSize</b> (section <a href="#">2.2.3.105.3</a> )<br><b>MaxPictures</b> (section <a href="#">2.2.3.104.3</a> ) | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) or None | 0...1 (optional) |
| <b>Search</b> command response                                    | <b>Properties</b> (section <a href="#">2.2.3.139.3</a> ) | <b>Status</b> (section <a href="#">2.2.3.177.13</a> )<br><b>gal:Data</b> (section <a href="#">2.2.3.39.4</a> )     | <b>container</b>   | 0...1 (optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support, Search namespace | Element support, GAL namespace |
|------------------|-----------------------------------|--------------------------------|
| 2.5              |                                   |                                |
| 12.0             |                                   |                                |
| 12.1             |                                   |                                |
| 14.0             |                                   |                                |
| 14.1             | Yes                               | Yes                            |
| 16.0             | Yes                               | Yes                            |
| 16.1             | Yes                               | Yes                            |

### 2.2.3.136 Ping

The **Ping** element is a required element in **Ping** command requests and responses that identifies the body of the HTTP **POST** as containing a **Ping** command (section [2.2.1.13](#)). It is the top-level element in the XML stream.

All elements referenced in this section are defined in the **Ping** namespace.

| Command request/response                       | Parent elements | Child elements  | Data type   | Number allowed   |
|--|-----------------|---|---|------------------|
| <b>Ping</b> command request (section 2.2.1.13) | None            | <b>HeartbeatInterval</b> (section <a href="#">2.2.3.88.1</a> )<br><b>Folders</b> (section <a href="#">2.2.3.75.2</a> )  | <b>container</b> ( <a href="#">IMS-ASDTYPE</a> section 2.2) | 1...1 (required) |
| <b>Ping</b> command response                   | None            | <b>HeartbeatInterval</b><br><b>Folders</b><br><b>MaxFolders</b> (section <a href="#">2.2.3.102</a> )<br><b>Status</b> (section <a href="#">2.2.3.177.11</a> ) | <b>container</b>  | 1...1 (required) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.137 Preview

The **Preview** element is an optional child element of the **Properties** element in **Find** command responses that contains an up to 255-character preview of the **Email Text Body** to be displayed in the list of search results.

All elements referenced in this section are defined in the **Find** namespace.



| Command request/response  | Parent elements  | Child elements | Data type                                | Number allowed   |
|---|--|----------------|--|------------------|
| <b>Find</b> command response (section <a href="#">2.2.1.2</a> ) | <b>Properties</b> (section <a href="#">2.2.3.139.1</a> ) | None           | <b>string</b> ([MS-ASDTYPE] section 2.7) | 0...1 (optional) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.138 PrimarySmtpAddress

The **PrimarySmtpAddress** element is an optional child element of the **EmailAddresses** element in **Settings** command responses that specifies the primary **SMTP** address for the given account.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response  | Parent elements   | Child elements | Data type                                | Number allowed   |
|---|---|----------------|--|------------------|
| <b>Settings</b> command <b>UserInformation</b> response (section <a href="#">2.2.1.18</a> ) | <b>EmailAddresses</b> (section <a href="#">2.2.3.57</a> ) | None           | <b>string</b> ([MS-ASDTYPE] section 2.7) | 0...1 (optional) |

The value of the **PrimarySmtpAddress** element can also be returned as a value for the **SMTPAddress** element (section [2.2.3.171](#)).

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.139 Properties

The **Properties** element is used in the following command responses:

- **Find** command responses (section [2.2.1.2](#))
- **ItemOperations** command responses (section [2.2.1.10](#))
- **Search** command responses (section [2.2.1.16](#))

The definition of the **Properties** element differs according to the context in which it is used. For more details, see section [2.2.3.139.1](#), section [2.2.3.139.2](#) and section [2.2.3.139.3](#).

#### 2.2.3.139.1 Properties (Find)

The **Properties** element is a required child element of the **Result** element in **Find** command responses that contains the properties that are returned for an item in the response.

Elements referenced in this section are defined in the **Find** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements                                      | Child elements  | Data type                                   | Number allowed   |
|---|--|---|---|------------------|
| <b>Find</b> command response (section <a href="#">2.2.1.2</a> ) | <b>Result</b> (section <a href="#">2.2.3.155.1</a> ) | <b>Subject</b> ([MS-ASEMAIL] section 2.2.2.75.1)<br><b>DateReceived</b> ([MS-ASEMAIL] section 2.2.2.24)<br><b>DisplayTo</b> ([MS-ASEMAIL] section 2.2.2.29)<br><b>DisplayCc</b> (section <a href="#">2.2.3.48</a> )<br><b>DisplayBcc</b> (section <a href="#">2.2.3.47</a> )<br><b>Importance</b> ([MS-ASEMAIL] section 2.2.2.38)<br><b>Read</b> ([MS-ASEMAIL] section 2.2.2.58)<br><b>IsDraft</b> ([MS-ASEMAIL] section 2.2.2.42)<br><b>Preview</b> (section | <b>Container</b> ([MS-ASDTYPE] section 2.2) | 1...1 (required) |

| Command request/response | Parent elements | Child elements  | Data type | Number allowed |
|--------------------------|-----------------|---|-----------|----------------|
|                          |                 | <a href="#">2.2.3.137</a><br><b>HasAttachments</b> (section <a href="#">2.2.3.87</a> )<br><b>From</b> ([MS-ASEMAIL] section 2.2.2.36)<br><b>gal:DisplayName</b> (section <a href="#">2.2.3.49.2</a> )<br><b>gal:Phone</b> (section <a href="#">2.2.3.133.1</a> )<br><b>gal:Office</b> (section <a href="#">2.2.3.121.1</a> )<br><b>gal:Title</b> (section <a href="#">2.2.3.182.1</a> )<br><b>gal:Company</b> ()<br><b>gal:Alias</b> (section <a href="#">2.2.3.9</a> )<br><b>gal:FirstName</b> (section <a href="#">2.2.3.70</a> )<br><b>gal:LastName</b> (section <a href="#">2.2.3.95</a> )<br><b>gal:HomePhone</b> (section <a href="#">2.2.3.89</a> )<br><b>gal:MobilePhone</b> (section <a href="#">2.2.3.114</a> )<br><b>gal:EmailAddress</b> (section <a href="#">2.2.3.55.3</a> )<br><b>gal:Picture</b> (section <a href="#">2.2.3.135.3</a> ) |           |                |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

## 2.2.3.139.2 Properties (ItemOperations)

The **Properties** element is an optional child element of the **Fetch** element in **ItemOperations** command responses that contains the properties that are returned for item(s) in the response.

Elements referenced in this section are defined in the **ItemOperations** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response   | Parent elements                                       | Child elements   | Data type   | Number allowed      |
|--|---|--|---|---------------------|
| <b>ItemOperations</b><br>command response<br>(section <a href="#">2.2.1.10</a> ) fetch operation | <b>Fetch</b><br>(section <a href="#">2.2.3.67.1</a> ) | <b>Range</b> (section <a href="#">2.2.3.143.2</a> )<br><b>Data</b> (section <a href="#">2.2.3.39.2</a> )<br><b>Part</b> (section <a href="#">2.2.3.130</a> )<br><b>Version</b> (section <a href="#">2.2.3.197</a> )<br><b>Total</b> (section <a href="#">2.2.3.184.2</a> )<br><b>airsyncbase:Attachments</b> ( <a href="#">[MS-ASAIRS]</a> section 2.2.2.8)<br><b>airsyncbase:Body</b> ( <a href="#">[MS-ASAIRS]</a> section 2.2.2.9)<br><b>airsyncbase:BodyPart</b> ( <a href="#">[MS-ASAIRS]</a> section 2.2.2.10)<br><b>airsyncbase:ContentType</b> ( <a href="#">[MS-ASAIRS]</a> section 2.2.2.18.2)<br><b>airsyncbase:Location</b> ( <a href="#">[MS-ASAIRS]</a> section <a href="#">2.2.2.28</a> )<br><b>airsyncbase:NativeBodyType</b> ( <a href="#">[MS-ASAIRS]</a> section <a href="#">2.2.2.32</a> )<br>Data elements from the content classes. For details about the content classes, see <a href="#">[MS-ASCAL]</a> , <a href="#">[MS-ASCNTC]</a> , <a href="#">[MS-ASDOC]</a> , <a href="#">[MS-ASEMAIL]</a> , <a href="#">[MS-ASNOTE]</a> , and <a href="#">[MS-ASTASK]</a> .<br><b>rm:RightsManagementLicense</b> ( <a href="#">[MS-ASRM]</a> section 2.2.2.14) | <b>container</b><br>( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 0...1<br>(optional) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

The same protocol versions that support the **Properties** element in an **ItemOperations** command response also support the **airsyncbase:Body** element as a child element of the **Properties** element. The **airsyncbase:BodyPart** element and the **rm:RightsManagementLicense** element are supported as a child elements of the **Properties** element only when protocol version 14.1 or 16.0 is used. Protocol version support of other elements referenced in this section is specified in the individual sections that define those elements.

### 2.2.3.139.3 Properties (Search)

The **Properties** element is an optional child element of the **Result** element in **Search** command responses that contains the properties that are returned for item(s) in the response.

Elements referenced in this section are defined in the **Search** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response   | Parent elements                                      | Child elements  | Data type  | Number allowed   |
|--|--|---|--|------------------|
| <b>Search</b> command response (section <a href="#">2.2.1.16</a> ) | <b>Result</b> (section <a href="#">2.2.3.155.3</a> ) | <b>airsyncbase:Attachments</b> ( <a href="#">[MS-ASAIRS]</a> section 2.2.2.8)<br><b>airsyncbase:Body</b> ( <a href="#">[MS-ASAIRS]</a> section 2.2.2.9)<br><b>airsyncbase:BodyPart</b> ( <a href="#">[MS-ASAIRS]</a> section 2.2.2.10)<br><b>airsyncbase:Location</b> ( <a href="#">[MS-ASAIRS]</a> section 2.2.2.28)<br><b>airsyncbase:NativeBodyType</b> ( <a href="#">[MS-ASAIRS]</a> section 2.2.2.32)<br><b>gal:DisplayName</b> (section <a href="#">2.2.3.49.7</a> )<br><b>gal:Phone</b> (section <a href="#">2.2.3.133</a> )<br><b>gal:Office</b> (section <a href="#">2.2.3.121</a> )<br><b>gal:Title</b> (section <a href="#">2.2.3.182</a> )<br><b>gal:Company</b> (section <a href="#">2.2.3.33</a> )<br><b>gal:Alias</b> (section <a href="#">2.2.3.9</a> )<br><b>gal:FirstName</b> (section <a href="#">2.2.3.70</a> )<br><b>gal:LastName</b> (section <a href="#">2.2.3.95</a> )<br><b>gal:HomePhone</b> (section <a href="#">2.2.3.89</a> )<br><b>gal:MobilePhone</b> (section <a href="#">2.2.3.114</a> )<br><b>gal:EmailAddress</b> (section <a href="#">2.2.3.55.3</a> )<br><b>gal:Picture</b> (section <a href="#">2.2.3.135.3</a> )<br>Data elements from the content classes. For more details about the content classes, see <a href="#">[MS-ASCAL]</a> , <a href="#">[MS-ASCNTC]</a> , <a href="#">[MS-ASDOC]</a> , <a href="#">[MS-AEMAIL]</a> , <a href="#">[MS-ASNOTE]</a> , and <a href="#">[MS-ASTASK]</a> .<br><b>rm:RightsManagementLicense</b> ( <a href="#">[MS-ASRM]</a> section 2.2.2.14) | <b>Container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 0...1 (required) |

The **Search** command response **Properties** element is a container for properties that apply to an individual entry that matches the **Query** element (section [2.2.3.142.2](#)) search string. For example, the **Properties** element contains an element for each nonempty, text-valued **GAL** property that is attached to the matching GAL entry. Only those properties that are attached to the specific GAL entry are returned; therefore different sets of properties can be returned in the response **XML** for different matching GAL entries.

Each element in the **Properties** container is scoped to the appropriate namespace that is specified in the top-level **Search** element (section [2.2.3.159](#)).

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

The **airsyncbase:Body** element is not supported as a child element of the **Properties** element in a **Search** command response when protocol version 2.5 is used. The **airsyncbase:BodyPart** element and the **rm:RightsManagementLicense** element are supported as a child elements of the **Properties** element only when protocol version 14.1, 16.0, or 16.1 is used. Protocol version support of other elements referenced in this section is specified in the individual sections that define those elements.

### 2.2.3.140 ProposedEndTime

The **ProposedEndTime** element is an optional child element of the **SendResponse** element in **MeetingResponse** command requests and the **MeetingRequest** element in **Sync** command responses that specifies the end time of a new time proposal. **ProposedEndTime** is also an optional child element of the **Attendee** element in **Sync** command responses.

If **ProposedStartTime** is included as a child element, then **ProposedEndTime** is a required child element as well.

All elements referenced in this section are defined in the **MeetingResponse** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response   | Parent elements  | Child elements | Data type   | Number allowed   |
|--|--|----------------|---|------------------|
| <b>MeetingResponse</b> command request (section <a href="#">2.2.1.11</a> ) | <b>SendResponse</b> (section <a href="#">2.2.3.163</a> )               | None           | <b>Compact DateTime</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7.2) | 0...1 (optional) |
| <b>Sync</b> command response (section <a href="#">2.2.1.21</a> )           | <b>MeetingRequest</b> ( <a href="#">[MS-ASEMAIL]</a> section 2.2.2.48) | None           | <b>Compact DateTime</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7.2) | 0...1 (optional) |
| <b>Sync</b> command response   | <b>Attendee</b>  | None           | <b>Compact DateTime</b>   | 0...1            |

| Command request/response | Parent elements                               | Child elements | Data type                    | Number allowed |
|--------------------------|---|----------------|------------------------------|----------------|
| (section 2.2.1.21)       | ( <a href="#">[MS-ASCAL]</a> section 2.2.2.3) |                | ([MS-ASDTYPE] section 2.7.2) | (optional)     |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.141 ProposedStartTime

The **ProposedStartTime** element is an optional child element of the **SendResponse** element in **MeetingResponse** command requests and the **MeetingRequest** element in **Sync** command responses that specifies the start time of a new time proposal. **ProposedEndTime** is also an optional child element of the **Attendee** element in **Sync** command responses.

If **ProposedEndTime** is included as a child element, then **ProposedStartTime** is a required child element as well.

All elements referenced in this section are defined in the **MeetingResponse** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response   | Parent elements   | Child elements | Data type   | Number allowed   |
|--|---|----------------|---|------------------|
| <b>MeetingResponse</b> command request (section <a href="#">2.2.1.11</a> ) | <b>SendResponse</b> (section <a href="#">2.2.3.163</a> )              | None           | <b>Compact DateTime</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7.2) | 0...1 (optional) |
| <b>Sync</b> command response (section <a href="#">2.2.1.21</a> )           | <b>MeetingRequest</b> ( <a href="#">[MS-AEMAIL]</a> section 2.2.2.48) | None           | <b>Compact DateTime</b> ([MS-ASDTYPE] section 2.7.2)                  | 0...1 (optional) |
| <b>Sync</b> command response (section 2.2.1.21)                            | <b>Attendee</b> ( <a href="#">[MS-ASCAL]</a> section 2.2.2.3)         | None           | <b>Compact DateTime</b> ([MS-ASDTYPE] section 2.7.2)                  | 0...1 (optional) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.142 Query

The **Query** element is used in the following command requests and responses:

- **Find** command requests (section [2.2.1.2](#))
- **Search** command requests and responses (section [2.2.1.16](#))

The definition of the **Query** element differs according to the context in which it is used. For more details, see section [2.2.3.142.1](#) and section [2.2.3.142.2](#)

#### 2.2.3.142.1 Query (Find)

The **Query** element is a required child element of the **MailBoxSearchCriterion** element or **GALSearchCriterion** element in **Find** command requests that specifies the predicates used to match entries.

All elements referenced in this section are defined in the **Find** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response                                       | Parent elements  | Child elements   | Data type                                   | Number allowed   |
|--|--|--|---|------------------|
| <b>Find</b> command request (section <a href="#">2.2.1.2</a> ) | <b>MailBoxSearchCriterion</b> (section <a href="#">2.2.3.99</a> )<br><b>GALSearchCriterion</b> (section <a href="#">2.2.3.82</a> ) | <b>FreeText</b> (section <a href="#">2.2.3.80.1</a> )<br><b>airsync:Class</b> (section <a href="#">2.2.3.27.1</a> )<br><b>airsync:CollectionId</b> (section <a href="#">2.2.3.30.1</a> ) | <b>container</b> ([MS-ASDTYPE] section 2.2) | 0...1 (required) |

## Protocol Versions



The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.142.2 Query (Search)

The **Query** element is a required child element of the **Store** element in **Search** command requests that specifies the keywords to use for matching the entries in the store that is being searched.

All elements referenced in this section are defined in the **Search** namespace.

| Command request/response  | Parent elements                                     | Child elements   | Data type  | Number allowed   |
|---|---|--|--|------------------|
| <b>Search</b> command request (section <a href="#">2.2.1.16</a> ) | <b>Store</b> (section <a href="#">2.2.3.178.3</a> ) | <b>And</b> (section <a href="#">2.2.3.10</a> )<br><b>EqualTo</b> (section <a href="#">2.2.3.62</a> ) | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 1...1 (required) |

The value of the **Query** element is used as a prefix-string matching pattern, and returns entries that match the beginning of the string. For example, searching for "John" would match "John Frum", but would not match "Barry Johnson" or "James Littlejohn".

All nonempty text properties in the GAL that are indexed by using **ANR** are compared with the **Query** element value. **Search** comparisons are performed by using case-insensitive matching.

For a Windows SharePoint Services document library search, this protocol supports queries of the following form: LinkId == value, where value specifies the URL of the item or folder and LinkId indicates that the value is to be compared to the link ID property.

For mailbox search, the query syntax is as follows:

- Folders can be specified in the following ways:
  - Specified ID
  - Specified folder and subfolders
  - All email folders, including Draft, Inbox and subfolders, Outbox, and Sent Items
- The basic keyword query can be composed of the following:

- The basic operator: **And** (section 2.2.3.10)
- A **dateTime** filter specified by using the **GreaterThan** (section [2.2.3.86](#)) and **LessThan** elements (section [2.2.3.96](#))
- **FreeText** elements (section [2.2.3.80.2](#)) that contain keywords

The basic keyword query is executed against all indexed properties.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.143 Range

The **Range** element is used in the following command requests and responses:

- **Find** command requests and responses (section [2.2.1.2](#))
- **ItemOperations** command requests and responses (section [2.2.1.10](#))
- **Search** command requests and responses (section [2.2.1.16](#))

The definition of the **Range** element differs according to the context in which it is used. For more details, see section [2.2.3.143.1](#), section [2.2.3.143.2](#) and section [2.2.3.143.3](#).

#### 2.2.3.143.1 Range (Find)

The **Range** element is an optional child element of the **Options** element in **Find** command requests that specifies the maximum number of matching entries to return. The **Range** element is an optional child element of the **Response** element in **Find** command responses that specifies the number of matching entries that are being returned.

All elements referenced in this section are defined in the **Find** namespace.

| Command request/response    | Parent elements         | Child elements | Data type                            | Number allowed |
|-----------------------------|-------------------------|----------------|--------------------------------------|----------------|
| <b>Find</b> command request | <b>Options</b> (section | None           | <b>string</b> ( <a href="#">[MS-</a> | 0...1          |

| Command request/response           | Parent elements  | Child elements | Data type                            | Number allowed      |
|------------------------------------|--|----------------|--------------------------------------|---------------------|
| (section <a href="#">2.2.1.2</a> ) | <a href="#">2.2.3.125.1</a> )                          |                | <a href="#">ASDTYPE</a> section 2.7) | (optional)          |
| <b>Find</b> command response       | <b>Response</b> (section <a href="#">2.2.3.153.2</a> ) | None           | <b>string</b>                        | 0...1<br>(optional) |

The format of the **Range** element value is in the form of a zero-based index specifier, formed with a nonnegative integer, a hyphen, and another nonnegative integer of higher value than the first. The *m* indicates the lowest index of a zero-based array that would hold the items. The *n* indicates the highest index of a zero-based array that would hold the items. The **Range** element has possible values for *m* and *n* of  $0 \leq m \leq n \leq 999$ . For example, a **Range** element value of 0–9 indicates 10 items, and 0–10 indicates 11 items. A **Range** element value of 0–0 indicates 1 item.

If the client is making its first **Find** command request for a given search, it must start with a **Range** element value of "0-*n*".

If the **Find** request does not include a **Range** element, the default range value for Mailbox searches is used. If the **Find** request includes a **Range** element, the server may return fewer results than requested.

The **Total** element should be used by the client to increment the **Range** element in subsequent **Find** requests.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.143.2 Range (ItemOperations)

The **Range** element is an optional child element of the **Options** element in **ItemOperations** command requests that specifies the range of bytes that the client can receive in response to the fetch operation for a document library item. The **Range** element is an optional child element of the **Properties** element in **ItemOperations** command responses that specifies the actual range of bytes for an item that is contained in a given fetch operation.

Elements referenced in this section are defined in the **ItemOperations** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section 2.2.4).

| Command request/response   | Parent elements                         | Child elements | Data type                                | Number allowed   |
|--|---|----------------|--|------------------|
| <b>ItemOperations</b> command request (section 2.2.1.10) fetch operation | <b>Options</b> (section 2.2.3.125.3)    | None           | <b>string</b> ([MS-ASDTYPE] section 2.7) | 0...1 (optional) |
| <b>ItemOperations</b> command response fetch operation                   | <b>Properties</b> (section 2.2.3.139.2) | None           | <b>string</b>                            | 0...1 (optional) |

The **Range** element contains a **string** value in the format "m-n", where *m* is less than or equal to *n*, and *m* is the minimum value and *n* is the maximum value. The byte range is zero-indexed; the first byte is indicated by a 0 (zero).

The server provides a best effort at fulfilling the request. Therefore, the client cannot assume that the byte-range that is specified in the request exactly matches the byte-range that is returned in the response. The byte-range that is specified by the server in the response is the authoritative value.

If the **Range** element is omitted in the request, the whole item is fetched.

If the **airsynbase:FileReference** element (section 2.2.3.8) is present in the request, then the **Range** element is the only valid child element of the **Options** element.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.143.3 Range (Search)

The **Range** element is an optional child element of the **Options** element in **Search** command requests that specifies the maximum number of matching entries to return. The **Range** element is an optional child element of the **Store** element in **Search** command responses that specifies the number of matching entries that are being returned.

All elements referenced in this section are defined in the **Search** namespace.

| Command request/response  | Parent elements                                       | Child elements | Data type  | Number allowed   |
|---|---|----------------|--|------------------|
| <b>Search</b> command request (section <a href="#">2.2.1.16</a> ) | <b>Options</b> (section <a href="#">2.2.3.125.5</a> ) | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 0...1 (optional) |
| <b>Search</b> command response                                    | <b>Store</b> (section <a href="#">2.2.3.178.3</a> )   | None           | <b>string</b>  | 0...1 (optional) |

The result of including more than one **Range** element in a **Search** command request is undefined. The server MAY return a protocol status error in response to such a command request.

The **Range** element value specifies a number of entries, but indicates different things depending on whether the element is in the request or the response XML.

The format of the **Range** element value is in the form of a zero-based index specifier, formed with a zero, a hyphen, and another numeric value: "m-n." The *m* indicates the lowest index of a zero-based array that would hold the items. The *n* indicates the highest index of a zero-based array that would hold the items. For example, a **Range** element value of 0–9 indicates 10 items, and 0–10 indicates 11 items. A **Range** element value of 0–0 indicates 1 item.

If the request does not include a **Range** element, the default Range value for each **Store** type is used. The following table identifies the default Range values and maximum results returned for each **Store** type:

| Store value     | Default range value | Maximum results returned |
|-----------------|---------------------|--------------------------|
| Mailbox         | 0-99                | 100                      |
| DocumentLibrary | 0-999               | 1000                     |
| GAL             | 0-99                | 100                      |

If the **Range** element value specified in the request exceeds the default range value, a **Status** element (section [2.2.3.177.13](#)) value of 12 is returned to indicate that the maximum range has been exceeded, as specified in section 2.2.3.177.13.

In the **Search** command response, the **Total** element (section [2.2.3.184.3](#)) indicates an estimate of the total number of entries that matched the **Query** element (section [2.2.3.142.2](#)) value.

Search results are stored in a **search folder** on the server. This way, when a client comes back with the same query but a new row range, rows are pulled from the result set that is currently stored in the search folder. The entire result set does not have to be rebuilt.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.144 RebuildResults

The **RebuildResults** element is an optional child element of the **Options** element in **Search** command requests that forces the server to rebuild the **search folder** that corresponds to a given query.

All elements referenced in this section are defined in the **Search** namespace.

| Command request/response  | Parent elements                                       | Child elements | Data type | Number allowed   |
|---|---|----------------|-----------|------------------|
| <b>Search</b> command request (section <a href="#">2.2.1.16</a> ) | <b>Options</b> (section <a href="#">2.2.3.125.5</a> ) | None           | None      | 0...1 (optional) |

The **RebuildResults** element is an empty tag element, meaning it has no value or data type. It is distinguished only by the presence or absence of the <RebuildResults/> tag.

The result of including more than one **RebuildResults** element in a **Search** command request is undefined. The server MAY return a protocol status error in response to such a command request.

The search results (that is, the result set) are stored in a search folder on the server. This way, when a client comes back with the same query but a new row range, rows are pulled from the result set that is currently stored in the search folder. The entire result set does not have to be rebuilt.

The search folder remains unchanged until the client does one of the following to update the result set:

- Sends a **Search** request, specifying a new query. In this case, the search folder is automatically rebuilt. The **RebuildResults** node does not have to be included.
- Sends a **Search** request that includes the **RebuildResults** node. In this case, the server is forced to rebuild the search folder

If a new item is added, the item does not appear in the result set until the result set is updated. If an item is deleted, the server will filter the deleted item out of the result set.

The client SHOULD send a new **Search** request with the given query and include the **RebuildResults** option every few days to ensure accurate results for that query.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.145 Recipient

The **Recipient** element is an optional child element of the **Response** element in **ResolveRecipients** command responses that represents a single recipient that has been resolved.

All elements referenced in this section are defined in the **ResolveRecipients** namespace.

| Command request/response  | Parent elements  | Child elements   | Data type   | Number allowed   |
|---|--|--|---|------------------|
| <b>ResolveRecipients</b> command response (section <a href="#">2.2.1.15</a> ) | <b>Response</b> (section <a href="#">2.2.3.153.6</a> ) | <b>Type</b> (section <a href="#">2.2.3.186.5</a> )<br><b>DisplayName</b> (section <a href="#">2.2.3.49.6</a> )<br><b>EmailAddress</b> (section <a href="#">2.2.3.55.2</a> )<br><b>Availability</b> (section <a href="#">2.2.3.16</a> )<br><b>Certificates</b> (section <a href="#">2.2.3.23.1</a> )<br><b>Picture</b> (section <a href="#">2.2.3.135.2</a> ) | <b>container</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.2) | 0...N (optional) |

One or more **Recipient** elements are returned to the client in a **Response** element by the server if the **To** element specified in the request was either resolved to a distribution list or found to be ambiguous. The status code returned in the **Response** element can be used to determine if the recipient was found to be ambiguous. The recipient would be a suggested match if the recipient specified in the request was found to be ambiguous.

A **Certificates** element is returned as a child element of the **Recipient** element if the client requested certificates to be returned in the response.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.146 RecipientCount

The **RecipientCount** element is an optional child element of the **Response** element and the **Certificates** element in **ResolveRecipients** command responses (section [2.2.1.15](#)).

All elements referenced in this section are defined in the **ResolveRecipients** namespace.

| Command request/response                     | Parent elements   | Child elements | Data type   | Number allowed      |
|--|---|----------------|---|---------------------|
| <b>ResolveRecipients</b><br>command response | <b>Response</b> (section <a href="#">2.2.3.153.6</a> )<br><b>Certificates</b> (section <a href="#">2.2.3.23.1</a> ) | None           | integer ( <a href="#">[MS-ASDTYPE]</a> section 2.6) | 0...1<br>(optional) |

As a child element of the **Response** element, the **RecipientCount** element specifies the number of recipients that are returned in the **ResolveRecipients** command response.

As a child element of the **Certificates** element, the **RecipientCount** element specifies the number of members belonging to a distribution list. It can be used to determine whether all recipients belonging to a distribution list have valid certificates by comparing values of the **CertificateCount** (section [2.2.3.21](#)) and **RecipientCount** elements.

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |



| Protocol version | Element support |
|------------------|-----------------|
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.147 Redirect

The **Redirect** element is an optional child element of the **Action** element in **Autodiscover** command responses that specifies the **SMTP** address of the requested user.

All elements referenced in this section are defined in the <http://schemas.microsoft.com/exchange/autodiscover/mobilesync/responseschema/2006> namespace.

| Command request/response  | Parent elements                                  | Child elements | Data type  | Number allowed   |
|---|--|----------------|--|------------------|
| <b>Autodiscover</b> command response (section <a href="#">2.2.1.1</a> ) | <b>Action</b> (section <a href="#">2.2.3.6</a> ) | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 0...1 (optional) |

The client device uses the **domain** part of the address to send a new **Autodiscover** command request.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.148 ReplaceMime

The **ReplaceMime** element is an optional child element of the **SmartForward** element in **SmartForward** command requests and an optional child element of the **SmartReply** element in **SmartReply** command requests. In both contexts, it specifies whether the client is sending the entire message. When the **ReplaceMime** element is present, the server MUST not include the body or attachments of the original message being forwarded. When not included, the client MUST append the body of the original message as attachments to the outgoing message.

The client can use this tag to indicate whether the message was edited inline, or whether the message had reply/forward text prepended to the source message. If the **ReplaceMime** element is present, the message was edited.

All elements referenced in this section are defined in the **ComposeMail** namespace.

| Command request/response  | Parent elements  | Child elements | Data type | Number allowed   |
|---|--|----------------|-----------|------------------|
| <b>SmartForward</b> command request (section <a href="#">2.2.1.19</a> ) | <b>SmartForward</b> (section <a href="#">2.2.3.169</a> ) | None           | None      | 0...1 (optional) |
| <b>SmartReply</b> command request (section <a href="#">2.2.1.20</a> )   | <b>SmartReply</b> (section <a href="#">2.2.3.170</a> )   | None           | None      | 0...1 (optional) |

The **ReplaceMime** element is an empty tag element, meaning it has no value or data type. It is distinguished only by the presence or absence of the <ReplaceMime/> tag.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support, SmartForward | Element support, SmartReply |
|------------------|-------------------------------|-----------------------------|
| 2.5              |                               |                             |
| 12.0             |                               |                             |
| 12.1             |                               |                             |
| 14.0             | Yes                           | Yes                         |
| 14.1             | Yes                           | Yes                         |
| 16.0             | Yes                           | Yes                         |
| 16.1             | Yes                           | Yes                         |

### 2.2.3.149 ReplyMessage

The **ReplyMessage** element is an optional child element of the **OofMessage** element in **Settings** command requests and responses that specifies the message to be shown to a particular audience when the user is **OOF**.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response  | Parent elements  | Child elements | Data type   | Number allowed   |
|---|--|----------------|---|------------------|
| <b>Settings</b> command <b>Oof</b> request and response (section <a href="#">2.2.1.18</a> ) | <b>OofMessage</b> (section <a href="#">2.2.3.123</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 0...1 (optional) |

The **ReplyMessage** element can be used in a **Settings** command **Oof Get** (section [2.2.3.83](#)) response to convey the requested **OOF message**, or in a **Settings** command **Oof Set** request to set

the message that the client wants to send to a particular audience. If a **ReplyMessage** element is included in an **Oof Set** request, a **BodyType** element (section [2.2.3.17](#)) **MUST** also be included.

The **Oof** property (section [2.2.3.122](#)) supports the following three audiences for an OOF message:

- **Internal**—A user who is in the same organization as the sending user.
- **Known external**—A user who is outside the sending user's organization, but is represented in the sending user's contacts.
- **Unknown external**—A user who is outside the sending user's organization and is not represented in the sending user's contacts.

The presence of one of the following elements, which are mutually exclusive, indicates the audience to which an OOF message pertains:

- **AppliesToInternal**—The OOF message is relevant to an internal audience.
- **AppliesToExternalKnown**—The OOF message is relevant to a known external audience.
- **AppliesToExternalUnknown**—The OOF message is relevant to an unknown external audience.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.150 Request

The **Request** element is used in the following command requests:

- **Autodiscover** command requests (section [2.2.1.1](#))
- **MeetingResponse** command requests (section [2.2.1.11](#))

The definition of the **Request** element differs according to the context in which it is used. For more details, see section [2.2.3.150.1](#) and section [2.2.3.150.2](#).

#### 2.2.3.150.1 Request (Autodiscover)

The **Request** element is a required child element of the **Autodiscover** element in **Autodiscover** command requests that contains the **Autodiscover** command request parameters.

All elements referenced in this section are defined in the <http://schemas.microsoft.com/exchange/autodiscover/mobilesync/requestschema/2006> namespace.

| Command request/response   | Parent elements   | Child elements   | Data type                                   | Number allowed   |
|--|---|--|---|------------------|
| <b>Autodiscover</b> command request (section <a href="#">2.2.1.1</a> ) | <b>Autodiscover</b> (section <a href="#">2.2.3.15</a> ) | <b>EEmailAddress</b> (section <a href="#">2.2.3.56</a> )<br><b>AcceptableResponseSchema</b> (section <a href="#">2.2.3.1</a> ) | <b>container</b> ([MS-ASDTYPE] section 2.2) | 1...1 (required) |

When more than one **Request** elements are present in an **Autodiscover** command request, the server returns an **ErrorCode** (section [2.2.3.64](#)) value of 600.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.150.2 Request (MeetingResponse)

The **Request** element is a required child element of the **MeetingResponse** element in **MeetingResponse** command requests. Its child elements specify the meeting request that is being responded to, the response to that meeting request, and the folder on the server that the meeting request is located in.

Elements referenced in this section are defined in the **MeetingResponse** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response   | Parent elements   | Child elements   | Data type                                   | Number allowed   |
|--|---|--|---|------------------|
| <b>MeetingResponse</b> command request (section <a href="#">2.2.1.11</a> ) | <b>MeetingResponse</b> (section <a href="#">2.2.3.106</a> ) | <b>UserResponse</b> (section <a href="#">2.2.3.194</a> )<br><b>CollectionId</b> (section <a href="#">2.2.3.30.4</a> )<br><b>RequestId</b> (section | <b>container</b> ([MS-ASDTYPE] section 2.2) | 1...N (required) |

| Command request/response | Parent elements | Child elements   | Data type | Number allowed |
|--------------------------|-----------------|--|-----------|----------------|
|                          |                 | <a href="#">2.2.3.151</a><br><b>search:LongId</b><br>(section <a href="#">2.2.3.98.2</a> )<br><b>InstanceId</b> (section <a href="#">2.2.3.92.1</a> )<br><b>SendResponse</b><br>(section <a href="#">2.2.3.163</a> ) |           |                |

If the **search:LongId** element is present, the **CollectionId** and **RequestId** elements MUST NOT be present.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

## 2.2.3.151 RequestId

The **RequestId** element is a child element of the **Request** element in **MeetingResponse** command requests and a child element of the **Result** element in **MeetingResponse** command responses. In both contexts, it specifies the server ID of the meeting request message item.

Elements referenced in this section are defined in the **MeetingResponse** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response   | Parent elements                                       | Child elements | Data type   | Number allowed  |
|--|---|----------------|---|---|
| <b>MeetingResponse</b> command request (section <a href="#">2.2.1.11</a> ) | <b>Request</b> (section <a href="#">2.2.3.150.2</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 0...1 (Required, unless <b>search:LongId</b> (section <a href="#">2.2.3.98.2</a> ) is included) |
| <b>MeetingResponse</b> command response                                    | <b>Result</b> (section <a href="#">2.2.3.155.2</a> )  | None           | <b>string</b>   | 0...1 (optional)  |

When the client sends a **MeetingResponse** command request, the client includes a **RequestId** element to identify which meeting request is being responded to. The **RequestId** element is also

returned in the response to the client along with the status of the user's response to the meeting request. The **RequestId** element value can be up to 64 characters in length.

The **RequestId** element is present in **MeetingResponse** command responses only if it was present in the corresponding **MeetingResponse** command request. The **RequestId** element MUST NOT be present in the **MeetingResponse** command request if the **search:LongId** element is present.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.152 ResolveRecipients

The **ResolveRecipients** element is a required element in **ResolveRecipients** command requests and responses that identifies the body of the HTTP **POST** as containing a **ResolveRecipients** command (section 2.2.1.15). It is the top-level element in the XML stream.

All elements referenced in this section are defined in the **ResolveRecipients** namespace.

| Command request/response                  | Parent elements | Child elements  | Data type                                   | Number allowed   |
|---|-----------------|---|---|------------------|
| <b>ResolveRecipients</b> command request  | None            | <b>To</b> (section 2.2.3.183)<br><b>Options</b> (section 2.2.3.125.4)         | <b>container</b> ([MS-ASDTYPE] section 2.2) | 1...1 (required) |
| <b>ResolveRecipients</b> command response | None            | <b>Status</b> (section 2.2.3.177.12)<br><b>Response</b> (section 2.2.3.153.6) | <b>container</b>                            | 1...1 (required) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-

[ASHTTP](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.153 Response

The **Response** element is used in the following command responses:

- **Autodiscover** command responses (section [2.2.1.1](#))
- **Find** command responses (section [2.2.1.2](#))
- **GetItemEstimate** command responses (section [2.2.1.9](#))
- **ItemOperations** command responses (section [2.2.1.10](#))
- **MoveItems** command responses (section [2.2.1.12](#))
- **ResolveRecipients** command responses (section [2.2.1.15](#))
- **Search** command responses (section [2.2.1.16](#))

The definition of the **Response** element differs according to the context in which it is used. For more details, see section [2.2.3.153.1](#), section [2.2.3.153.2](#), section [2.2.3.153.3](#), section [2.2.3.153.4](#), section [2.2.3.153.5](#), section [2.2.3.153.6](#) and section [2.2.3.153.7](#).

#### 2.2.3.153.1 Response (Autodiscover)

The **Response** element is a required child element of the **Autodiscover** element in **Autodiscover** command responses. It contains the **Autodiscover** command response parameters.

| Command request/response  | Parent elements   | Child elements   | Data type   | Number allowed   |
|---|---|--|---|------------------|
| <b>Autodiscover</b> command response (section <a href="#">2.2.1.1</a> ) | <b>Autodiscover</b> (section <a href="#">2.2.3.15</a> ) | <b>Culture</b> (section <a href="#">2.2.3.38</a> )<br><b>User</b> (section <a href="#">2.2.3.189</a> )<br><b>Action</b> (section <a href="#">2.2.3.6</a> )<br><b>Error</b> (section <a href="#">2.2.3.63</a> ) | <b>container</b> ( <a href="#">IMS-ASDTYPE</a> section 2.2) | 1...1 (required) |

If an error occurs in the **Autodiscover** command framework that hosts the Autodiscovery implementation, then the **Response** element MUST have an **Error** child element.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.153.2 Response (Find)

The **Response** element is an optional child element of the **Find** element in **Find** command responses that contains the search results that are returned from the server.

All elements referenced in this section are defined in the **Find** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section 2.2.4).

| Command request/response                       | Parent elements                | Child elements  | Data type                                   | Number allowed   |
|--|--------------------------------|---|---|------------------|
| <b>Find</b> command response (section 2.2.1.2) | <b>Find</b> (section 2.2.3.69) | <b>itemoperations:Store</b> (section 2.2.3.178.1)<br><b>Status</b> (section 2.2.3.177.2)<br><b>Result</b> (section 2.2.3.155.1)<br><b>Range</b> (section 2.2.3.143.1)<br><b>Total</b> (section 2.2.3.184.1) | <b>container</b> ([MS-ASDTYPE] section 2.2) | 0...1 (optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |



| Protocol version | Element support |
|------------------|-----------------|
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.153.3 Response (GetItemEstimate)

The **Response** element is an optional child element of the **GetItemEstimate** element in **GetItemEstimate** command responses that contains elements that describe estimated changes. Its child elements specify the status of the **GetItemEstimate** command request and information about the collection on which the estimate was made.

All elements referenced in this section are defined in the **GetItemEstimate** namespace.

| Command request/response   | Parent elements  | Child elements  | Data type  | Number allowed   |
|--|--|---|--|------------------|
| <b>GetItemEstimate</b> command response (section <a href="#">2.2.1.9</a> ) | <b>GetItemEstimate</b> (section <a href="#">2.2.3.85</a> ) | <b>Status</b> (section <a href="#">2.2.3.177.7</a> )<br><b>Collection</b> (section <a href="#">2.2.3.29.1</a> ) | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 0...N (optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

#### 2.2.3.153.4 Response (ItemOperations)

The **Response** element is an optional child element of the **ItemOperations** element in **ItemOperations** command responses. It contains the operation responses.

All elements referenced in this section are defined in the **ItemOperations** namespace.

| Command request/response   | Parent elements       | Child elements   | Data type   | Number allowed   |
|--|-----------------------|--|---|------------------|
| <b>ItemOperations</b> command response (section <a href="#">2.2.1.10</a> ) | <b>ItemOperations</b> | <b>EmptyFolderContents</b> (section <a href="#">2.2.3.58</a> )<br><b>Fetch</b> (section <a href="#">2.2.3.67.1</a> )<br><b>Move</b> (section <a href="#">2.2.3.117.1</a> ) | <b>container</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.2) | 0...1 (optional) |

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

#### 2.2.3.153.5 Response (MoveItems)

The **Response** element is a required child element of the **MoveItems** element in **MoveItems** command responses that serves as a container for elements that describe the moved items.

All elements referenced in this section are defined in the **Move** namespace.

| Command request/response  | Parent elements                                       | Child elements   | Data type   | Number allowed   |
|---|---|--|---|------------------|
| <b>MoveItems</b> command response (section <a href="#">2.2.1.12</a> ) | <b>MoveItems</b> (section <a href="#">2.2.3.119</a> ) | <b>SrcMsgId</b> (section <a href="#">2.2.3.175</a> )<br><b>Status</b> (section <a href="#">2.2.3.177.10</a> )<br><b>DstMsgId</b> (section <a href="#">2.2.3.52</a> ) | <b>container</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.2) | 1...N (required) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.153.6 Response (ResolveRecipients)

The **Response** element is an optional child element of the **ResolveRecipients** element in **ResolveRecipients** command responses that contains information as to whether the recipient was resolved. If the recipient was resolved, the element also contains the type of recipient, the email address that the recipient resolved to, and, optionally, the **S/MIME** certificate for the recipient.

All elements referenced in this section are defined in the **ResolveRecipients** namespace.

| Command request/response   | Parent elements  | Child elements  | Data type  | Number allowed      |
|--|--|---|--|---------------------|
| <b>ResolveRecipients</b><br>command response (section <a href="#">2.2.1.15</a> ) | <b>ResolveRecipients</b><br>(section <a href="#">2.2.3.152</a> ) | <b>To</b> (section <a href="#">2.2.3.183</a> )<br><b>Status</b> (section <a href="#">2.2.3.177.12</a> )<br><b>RecipientCount</b><br>(section <a href="#">2.2.3.146</a> )<br><b>Recipient</b> (section <a href="#">2.2.3.145</a> ) | <b>container</b><br>( <a href="#">[MS-ASDTYPE]</a><br>section 2.2) | 0...N<br>(optional) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.153.7 Response (Search)

The **Response** element is an optional child element of the **Search** element in **Search** command responses that contains the search results that are returned from the server.

All elements referenced in this section are defined in the **Search** namespace.

| Command request/response   | Parent elements                                    | Child elements                                      | Data type  | Number allowed   |
|--|--|---|--|------------------|
| <b>Search</b> command response (section <a href="#">2.2.1.16</a> ) | <b>Search</b> (section <a href="#">2.2.3.159</a> ) | <b>Store</b> (section <a href="#">2.2.3.178.3</a> ) | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 0...1 (optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.154 Responses

The **Responses** element is an optional child element of the **Collection** element in **Sync** command responses that contains responses to operations that are processed by the server. Each response is wrapped in an element with the same name as the operation, such as the **Add** element and the **Change** element. The response contains a status code and other information, depending on the operation.

All elements referenced in this section are defined in the **AirSync** namespace.

| Command request/response   | Parent elements   | Child elements  | Data type   | Number allowed   |
|--|---|---|---|------------------|
| <b>Sync</b> command response (section <a href="#">2.2.1.21</a> ) | <b>Collection</b> (section <a href="#">2.2.3.29.2</a> ) | <b>Add</b> (section <a href="#">2.2.3.7.2</a> ), <b>Fetch</b> (section <a href="#">2.2.3.67.2</a> )<br><b>Change</b> (section <a href="#">2.2.3.24</a> ), <b>Delete</b> (section <a href="#">2.2.3.42.2</a> ) | <b>container</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.2) | 0...1 (optional) |

The **Responses** element appears only in responses that are sent from the server to the client. It is present only if the server has processed operation from the client. It is omitted otherwise (for example, if the client requested server changes but had no changes to send to the server). If present, it **MUST** include at least one child element.

The server is not required to send an individual response for every operation that is sent by the client. The client only receives responses for successful additions, successful fetches, successful changes that include an attachment being added, and failed changes and deletions. When the client does not receive a response, the client **MUST** assume that the operation succeeded unless informed otherwise.

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.155 Result

The **Result** element is used in the following command responses:

- **Find** command responses (section [2.2.1.2](#))

- **MeetingResponse** command responses (section [2.2.1.11](#))
- **Search** command responses (section [2.2.1.16](#))

The definition of the **Result** element differs according to the context in which it is used. For more details, see section [2.2.3.155.1](#), section [2.2.3.155.2](#) and section [2.2.3.155.3](#).

### 2.2.3.155.1 Result (Find)

The **Result** element is an optional child element of the **Response** element in **Find** command responses that serves a container for an individual matching mailbox items. The **Result** element is present only if there are matching items.

Elements referenced in this section are defined in the **Find** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements  | Child elements  | Data type                                   | Number allowed   |
|---|--|---|---|------------------|
| <b>Find</b> command response (section <a href="#">2.2.1.2</a> ) | <b>Response</b> (section <a href="#">2.2.3.153.2</a> ) | <b>airsync:Class</b> (section <a href="#">2.2.3.27.1</a> )<br><b>airsync:ServerId</b> (section <a href="#">2.2.3.166.1</a> )<br><b>airsync:CollectionId</b> (section <a href="#">2.2.3.30.1</a> )<br><b>Properties</b> (section <a href="#">2.2.3.139.1</a> ) | <b>container</b> ([MS-ASDTYPE] section 2.2) | 0...N (optional) |

One **Result** element is present for each match that is found. If no matches are found, the **Result** element is not present in the **Response** container element of the response XML.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.155.2 Result (MeetingResponse)

The **Result** element is a required child element of the **MeetingResponse** element in **MeetingResponse** command responses that serves as a container for elements that are sent to the client in the response.

All elements referenced in this section are defined in the **MeetingResponse** namespace.

| Command request/response   | Parent elements  | Child elements   | Data type   | Number allowed      |
|--|--|--|---|---------------------|
| <b>MeetingResponse</b><br>command response (section <a href="#">2.2.1.11</a> ) | <b>MeetingResponse</b><br>(section <a href="#">2.2.3.106</a> ) | <b>RequestId</b><br>(section <a href="#">2.2.3.151</a> )<br><b>Status</b> (section <a href="#">2.2.3.177.9</a> )<br><b>CalendarId</b><br>(section <a href="#">2.2.3.18</a> )<br><b>InstanceId</b><br>(section <a href="#">2.2.3.92.1</a> ) | <b>container</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.2) | 1...N<br>(required) |

The **Result** element's child elements identify the meeting request message item on the server and the status of the response to the meeting request. If the meeting request is accepted, the server ID of the calendar item is also returned.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

The **InstanceId** element is a child element of the **Result** element only when protocol version 16.0 or 16.1 is used.

### 2.2.3.155.3 Result (Search)

The **Result** element is an optional child element of the **Store** element in **Search** command responses that serves a container for an individual matching mailbox items. The **Result** element is present only if there are matching items.

Elements referenced in this section are defined in the **Search** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response   | Parent elements                                     | Child elements   | Data type  | Number allowed   |
|--|---|--|--|------------------|
| <b>Search</b> command response (section <a href="#">2.2.1.16</a> ) | <b>Store</b> (section <a href="#">2.2.3.178.3</a> ) | <b>airsync:Class</b> (section <a href="#">2.2.3.27.5</a> )<br><b>LongId</b> (section <a href="#">2.2.3.98.3</a> )<br><b>airsync:CollectionId</b> (section <a href="#">2.2.3.30.5</a> )<br><b>Properties</b> (section <a href="#">2.2.3.139.3</a> ) | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 0...N (optional) |

One **Result** element is present for each match that is found. If no matches are found, the **Result** element is not present in the **Store** container element of the response XML.

Inside the **Result** element, the **Properties** element contains a list of nonempty text properties on the entry.

When the store that is being searched is the mailbox:

- There is one **Result** element for each match that is found in the mailbox. If no matches are found, an empty **Result** element is present in the **Store** container element of the response XML.
- Inside the **Result** element, the **Properties** element contains a list of requested properties for the mailbox item.

When the store that is being searched is the document library:

- The first result that is returned in the **Search** response is the metadata for the **Root folder** or item to which the **documentlibrary:LinkId** element (section [2.2.3.50](#)) value is pointing. The client can choose to ignore this entry if it does not require it.
- If the **documentlibrary:LinkId** element value in the request points to a folder, the metadata properties of the folder are returned as the first item, and the contents of the folder are returned as subsequent results. The **Range** element (section [2.2.3.143.3](#)) applies to these results with no difference; for example, the index 0 would always be for the root item to which the link is pointing.
- If the **documentlibrary:LinkId** element value in the request points to an item, only one result is returned: the metadata for the item.
- Inside the **Result** element, the **Properties** element contains a list of requested properties for the mailbox item.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |



| Protocol version | Element support |
|------------------|-----------------|
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.156 RightsManagementInformation

The **RightsManagementInformation** element is an optional child element of the **Settings** element in **Settings** command requests and responses. In **Settings** command requests, the **RightsManagementInformation** element is a container node that is used to request rights management information settings. In **Settings** command responses, the **RightsManagementInformation** element is a container node that contains rights management information settings retrieved from the server.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response  | Parent elements  | Child elements  | Data type  | Number allowed   |
|---|--|---|--|------------------|
| <b>Settings</b> command request (section <a href="#">2.2.1.18</a> ) | <b>Settings</b> (section <a href="#">2.2.3.168.2</a> ) | <b>Get</b> (section <a href="#">2.2.3.83</a> )            | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 0...1 (optional) |
| <b>Settings</b> command response                                    | <b>Settings</b>  | <b>Get Status</b> (section <a href="#">2.2.3.177.15</a> ) | <b>container</b>   | 0...1 (optional) |

If the **RightsManagementInformation** element is specified in the request, it MUST include the **Get** child element.

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.157 SaveInSentItems

The **SaveInSentItems** element is an optional child element of the **SendMail** element in **SendMail** command requests, an optional child element of the **SmartForward** element in **SmartForward** command requests, and an optional child element of the **SmartReply** element in **SmartReply** command requests. In all contexts, the **SaveInSentItems** element specifies whether a copy of the message will be stored in the **Sent Items folder**. If the **SaveInSentItems** element is present, the message is stored; if not present, the message is not stored.

All elements referenced in this section are defined in the **ComposeMail** namespace.

| Command request/response  | Parent elements  | Child elements | Data type | Number allowed   |
|---|--|----------------|-----------|------------------|
| <b>SendMail</b> command request (section <a href="#">2.2.1.17</a> )     | <b>SendMail</b> (section <a href="#">2.2.3.162</a> )     | None           | None      | 0...1 (optional) |
| <b>SmartForward</b> command request (section <a href="#">2.2.1.19</a> ) | <b>SmartForward</b> (section <a href="#">2.2.3.169</a> ) | None           | None      | 0...1 (optional) |
| <b>SmartReply</b> command request (section <a href="#">2.2.1.20</a> )   | <b>SmartReply</b> (section <a href="#">2.2.3.170</a> )   | None           | None      | 0...1 (optional) |

The **SaveInSentItems** element is an empty tag element, meaning it has no value or data type. It is distinguished only by the presence or absence of the <SaveInSentItems/> tag.

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support, SendMail | Element support, SmartForward | Element support, SmartReply |
|------------------|---------------------------|-------------------------------|-----------------------------|
| 2.5              |                           |                               |                             |
| 12.0             |                           |                               |                             |
| 12.1             |                           |                               |                             |
| 14.0             | Yes                       | Yes                           | Yes                         |
| 14.1             | Yes                       | Yes                           | Yes                         |
| 16.0             | Yes                       | Yes                           | Yes                         |
| 16.1             | Yes                       | Yes                           | Yes                         |

### 2.2.3.158 Schema

The **Schema** element is an optional child element of the **Options** element in **ItemOperations** command requests that specifies the schema of the item to be fetched.

All elements referenced in this section are defined in the **ItemOperations** namespace.

| Command request/response   | Parent elements  | Child elements  | Data type  | Number allowed      |
|--|--|---|--|---------------------|
| <b>ItemOperations</b><br>command request<br>(section <a href="#">2.2.1.10</a> )<br>fetch operation | <b>Options</b><br>(section <a href="#">2.2.3.125.3</a> ) | <b>airsynbase:Location</b> ( <a href="#">[MS-ASAIRS]</a> section <a href="#">2.2.2.28</a> )<br>Data elements defined by the <b>TopLevelSchemaProps</b> group ( <a href="#">[MS-ASAIRS]</a> section <a href="#">2.2.3.1</a> )<br>Data elements from the content classes. For details about which of the elements from the content classes can be included, see <a href="#">[MS-ASCAL]</a> section 3.1.5.1, <a href="#">[MS-ASCNTC]</a> section 3.1.5.1, <a href="#">[MS-ASDOC]</a> section 3.1.5.1, <a href="#">[MS-ASEMAIL]</a> section 3.1.5.2, <a href="#">[MS-ASNOTE]</a> section 3.1.5.1 and <a href="#">[MS-ASTASK]</a> section 3.1.5.1. | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 0...N<br>(optional) |

The **Schema** element is supported within options when fetching items from a mailbox. It is not supported when the client is retrieving items from a document library or retrieving an attachment.

If the **Schema** element is not specified, the server allows all properties to be retrieved.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

## 2.2.3.159 Search

The **Search** element is a required element in **Search** command requests and responses that identifies the body of the HTTP **POST** as containing a **Search** command (section [2.2.1.16](#)). It is the top-level element in the XML stream.

All elements referenced in this section are defined in the **Search** namespace.

| Command request/response   | Parent elements | Child elements                                      | Data type  | Number allowed      |
|--|-----------------|---|--|---------------------|
| <b>Search</b> command request<br>(section <a href="#">2.2.1.16</a> ) | None            | <b>Store</b> (section <a href="#">2.2.3.178.3</a> ) | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 1...1<br>(required) |

| Command request/response       | Parent elements | Child elements  | Data type        | Number allowed      |
|--------------------------------|-----------------|---|------------------|---------------------|
| <b>Search</b> command response | None            | <b>Status</b> (section <a href="#">2.2.3.177.13</a> )<br><b>Response</b> (section <a href="#">2.2.3.153.7</a> ) | <b>container</b> | 1...1<br>(required) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.160 SearchId

The **SearchId** element is a required child element of the **Find** element in **Find** command requests that the client must specify as a unique identifier for that search.

All elements referenced in this section are defined in the **Find** namespace.

| Command request/response                                       | Parent elements                                 | Child elements | Data type  | Number allowed      |
|--|---|----------------|--|---------------------|
| <b>Find</b> command request (section <a href="#">2.2.1.2</a> ) | <b>Find</b> (section <a href="#">2.2.3.69</a> ) | None           | <b>GUID</b> <a href="#">[MS-ASDTYPE]</a> section 2.7.4 | 1...1<br>(required) |

If the client wants to page through **Find** results by incrementing the **Range** value, it MUST use the same **SearchId** in subsequent **Find** command requests.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.161 SendDisabled

The **SendDisabled** element is an optional child element of the **Account** element in **Settings** command responses (section [2.2.1.18](#)). The value of this element specifies whether the client can send messages using the given account. The server MAY return this element in **Settings** command responses.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response                                   | Parent elements                                   | Child elements | Data type   | Number allowed      |
|--|---|----------------|---|---------------------|
| <b>Settings</b> command<br><b>UserInformation</b> response | <b>Account</b> (section <a href="#">2.2.3.2</a> ) | None           | <b>boolean</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.1) | 0...1<br>(optional) |

The value of the **SendDisabled** element is 1 (**TRUE**) if the client cannot send using the given account; otherwise, 0 (**FALSE**).

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.162 SendMail

The **SendMail** element is a required element in **SendMail** command requests and responses that identifies the body of the HTTP **POST** as containing a **SendMail** command (section 2.2.1.17). It is the top-level element in the XML stream.

Elements referenced in this section are defined in the **ComposeMail** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section 2.2.4).

| Command request/response         | Parent elements | Child elements   | Data type                                   | Number allowed      |
|----------------------------------|-----------------|--|---|---------------------|
| <b>SendMail</b> command request  | None            | <b>ClientId</b> (section 2.2.3.28.1)<br><b>AccountId</b> (section 2.2.3.3.1)<br><b>SaveInSentItems</b> (section 2.2.3.157)<br><b>Mime</b> (section 2.2.3.109)<br><b>rm:TemplateID</b> ([MS-ASRM] section 2.2.2.19.3) | <b>container</b> ([MS-ASDTYPE] section 2.2) | 1...1<br>(required) |
| <b>SendMail</b> command response | None            | <b>Status</b> (section 2.2.3.177.14)   | <b>container</b>                            | 1...1<br>(required) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.163 SendResponse

The **SendResponse** element is an optional child element of the **Request** element in **MeetingResponse** command requests that specifies details about an email message that will be included with the response to a meeting request.

All elements referenced in this section are defined in the **MeetingResponse** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section 2.2.4).

| Command request/response  | Parent elements  | Child elements   | Data type  | Number allowed      |
|---|--|--|--|---------------------|
| <b>MeetingResponse</b><br>command request (section <a href="#">2.2.1.11</a> ) | <b>Request</b><br>(section <a href="#">2.2.3.150.2</a> ) | <b>airsyncbase:Body</b> ( <a href="#">[MS-ASAIRS]</a> section 2.2.2.9)<br><b>ProposedStartTime</b><br>(section <a href="#">2.2.3.141</a> )<br><b>ProposedEndTime</b><br>(section <a href="#">2.2.3.140</a> ) | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 0...1<br>(optional) |

If the **SendResponse** element is not present, no email will be sent. If an empty **SendResponse** node is present, an email with no body will be sent. If a **SendResponse** node is present with an **airsyncbase:Body** element, the email will include the specified body.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.164 Server

The **Server** element is a required child element of the **Settings** element in **Autodiscover** command responses that encapsulates settings that apply to a particular server in the **Autodiscover** command response.

All elements referenced in this section are defined in the <http://schemas.microsoft.com/exchange/autodiscover/mobilesync/responseschema/2006> namespace.

| Command request/response  | Parent elements  | Child elements   | Data type  | Number allowed      |
|---|--|--|--|---------------------|
| <b>Autodiscover</b> command response (section <a href="#">2.2.1.1</a> ) | <b>Settings</b> (section <a href="#">2.2.3.168.1</a> ) | <b>Type</b> (section <a href="#">2.2.3.186.1</a> )<br><b>Url</b> (section <a href="#">2.2.3.188</a> )<br><b>Name</b> (section <a href="#">2.2.3.120.1</a> )<br><b>ServerData</b> | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 1...N<br>(required) |

| Command request/response | Parent elements | Child elements                       | Data type | Number allowed |
|--------------------------|-----------------|--------------------------------------|-----------|----------------|
|                          |                 | (section <a href="#">2.2.3.165</a> ) |           |                |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.165 ServerData

The **ServerData** element is an optional child element of the **Server** element in **Autodiscover** command responses that specifies the template name for the client certificate.

All elements referenced in this section are defined in the <http://schemas.microsoft.com/exchange/autodiscover/mobilesync/responseschema/2006> namespace.

| Command request/response  | Parent elements                                    | Child elements | Data type   | Number allowed   |
|---|--|----------------|---|------------------|
| <b>Autodiscover</b> command response (section <a href="#">2.2.1.1</a> ) | <b>Server</b> (section <a href="#">2.2.3.164</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 0...1 (optional) |

The **ServerData** element is a **string** value that is present only when the **Type** element (section [2.2.3.186.1](#)) value is set to "CertEnroll".

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.



| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.166 ServerId

The **ServerId** element is used in the following command requests and responses:

- **Find** command responses (section [2.2.1.2](#))
- **FolderCreate** command responses (section [2.2.1.3](#))
- **FolderDelete** command requests (section [2.2.1.4](#))
- **FolderSync** command responses (section [2.2.1.5](#))
- **FolderUpdate** command requests (section [2.2.1.6](#))
- **GetHierarchy** command response (section [2.2.1.8](#))
- **ItemOperations** command requests and responses (section [2.2.1.10](#))
- **Sync** command requests and responses (section [2.2.1.21](#))

The definition of the **ServerId** element differs according to the context in which it is used. For more details, see section [2.2.3.166.1](#), section [2.2.3.166.2](#), section [2.2.3.166.3](#), section [2.2.3.166.4](#), section [2.2.3.166.5](#), section [2.2.3.166.6](#), section [2.2.3.166.7](#) and section [2.2.3.166.8](#).

#### 2.2.3.166.1 ServerId (Find)

The **airsync:ServerId** element is a required child element of the **Result** element under the **Find** element (section [2.2.3.69](#)) in **Find** command responses.

All elements referenced in this section are defined in the **Find** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements                                      | Child elements | Data type   | Number allowed   |
|---|--|----------------|---|------------------|
| <b>Find</b> command response (section <a href="#">2.2.1.2</a> ) | <b>Result</b> (section <a href="#">2.2.3.155.1</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 1...1 (required) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-](#)

[ASHTTP](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.166.2 ServerId (FolderCreate)

The **ServerId** element is an optional child element of the **FolderCreate** element in **FolderCreate** command responses that uniquely identifies a new folder on a server. The **ServerId** of the new folder is returned to the client after a successful **FolderCreate** command request (section 2.2.1.3). The **ServerId** can also be used in the **ServerId** element of future **FolderDelete** command requests (section 2.2.1.4) and **FolderUpdate** command requests (section 2.2.1.6). The client MUST store the **ServerId** for each folder and MUST be able to locate a folder on the client given a **ServerId**.

All elements referenced in this section are defined in the **FolderHierarchy** namespace.

| Command request/response             | Parent elements                        | Child elements | Data type   | Number allowed   |
|--------------------------------------|--|----------------|---|------------------|
| <b>FolderCreate</b> command response | <b>FolderCreate</b> (section 2.2.3.72) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 0...1 (optional) |

The **ServerId** element MUST be returned if the **FolderCreate** command request was successful and the element MUST NOT be returned if the **FolderCreate** command request fails. The **ServerId** element value can be up to 64 characters in length.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.166.3 ServerId (FolderDelete)

The **ServerId** element is a required child element of the **FolderDelete** element in **FolderDelete** command requests that specifies the folder on the server to be deleted, and it is a unique identifier assigned by the server to each folder that can be synchronized.

All elements referenced in this section are defined in the **FolderHierarchy** namespace.

| Command request/response   | Parent elements   | Child elements | Data type  | Number allowed   |
|--|---|----------------|--|------------------|
| <b>FolderDelete</b> command request (section <a href="#">2.2.1.4</a> ) | <b>FolderDelete</b> (section <a href="#">2.2.3.73</a> ) | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 1...1 (required) |

The server ID of the folder to be deleted is returned to the client in the **ServerId** element of a previous **FolderSync** command (section [2.2.1.5](#)) or **FolderCreate** command (section [2.2.1.3](#)). The client MUST store the server ID for each folder and MUST be able to locate a folder given a server ID.

The client MUST store the synchronization key as an opaque string of up to 64 characters.

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.166.4 ServerId (FolderSync)

The **ServerId** element is a required child element of the **Update** element, the **Delete** element, and the **Add** element in **FolderSync** command responses. In all contexts, it specifies the server-unique identifier for a folder on the server.

All elements referenced in this section are defined in the **FolderHierarchy** namespace.

| Command request/response  | Parent elements                                     | Child elements | Data type                                | Number allowed   |
|---|---|----------------|--|------------------|
| <b>FolderSync</b> command response (section <a href="#">2.2.1.5</a> ) | <b>Update</b> (section <a href="#">2.2.3.187</a> )  | None           | <b>string</b> ([MS-ASDTYPE] section 2.7) | 1...1 (required) |
| <b>FolderSync</b> command response                                    | <b>Delete</b> (section <a href="#">2.2.3.42.1</a> ) | None           | <b>string</b>                            | 1...1 (required) |
| <b>FolderSync</b> command response                                    | <b>Add</b> (section <a href="#">2.2.3.7.1</a> )     | None           | <b>string</b>                            | 1...1 (required) |

The **ServerId** element is used to identify folders that have been updated, deleted, or added on the server.

The client MUST store the server ID as an opaque string of up to 64 characters.

Each **Update** element, each **Delete** element, and each **Add** element included in a **FolderSync** response MUST contain one **ServerId** element.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.166.5 ServerId (FolderUpdate)

The **ServerId** element is a required child element of the **FolderUpdate** element in **FolderUpdate** command requests that identifies the folder on the server to be renamed or moved.

All elements referenced in this section are defined in the **FolderHierarchy** namespace.

| Command request/response   | Parent elements   | Child elements | Data type                                | Number allowed   |
|--|---|----------------|--|------------------|
| <b>FolderUpdate</b> command request (section <a href="#">2.2.1.6</a> ) | <b>FolderUpdate</b> (section <a href="#">2.2.3.77</a> ) | None           | <b>string</b> ([MS-ASDTYPE] section 2.7) | 1...1 (required) |

The server ID is obtained from the **ServerId** element of a previous **FolderSync** command (section [2.2.1.5](#)) or **FolderCreate** command (section [2.2.1.3](#)). The **ServerId** specifies a unique identifier assigned by the server to each object that can be synchronized. The client MUST store the **ServerId** for each folder and MUST be able to locate a folder given a **ServerId**.

The client MUST store the **ServerId** as an opaque string of up to 64 characters.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.166.6 ServerId (GetHierarchy)

The **ServerId** element is a required child element of the **Folder** element in **GetHierarchy** command responses that specifies the server-unique identifier of the folder.

All elements referenced in this section are defined in the **FolderHierarchy** namespace.

| Command request/response  | Parent elements                                     | Child elements | Data type   | Number allowed   |
|---|---|----------------|---|------------------|
| <b>GetHierarchy</b> command response (section <a href="#">2.2.1.8</a> ) | <b>Folder</b> (section <a href="#">2.2.3.71.1</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 1...1 (required) |

The value of the **ServerId** element can be up to 64 characters in length. The client MUST store the value of the **ServerId** element for each folder and MUST be able to locate a folder on the client given that value.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             |                 |

### 2.2.3.166.7 ServerId (ItemOperations)

The **airsync:ServerId** element is an optional child element of the **Fetch** element in **ItemOperations** command requests and responses. It specifies a unique identifier that is assigned by the server to each object that can be synchronized or have an item operation applied to it. This element is defined in the **AirSync** namespace.

Elements referenced in this section are defined in the **ItemOperations** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements                                    | Child elements | Data type                                | Number allowed   |
|---|--|----------------|--|------------------|
| <b>ItemOperations</b> command request (section <a href="#">2.2.1.10</a> ) fetch operation | <b>Fetch</b> (section <a href="#">2.2.3.67.1</a> ) | None           | <b>string</b> ([MS-ASDTYPE] section 2.7) | 0...1 (optional) |
| <b>ItemOperations</b> command response fetch operation                                    | <b>Fetch</b>                                       | None           | <b>string</b>                            | 0...1 (optional) |

The client MUST store the value of the **airsync:ServerId** element for any item that is retrieved by means of the **Sync** command (section [2.2.1.21](#)) or **Search** command (section [2.2.1.16](#)). In an **ItemOperations** request, the **airsync:ServerId** element can be used by the **Fetch** element to refer to the location of the item in question.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 16.1             | Yes             |

### 2.2.3.166.8 ServerId (Sync)

The **ServerId** element is a required child element of the **Change** element, the **Delete** element, and the **Fetch** element in **Sync** command requests. It is an optional child element of the **Add** element, the **Change** element, the **Delete** element, and the **Fetch** element under the **Responses** element (section [2.2.3.154](#)) in **Sync** command responses. It is a required child element of the **Add** element, the **Change** element, the **Delete** element, the **Fetch** element, and the **SoftDelete** element under the **Commands** element (section [2.2.3.32](#)) in **Sync** command responses. It represents a unique identifier that is assigned by the server to each object that can be synchronized. When using protocol version 16.1, a given item **MUST** have the same **ServerId** value after a resynchronization or when retrieved by a different client. The client **MUST** store the server ID for each object as an opaque string of up to 64 characters and **MUST** be able to locate an object given a server ID.

All elements referenced in this section are defined in the **AirSync** namespace.

| Command request/response  | Parent elements  | Child elements | Data type  | Number allowed   |
|---|--|----------------|--|------------------|
| <b>Sync</b> command request (section <a href="#">2.2.1.21</a> ) | <b>Change</b> (section <a href="#">2.2.3.24</a> )<br><b>Delete</b> (section <a href="#">2.2.3.42.2</a> )<br><b>Fetch</b> (section <a href="#">2.2.3.67.2</a> )   | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 1...1 (required) |
| <b>Sync</b> command response                                    | <b>Add</b> (as a child of <b>Commands</b> ) (section <a href="#">2.2.3.7</a> )<br><b>Change</b> (as a child of <b>Commands</b> )<br><b>Fetch</b> (as a child of <b>Commands</b> )<br><b>Delete</b> (as a child of <b>Commands</b> )<br><b>SoftDelete</b> (as a child of <b>Commands</b> ) (section <a href="#">2.2.3.172</a> ) | None           | <b>string</b>  | 1...1 (required) |
| <b>Sync</b> command response                                    | <b>Add</b> (as a child of <b>Responses</b> )<br><b>Change</b> (as a child of <b>Responses</b> )<br><b>Delete</b> (as a child of <b>Responses</b> )<br><b>Fetch</b> (as a child of <b>Responses</b> )   | None           | <b>string</b>  | 0...1 (optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.167 Set

The **Set** element is an optional child element of the **Oof** element, the **DevicePassword** element, and the **DeviceInformation** element in **Settings** command requests. It sets **OOF** information, device password settings, or device information settings on the server.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response   | Parent elements  | Child elements  | Data type   | Number allowed   |
|--|--|---|---|------------------|
| <b>Settings</b> command <b>Oof</b> request (section <a href="#">2.2.1.18</a> ) | <b>Oof</b> (section <a href="#">2.2.3.122</a> )              | <b>OofState</b> (section <a href="#">2.2.3.124</a> )<br><b>StartTime</b> (section <a href="#">2.2.3.176.2</a> )<br><b>EndTime</b> (section <a href="#">2.2.3.61.2</a> )<br><b>OofMessage</b> (section <a href="#">2.2.3.123</a> )   | <b>container</b> ( <b>[MS-ASDTYPE]</b> section 2.2) | 0...1 (optional) |
| <b>Settings</b> command <b>DevicePassword</b> request                          | <b>DevicePassword</b> (section <a href="#">2.2.3.46</a> )    | <b>Password</b> (section <a href="#">2.2.3.132.3</a> )  | <b>container</b>                                    | 0...1 (optional) |
| <b>Settings</b> command <b>DeviceInformation</b> request                       | <b>DeviceInformation</b> (section <a href="#">2.2.3.45</a> ) | <b>Model</b> (section <a href="#">2.2.3.115</a> )<br><b>IMEI</b> (section <a href="#">2.2.3.91</a> )<br><b>FriendlyName</b> (section <a href="#">2.2.3.81</a> )<br><b>OS</b> (section <a href="#">2.2.3.127</a> )<br><b>OSLanguage</b> (section <a href="#">2.2.3.128</a> )<br><b>PhoneNumber</b> (section <a href="#">2.2.3.134</a> )<br><b>UserAgent</b> (section <a href="#">2.2.3.190</a> )<br><b>EnableOutboundSMS</b> (section <a href="#">2.2.3.60</a> )<br><b>MobileOperator</b> (section <a href="#">2.2.3.113</a> ) | <b>container</b>                                    | 0...1 (optional) |



Using the **Settings** command **Oof** request, the client can set the following:

- OOF state
- Start time and end time, if the user wants to schedule an OOF message
- OOF message or messages for one or more of the supported audiences

Using the **Settings** command **DevicePassword** request, the client can set or clear the recovery password of the device.

Using the **Settings** command **DeviceInformation** request, clients SHOULD [<14>](#) send **DeviceInformation** parameters to the server as soon as possible after the client has been provisioned, and before the **FolderSync** command (section [2.2.1.5](#)), so that the server can use this information to determine what the device has access to. **Set** enables the client to specify values for any of the **DeviceInformation** parameters. The following statements apply to the **Set** element request implementation:

- The client SHOULD specify all supported **DeviceInformation** parameters in the **Set** request. An error is not returned if all **DeviceInformation** parameters are not set if at least one **DeviceInformation** parameter is set.
- The client or server makes no assumptions about ordering. The **DeviceInformation** parameters can be specified in any order.
- To delete a given **DeviceInformation** value, the client MUST send the **Set** element as an empty element.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.168 Settings

The **Settings** element is used in the following command requests and responses:

- **Autodiscover** command responses (section [2.2.1.1](#))
- **Settings** command requests and responses (section [2.2.1.18](#))

The definition of the **Settings** element differs according to the context in which it is used. For more details, see section [2.2.3.168.1](#) and section [2.2.3.168.2](#).

### 2.2.3.168.1 Settings (Autodiscover)

The **Settings** element is an optional child element of the **Action** element in **Autodiscover** command responses that contains the settings for the specified user or schema.

All elements referenced in this section are defined in the <http://schemas.microsoft.com/exchange/autodiscover/mobilesync/responseschema/2006> namespace.

| Command request/response  | Parent elements                                  | Child elements                                     | Data type  | Number allowed   |
|---|--|--|--|------------------|
| <b>Autodiscover</b> command response (section <a href="#">2.2.1.1</a> ) | <b>Action</b> (section <a href="#">2.2.3.6</a> ) | <b>Server</b> (section <a href="#">2.2.3.164</a> ) | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 0...1 (optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.168.2 Settings (Settings)

The **Settings** element is a required element in **Settings** command requests and responses that identifies the body of the HTTP **POST** as containing a **Settings** command (section [2.2.1.18](#)). It is the top-level element in the XML stream.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response  | Parent elements | Child elements  | Data type  | Number allowed   |
|---|-----------------|---|--|------------------|
| <b>Settings</b> command request (section <a href="#">2.2.1.18</a> ) | None            | <b>RightsManagementInformation</b> (section <a href="#">2.2.3.156</a> )<br><b>Oof</b> (section <a href="#">2.2.3.122</a> )<br><b>DeviceInformation</b> (section <a href="#">2.2.3.122</a> ) | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 1...1 (required) |

| Command request/response         | Parent elements | Child elements  | Data type        | Number allowed      |
|----------------------------------|-----------------|---|------------------|---------------------|
|                                  |                 | <a href="#">2.2.3.45</a> )<br><b>DevicePassword</b> (section <a href="#">2.2.3.46</a> )<br><b>UserInfo</b> (section <a href="#">2.2.3.192</a> )   |                  |                     |
| <b>Settings</b> command response | None            | <b>RightsManagementInformation</b> (section 2.2.3.156)<br><b>Oof</b><br><b>DeviceInformation</b><br><b>DevicePassword</b><br><b>UserInfo</b><br><b>Status</b> (section <a href="#">2.2.3.177.15</a> ) | <b>container</b> | 1...1<br>(required) |

The **Settings** element encapsulates one or more named property nodes that contain actions and arguments that apply to those properties.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

## 2.2.3.169 SmartForward

The **SmartForward** element is a required element in **SmartForward** command requests and responses that identifies the body of the HTTP **POST** as containing a **SmartForward** command (section [2.2.1.19](#)). It is the top-level element in the XML stream.

Elements referenced in this section are defined in the **ComposeMail** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response            | Parent elements | Child elements   | Data type  | Number allowed      |
|-------------------------------------|-----------------|--|--|---------------------|
| <b>SmartForward</b> command request | None            | <b>ClientId</b> (section <a href="#">2.2.3.28.1</a> )<br><b>Source</b> (section <a href="#">2.2.3.173</a> )<br><b>AccountId</b> (section | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 1...1<br>(required) |

| Command request/response                | Parent elements | Child elements   | Data type        | Number allowed      |
|---|-----------------|--|------------------|---------------------|
|   |                 | <a href="#">2.2.3.3.1</a> )<br><b>SaveInSentItems</b> (section <a href="#">2.2.3.157</a> )<br><b>ReplaceMime</b> (section <a href="#">2.2.3.148</a> )<br><b>Mime</b> (section <a href="#">2.2.3.109</a> )<br><b>rm:TemplateID</b> ([MS-ASRM] section 2.2.2.19.3)<br><b>airsyncbase:Body</b> ([MS-ASAIRS] section 2.2.2.9)<br><b>Forwardees</b> (section <a href="#">2.2.3.79</a> ) |                  |                     |
| <b>SmartForward</b><br>command response | None            | <b>Status</b> (section <a href="#">2.2.3.177.16</a> )  | <b>container</b> | 1...1<br>(required) |

If the **Forwardees** element or the **airsyncbase:Body** element is present in a **SmartForward** command request, the **MIME**, **SaveInSentItems**, **ReplaceMime**, and **rm:TemplateId** elements MUST NOT be present in the request.

The **Forwardees** element and the **airsyncbase:Body** element are valid in a **SmartForward** command request only when forwarding a calendar item.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.170 SmartReply

The **SmartReply** element is a required element in **SmartReply** command requests and responses that identifies the body of the HTTP **POST** as containing a **SmartReply** command (section [2.2.1.20](#)). It is the top-level element in the XML stream.

Elements referenced in this section are defined in the **ComposeMail** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response          | Parent elements | Child elements   | Data type  | Number allowed   |
|-----------------------------------|-----------------|--|--|------------------|
| <b>SmartReply</b> command request | None            | <b>ClientId</b> (section <a href="#">2.2.3.28.1</a> )<br><b>Source</b> (section <a href="#">2.2.3.173</a> )<br><b>AccountId</b> (section <a href="#">2.2.3.3.1</a> )<br><b>SaveInSentItems</b> (section <a href="#">2.2.3.157</a> )<br><b>ReplaceMime</b> (section <a href="#">2.2.3.148</a> )<br><b>Mime</b> (section <a href="#">2.2.3.109</a> )<br><b>rm:TemplateID</b> ( <a href="#">[MS-ASRM]</a> section 2.2.2.19.3) | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 1...1 (required) |
| <b>SmartReply</b> command reply   | None            | <b>Status</b> (section <a href="#">2.2.3.177.16</a> )  | <b>container</b>   | 1...1 (required) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.171 SMTPAddress

The **SMTPAddress** element is a required child element of the **EmailAddresses** element in **Settings** command responses that specifies one of the user's email addresses.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response  | Parent elements   | Child elements | Data type   | Number allowed   |
|---|---|----------------|---|------------------|
| <b>Settings</b> command <b>UserInformation</b> response (section <a href="#">2.2.1.18</a> ) | <b>EmailAddresses</b> (section <a href="#">2.2.3.57</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 1...N (required) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.172 SoftDelete

The **SoftDelete** element is an optional child element of the **Commands** element in **Sync** command responses that deletes an object from the client when it falls outside the **FilterType** (section [2.2.3.68.2](#)) results or it is no longer included as part of the **SyncOptions** (section [2.2.3.125.6](#)) instructions. The object that is soft deleted is identified by its **ServerId** element.

All elements referenced in this section are defined in the **AirSync** namespace.

| Command request/response   | Parent elements                                     | Child elements   | Data type  | Number allowed   |
|--|---|--|--|------------------|
| <b>Sync</b> command response (section <a href="#">2.2.1.21</a> ) | <b>Commands</b> (section <a href="#">2.2.3.32</a> ) | <b>ServerId</b> (section <a href="#">2.2.3.166.8</a> ) | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 0...N (optional) |

The **SoftDelete** element contains any items that are filtered out of the **Sync** query due to being outside the **FilterType** date range, or no longer specified as part of the **SyncOptions** instructions. For example, if the **SyncOptions** element no longer specifies SMS class items as being synchronized, the current SMS items on the device will be soft deleted.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.173 Source

The **Source** element is a required child element of the **SmartForward** element in **SmartForward** command requests and a required child element of the **SmartReply** element in **SmartReply** command requests. In both contexts, it contains information about the source message.

All elements referenced in this section are defined in the **ComposeMail** namespace.

| Command request/response  | Parent elements  | Child elements   | Data type   | Number allowed   |
|---|--|--|---|------------------|
| <b>SmartForward</b> command request (section <a href="#">2.2.1.19</a> ) | <b>SmartForward</b> (section <a href="#">2.2.3.169</a> ) | <b>FolderId</b> (section <a href="#">2.2.3.74</a> )<br><b>ItemId</b> (section <a href="#">2.2.3.93</a> )<br><b>LongId</b> (section <a href="#">2.2.3.98.4</a> )<br><b>InstanceId</b> (section <a href="#">2.2.3.92.2</a> ) | <b>container</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.2) | 1...1 (required) |
| <b>SmartReply</b> command request (section <a href="#">2.2.1.20</a> )   | <b>SmartReply</b> (section <a href="#">2.2.3.170</a> )   | <b>FolderId</b><br><b>ItemId</b><br><b>LongId</b><br><b>InstanceId</b>   | <b>container</b>  | 1...1 (required) |

If the **LongId** element is present, the **FolderId** and **ItemId** elements MUST NOT be present.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support, SmartForward | Element support, SmartReply |
|------------------|-------------------------------|-----------------------------|
| 2.5              |                               |                             |
| 12.0             |                               |                             |
| 12.1             |                               |                             |
| 14.0             | Yes                           | Yes                         |
| 14.1             | Yes                           | Yes                         |

| Protocol version | Element support, SmartForward | Element support, SmartReply |
|------------------|-------------------------------|-----------------------------|
| 16.0             | Yes                           | Yes                         |
| 16.1             | Yes                           | Yes                         |

### 2.2.3.174 SrcFldId

The **SrcFldId** element is a required child element of the **Move** element in **MoveItems** command requests that specifies the server ID of the source folder (that is, the folder that contains the items to be moved).

Elements referenced in this section are defined in the **Move** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response   | Parent elements                                    | Child elements | Data type  | Number allowed   |
|--|--|----------------|--|------------------|
| <b>MoveItems</b> command request (section <a href="#">2.2.1.12</a> ) | <b>Move</b> (section <a href="#">2.2.3.117.2</a> ) | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 1...1 (required) |

The server ID of the source folder is obtained from the **folderhierarchy:ServerId** element (section [2.2.3.166](#)) of a previous **FolderSync** command (section [2.2.1.5](#)) or **FolderCreate** command (section [2.2.1.3](#)). The **SrcFldId** element value can be up to 64 characters in length.

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.175 SrcMsgId

The **SrcMsgId** element is a required child element of the **Move** element in **MoveItems** command requests that specifies the server ID of the item to be moved. The **SrcMsgId** element is a required child element of the **Response** element in **MoveItems** command responses that specifies the server ID of the item that was moved. The **SrcMsgId** element value can be up to 64 characters in length.



All elements referenced in this section are defined in the **Move** namespace.

| Command request/response   | Parent elements  | Child elements | Data type  | Number allowed   |
|--|--|----------------|--|------------------|
| <b>MoveItems</b> command request (section <a href="#">2.2.1.12</a> ) | <b>Move</b> (section <a href="#">2.2.3.117.2</a> )     | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 1...1 (required) |
| <b>MoveItems</b> command response                                    | <b>Response</b> (section <a href="#">2.2.3.153.5</a> ) | None           | <b>string</b>  | 1...1 (required) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.176 StartTime

The **StartTime** element is used in the following command requests and responses:

- **ResolveRecipients** command requests (section [2.2.1.15](#))
- **Settings** command requests and responses (section [2.2.1.18](#))

The definition of the **StartTime** element differs according to the context in which it is used. For more details, see section [2.2.3.176.1](#) and section [2.2.3.176.2](#).

#### 2.2.3.176.1 StartTime (ResolveRecipients)

The **StartTime** element is a required child element of the **Availability** element in **ResolveRecipients** command requests that identifies the start of the span of free/busy time requested by the client.

All elements referenced in this section are defined in the **ResolveRecipients** namespace.

| Command request/response   | Parent elements   | Child elements | Data type  | Number allowed   |
|--|---|----------------|--|------------------|
| <b>ResolveRecipients</b> command request (section <a href="#">2.2.1.15</a> ) | <b>Availability</b> (section <a href="#">2.2.3.16</a> ) | None           | <b>datetime</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.3) | 1...1 (required) |

If the **Availability** element is included in the request, the request MUST also include the **StartTime** element.

If the client sends an invalid **StartTime** element value, then the server returns a **Status** element (section [2.2.3.177.12](#)) value of 5 in the **ResolveRecipients** command response.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.176.2 StartTime (Settings)

The **StartTime** element is an optional child element of the **Set** element in **Settings** command **Oof** requests and an optional child element of the **Get** element in **Settings** command **Oof** responses. It is used with the **EndTime** element (section [2.2.3.61.2](#)) to specify the range of time during which the user is out of office.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response   | Parent elements                                 | Child elements | Data type  | Number allowed   |
|--|---|----------------|--|------------------|
| <b>Settings</b> command <b>Oof</b> request (section <a href="#">2.2.1.18</a> ) | <b>Set</b> (section <a href="#">2.2.3.167</a> ) | None           | <b>datetime</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.3) | 0...1 (optional) |
| <b>Settings</b> command <b>Oof</b> response                                    | <b>Get</b> (section <a href="#">2.2.3.83</a> )  | None           | <b>datetime</b>  | 0...1 (optional) |

The **StartTime** element can be present within the **Get** element of the **Settings** response for the **Oof** element (section [2.2.3.122](#)), or within the **Set** element of the **Settings** request for the **Oof** element.

In a **Set Oof** node, both **StartTime** and **EndTime** elements MUST be included in the **Settings** request, or neither the **StartTime** element nor the **EndTime** element MUST be included in the **Settings** request. If either the **StartTime** element or the **EndTime** element is included in the request without the other, a **Status** element (section [2.2.3.177.15](#)) value of 2 is returned as a child element of the **Oof** element.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

## 2.2.3.177 Status

The **Status** element is used in the following command responses:

- **Autodiscover** command responses (section [2.2.1.1](#))
- **Find** command responses (section [2.2.1.2](#))
- **FolderCreate** command responses (section [2.2.1.3](#))
- **FolderDelete** command responses (section [2.2.1.4](#))
- **FolderSync** command responses (section [2.2.1.5](#))
- **FolderUpdate** command responses (section [2.2.1.6](#))
- **GetItemEstimate** command responses (section [2.2.1.9](#))
- **ItemOperations** command responses (section [2.2.1.10](#))
- **MeetingResponse** command responses (section [2.2.1.11](#))
- **MoveItems** command responses (section [2.2.1.12](#))
- **Ping** command responses (section [2.2.1.13](#))
- **ResolveRecipients** command responses (section [2.2.1.15](#))
- **Search** command responses (section [2.2.1.16](#))
- **SendMail** command responses (section [2.2.1.17](#))

- **Settings** command responses (section [2.2.1.18](#))
- **SmartForward** command responses (section [2.2.1.19](#))
- **SmartReply** command responses (section [2.2.1.20](#))
- **Sync** command responses (section [2.2.1.21](#))
- **ValidateCert** command responses (section [2.2.1.22](#))

The definition of the **Status** element differs according to the context in which it is used. For more details, see section [2.2.3.177.1](#), section [2.2.3.177.2](#), section [2.2.3.177.3](#), section [2.2.3.177.4](#), section [2.2.3.177.5](#), section [2.2.3.177.6](#), section [2.2.3.177.7](#), section [2.2.3.177.8](#), section [2.2.3.177.9](#), section [2.2.3.177.10](#), section [2.2.3.177.11](#), section [2.2.3.177.12](#), section [2.2.3.177.13](#), section [2.2.3.177.14](#), section [2.2.3.177.15](#), section [2.2.3.177.16](#), section [2.2.3.177.17](#), and section [2.2.3.177.18](#).

### 2.2.3.177.1 Status (Autodiscover)

The **Status** element is an optional child element of the **Error** element in **Autodiscover** command responses that specifies a status code that corresponds to the error.

All elements referenced in this section are defined in the <http://schemas.microsoft.com/exchange/autodiscover/mobilesync/responseschema/2006> namespace.

| Command request/response  | Parent elements                                  | Child elements | Data type  | Number allowed   |
|---|--|----------------|--|------------------|
| <b>Autodiscover</b> command response (section <a href="#">2.2.1.1</a> ) | <b>Error</b> (section <a href="#">2.2.3.63</a> ) | None           | <b>integer</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.6) | 0...1 (optional) |

The following table lists the status codes for the **Autodiscover** command. For status values common to all ActiveSync commands, see section [2.2.2](#).

| Value | Meaning  |
|-------|--|
| 1     | Success. Because the <b>Status</b> element is only returned when the command encounters an error, the success status code is never included in a response message. |
| 2     | Protocol error   |

The client device can implement custom recovery logic pertaining to the status code. If an unknown status code is returned to the client, the client SHOULD have logic in place to handle the error by sending an error message to the user, resending the command with new settings, or custom logic.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.177.2 Status (Find)

The **Status** element is a required child element of the **Find** element and the **Response** element in **Find** command responses.

Elements referenced in this section are defined in the **Find** namespace.

| Command request/response  | Parent elements   | Child elements | Data type  | Number allowed   |
|---|---|----------------|--|------------------|
| <b>Find</b> command response (section <a href="#">2.2.1.2</a> ) | <b>Find</b> (section <a href="#">2.2.3.69</a> )<br><b>Response</b> (section <a href="#">2.2.3.153.2</a> ) | None           | <b>integer</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.6) | 1...1 (required) |

As a child element of the **Find** element, the **Status** element indicates whether the server encountered an error while it was processing the **Find** query. The **Status** element value indicates only that the overall **Find** command request (section 2.2.1.2) was processed correctly. It does not indicate whether any matches were found. The **Total** (section [2.2.3.184.1](#)) and **Range** (section [2.2.3.143.1](#)) elements in the **Find** command response indicate how many matches were found and returned, respectively.

As a child element of the **Response** element, the **Status** element indicates whether the server encountered an error while it was processing the **Find** query. The following table lists the status codes for the **Find** command. For information about the scope of the status value and for status values common to all ActiveSync commands, see section [2.2.2](#).

| Value | Meaning                  | Cause                                      | Parent Elements                                | Resolution   |
|-------|--------------------------|--|--|--|
| 1     | Success.                 | Server successfully completed command.     | <b>Find</b> element<br><b>Response</b> element | None.  |
| 2     | The request was invalid. | The client's search failed to validate.    | <b>Find</b> element<br><b>Response</b> element | The client must reformat the request and try again.  |
| 3     | FolderSync required.     | The folder hierarchy is out of date.       | <b>Find</b> element                            | Issue a <b>FolderSync</b> command (section <a href="#">2.2.1.5</a> ) and then try the <b>Find</b> command again. |
| 4     | StartWithRangeZero       | The requested range does not begin with 0. | <b>Response</b> element                        | Issue a new <b>Find</b> request with a <b>Range</b> value that begins with 0.                                    |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-](#)

[ASHTTP](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.177.3 Status (FolderCreate)

The **Status** element is a required child element of the **FolderCreate** element in **FolderCreate** command responses that indicates the success or failure of a **FolderCreate** command request (section [2.2.1.3](#)). If the command failed, the **Status** element contains a code indicating the type of failure.

All elements referenced in this section are defined in the **FolderHierarchy** namespace.

| Command request/response             | Parent elements   | Child elements | Data type   | Number allowed   |
|--------------------------------------|---|----------------|---|------------------|
| <b>FolderCreate</b> command response | <b>FolderCreate</b> (section <a href="#">2.2.3.72</a> ) | None           | integer ([MS-ASDTYPE] section <a href="#">2.6</a> ) | 1...1 (required) |

The following table lists the status codes for the **FolderCreate** command (section 2.2.1.3). For information about the scope of the status value and for status values common to all ActiveSync commands, see section [2.2.2](#).

| Value | Meaning   | Cause   | Scope  | Resolution  |
|-------|---|---|--------|---|
| 1     | Success.  | Server successfully completed command.  | Global | None.   |
| 2     | A folder that has this name already exists.             | The parent folder already contains a folder that has this name.   | Item   | Prompt user to supply a unique name.  |
| 3     | The specified parent folder is a special system folder. | The specified parent folder is the Recipient information folder.  | Item   | Create the folder under a different parent.   |
| 5     | The specified parent folder was not found.              | The parent folder does not exist on the server, possibly because it has been deleted or renamed.        | Item   | Issue a <b>FolderSync</b> command (section <a href="#">2.2.1.5</a> ) for the new hierarchy and prompt the user for a new parent folder. |
| 6     | An error occurred on the server.                        | Server misconfiguration, temporary system issue, or bad item. This is frequently a transient condition. | Global | Retry the <b>FolderSync</b> command. If continued attempts to synchronization   |

| Value | Meaning  | Cause  | Scope   | Resolution   |
|-------|--|--|---------|--|
|       |  |  |         | fail, consider returning to synchronization key zero (0).                                      |
| 9     | Synchronization key mismatch or invalid synchronization key. | The client sent a malformed or mismatched synchronization key, or the synchronization state is corrupted on the server.  | Global  | Delete folders added since last synchronization and return to synchronization key to zero (0). |
| 10    | Malformed request.   | The client sent a <b>FolderCreate</b> command request (section 2.2.1.3) that contains a semantic error, or the client attempted to create a default folder, such as the <b>Inbox folder</b> , <b>Outbox folder</b> , or <b>Contacts folder</b> . | Global  | Double-check the request for accuracy.   |
| 11    | An unknown error occurred.                                   | Unknown.   | Global. | None.  |
| 12    | Code unknown.  | Unusual back-end issue.  | Global  | None.  |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.177.4 Status (FolderDelete)

The **Status** element is a required child element of the **FolderDelete** element in **FolderDelete** command responses that indicates the success or failure of the **FolderDelete** command request (section [2.2.1.4](#)). If the command failed, the **Status** element in the server response contains a code indicating the type of failure.

All elements referenced in this section are defined in the **FolderHierarchy** namespace.

| Command request/response             | Parent elements   | Child elements | Data type   | Number allowed   |
|--------------------------------------|---|----------------|---|------------------|
| <b>FolderDelete</b> command response | <b>FolderDelete</b> (section <a href="#">2.2.3.73</a> ) | None           | integer ([MS-ASDTYPE] section <a href="#">2.6</a> ) | 1...1 (required) |

The following table lists the status codes for the **FolderDelete** command (section 2.2.1.4). For information about the scope of the status value and for status values common to all ActiveSync commands, see section [2.2.2](#).

| Value | Meaning  | Cause   | Scope  | Resolution  |
|-------|--|---|--------|---|
| 1     | Success.   | Server successfully completed command.  | Global | None.   |
| 3     | The specified folder is a special system folder, such as the <b>Inbox folder</b> , <b>Outbox folder</b> , <b>Contacts folder</b> , <b>Recipient information</b> , or <b>Drafts folder</b> , and cannot be deleted by the client. | The client specified a <b>special folder</b> in a <b>FolderDelete</b> command request (section 2.2.1.4). special folders cannot be deleted. | Item   | None.   |
| 4     | The specified folder does not exist.   | The client specified a nonexistent folder in a <b>FolderDelete</b> command request.   | Item   | Issue a <b>FolderSync</b> command (section <a href="#">2.2.1.5</a> ) for the new hierarchy.   |
| 6     | An error occurred on the server.   | Server misconfiguration, temporary system issue, or bad item. This is frequently a transient condition.                                     | Global | Retry the <b>FolderDelete</b> command. If continued attempts to synchronization fail, consider returning to synchronization key zero (0). |
| 9     | Synchronization key mismatch or invalid synchronization key.   | The client sent a malformed or mismatched synchronization key, or the synchronization state is corrupted on the server.                     | Global | Issue a <b>FolderSync</b> command request with a synchronization key of zero (0).   |
| 10    | Incorrectly formatted request.   | The client sent a <b>FolderDelete</b> command request (section 2.2.1.4) that contains a semantic or syntactic error.                        | Global | Double-check the request for accuracy.  |
| 11    | An unknown error occurred.   | Unusual back-end issue.   | Global | None.   |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |



| Protocol version | Element support |
|------------------|-----------------|
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.177.5 Status (FolderSync)

The **Status** element is a required child element of the **FolderSync** element in **FolderSync** command responses that indicates the success or failure of a **FolderSync** command request (section [2.2.1.5](#)).

All elements referenced in this section are defined in the **FolderHierarchy** namespace.

| Command request/response           | Parent elements                                       | Child elements | Data type   | Number allowed   |
|------------------------------------|---|----------------|---|------------------|
| <b>FolderSync</b> command response | <b>FolderSync</b> (section <a href="#">2.2.3.76</a> ) | None           | integer ([ <a href="#">MS-ASDTYPE</a> ] section <a href="#">2.6</a> ) | 1...1 (required) |

If the command fails, the **Status** element contains a code that indicates the type of failure. The **Status** element is global for all collections. If one collection fails, a failure status MUST be returned for all collections.

The following table lists the status codes for the **FolderSync** command (section 2.2.1.5). For information about the scope of the status value and for status values common to all ActiveSync commands, see section [2.2.2](#).

| Value | Meaning  | Cause   | Scope  | Resolution  |
|-------|--|---|--------|---|
| 1     | Success  | Server successfully completed command.  | Global | None.   |
| 6     | An error occurred on the server.                             | Server misconfiguration, temporary system issue, or bad item. This is frequently a transient condition.                 | Global | Retry the <b>FolderSync</b> command. If continued attempts to synchronization fail, consider returning to synchronization key zero (0). |
| 9     | Synchronization key mismatch or invalid synchronization key. | The client sent a malformed or mismatched synchronization key, or the synchronization state is corrupted on the server. | Global | Delete items added since last synchronization and return to synchronization key zero (0).   |
| 10    | Incorrectly formatted request.                               | The client sent a <b>FolderSync</b> command request that contains a semantic or syntactic error.                        | Global | Double-check the request for accuracy.  |
| 11    | An unknown error occurred.                                   | Server misconfiguration, temporary system issue, or bad item. This is frequently a transient condition.                 | Global | Retry the <b>FolderSync</b> command. If continued attempts to synchronization fail, consider returning to synchronization key           |

| Value | Meaning       | Cause                   | Scope  | Resolution |
|-------|---------------|-------------------------|--------|------------|
|       |               |                         |        | zero (0).  |
| 12    | Code unknown. | Unusual back-end issue. | Global | None.      |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.177.6 Status (FolderUpdate)

The **Status** element is a required child element of the **FolderUpdate** element in **FolderUpdate** command responses that indicates the success or failure of a **FolderUpdate** command request (section [2.2.1.6](#)).

All elements referenced in this section are defined in the **FolderHierarchy** namespace.

| Command request/response             | Parent elements   | Child elements | Data type   | Number allowed   |
|--------------------------------------|---|----------------|---|------------------|
| <b>FolderUpdate</b> command response | <b>FolderUpdate</b> (section <a href="#">2.2.3.77</a> ) | None           | <b>integer</b> ( <a href="#">[MS-ASDTYPE]</a> section <a href="#">2.6</a> ) | 1...1 (required) |

If the command fails, the **Status** element contains a code that indicates the type of failure.

The following table lists the status codes for the **FolderUpdate** command (section 2.2.1.6). For information about the scope of the status value and for status values common to all ActiveSync commands, see section [2.2.2](#).

| Code | Meaning                                       | Cause   | Scope  | Resolution |
|------|---|---|--------|------------|
| 1    | Success.                                      | Server successfully completed command.                              | Global | None.      |
| 2    | A folder with that name already exists or the | A folder with that name already exists or the specified folder is a | Item   | None.      |

| Code | Meaning  | Cause   | Scope  | Resolution   |
|------|--|---|--------|--|
|      | specified folder is a special folder.  | special folder, such as the Inbox, Outbox, Contacts, or Drafts folders. Special folders cannot be updated.              |        |  |
| 3    | The specified folder is the Recipient information folder, which cannot be updated by the client. | The client specified the Recipient information folder, which is a special folder. Special folders cannot be updated.    | Item   | None.  |
| 4    | The specified folder does not exist.   | Client specified a nonexistent folder in a <b>FolderUpdate</b> command request.   | Item   | Issue a <b>FolderSync</b> command (section <a href="#">2.2.1.5</a> ) for the new hierarchy.  |
| 5    | The specified parent folder was not found.   | Client specified a nonexistent folder in a <b>FolderUpdate</b> command request.   | Item   | Issue a <b>FolderSync</b> command for the new hierarchy.   |
| 6    | An error occurred on the server.   | Server misconfiguration, temporary system issue, or bad item. This is frequently a transient condition.                 | Global | Retry the <b>FolderUpdate</b> command. If continued attempts to synchronization fail, consider returning to synchronization key 0. |
| 9    | Synchronization key mismatch or invalid synchronization key.                                     | The client sent a malformed or mismatched synchronization key, or the synchronization state is corrupted on the server. | Global | Issue a <b>FolderSync</b> command request with a synchronization key of 0.   |
| 10   | Incorrectly formatted request.   | The client sent a <b>FolderUpdate</b> command request that contains a semantic error.                                   | Global | Double-check the request for accuracy.   |
| 11   | An unknown error occurred.   | Unusual back-end issue.   | Global | None.  |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.177.7 Status (GetItemEstimate)

The **Status** element is a required child element of the **Response** element and an optional child element of the **GetItemEstimate** element in **GetItemEstimate** command responses that indicates the success or failure of part or all of a **GetItemEstimate** command request (section 2.2.1.9).

Elements referenced in this section are defined in the **GetItemEstimate** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section 2.2.4).

| Command request/response                | Parent elements                           | Child elements | Data type                                 | Number allowed   |
|---|---|----------------|---|------------------|
| <b>GetItemEstimate</b> command response | <b>GetItemEstimate</b> (section 2.2.3.85) | None           | <b>integer</b> ([MS-ASDTYPE] section 2.6) | 0...1 (optional) |
| <b>GetItemEstimate</b> command response | <b>Response</b> (section 2.2.3.153.3)     | None           | <b>integer</b>                            | 1...1 (required) |

If the entire request command fails, the **Status** element is present as a child of the **GetItemEstimate** element and contains a value that indicates the type of global failure. However, if the failure occurs at the **Collection** (section 2.2.3.29.1) level, a **Status** value is returned per **Collection** as a child of the **Response** element.

The following table lists the status codes for the **GetItemEstimate** command (section 2.2.1.9). For information about the scope of the status value and for status values common to all ActiveSync commands, see section 2.2.2.

| Value | Meaning  | Cause   | Scope  | Resolution  |
|-------|--|---|--------|---|
| 1     | Success.   | Server successfully completed command.  | Global | None.   |
| 2     | A collection was invalid or one of the specified collection IDs was invalid. | One or more of the specified folders does not exist or an incorrect folder was requested.   | Item   | Issue a <b>FolderSync</b> command (section 2.2.1.5) to get the new hierarchy. Then retry with a valid collection or collection ID.  |
| 3     | The synchronization state has not been primed.                               | The client has issued a <b>GetItemEstimate</b> command without first issuing a <b>Sync</b> command request (section 2.2.1.21) with an <b>airsync:SyncKey</b> element (section 2.2.3.181.4) value of zero (0). | Item   | Issue a <b>Sync</b> command with synchronization key of zero (0) before issuing the <b>GetItemEstimate</b> command again.   |
| 4     | The specified synchronization key was invalid.                               | Malformed or mismatched synchronization key.<br>—or—<br>The synchronization state is corrupted on the server.   | Global | Issue a successful <b>Sync</b> command prior to issuing the <b>GetItemEstimate</b> command again. If the error is repeated, issue a <b>Sync</b> command with an <b>airsync:SyncKey</b> element value of zero (0). |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-

[ASHTTP](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.177.8 Status (ItemOperations)

The **Status** element is a required child element of the **ItemOperations** element, the **Move** element, the **EmptyFolderContents** element, and the **Fetch** element in **ItemOperations** command responses. It contains a code that indicates the success or failure of the **ItemOperations** command request (section [2.2.1.10](#)) and the operations within the **ItemOperations** command request.

All elements referenced in this section are defined in the **ItemOperations** namespace.

| Command request/response  | Parent elements  | Child elements | Data type   | Number allowed   |
|---|--|----------------|---|------------------|
| <b>ItemOperations</b> command response                                      | <b>ItemOperations</b> (section <a href="#">2.2.3.94</a> )      | None           | integer ( <a href="#">[MS-ASDTYPE]</a> section 2.6) | 1...1 (required) |
| <b>ItemOperations</b> command response <b>Move</b> operation                | <b>Move</b> (section <a href="#">2.2.3.117.1</a> )             | None           | integer   | 1...1 (required) |
| <b>ItemOperations</b> command response <b>EmptyFolderContents</b> operation | <b>EmptyFolderContents</b> (section <a href="#">2.2.3.58</a> ) | None           | integer   | 1...1 (required) |
| <b>ItemOperations</b> command response fetch operation                      | <b>Fetch</b> (section <a href="#">2.2.3.67.1</a> )             | None           | integer   | 1...1 (required) |

The following table lists the status codes for the **ItemOperations** command (section 2.2.1.10). For information about status values common to all ActiveSync commands, see section [2.2.2](#).

| Status code | Meaning   | Scope          |
|-------------|---|----------------|
| 1           | Success.  | Global         |
| 2           | Protocol error - protocol violation/XML validation error. | Item or Global |
| 3           | Server error.   | Global         |
| 4           | Document library access - The specified <b>URI</b> is     | Global         |

| Status code | Meaning  | Scope          |
|-------------|--|----------------|
|             | bad.   |                |
| 5           | Document library - Access denied.  | Global         |
| 6           | Document library - The object was not found or access denied.  | Item or Global |
| 7           | Document library - Failed to connect to the server.  | Global         |
| 8           | The byte-range is invalid or too large.  | Item           |
| 9           | The store is unknown or unsupported.   | Global         |
| 10          | The file is empty.   | Item           |
| 11          | The requested data size is too large.  | Item           |
| 12          | Failed to download file because of input/output (I/O) failure.   | Global         |
| 14          | Mailbox fetch provider - The item failed conversion.   | Item           |
| 15          | Attachment fetch provider - Attachment or attachment ID is invalid.  | Item           |
| 16          | Access to the <b>resource</b> is denied.   | Item           |
| 17          | Partial success; a <b>Fetch</b> , <b>Move</b> , or <b>EmptyFolderContents</b> operation completed partially.   | Item           |
| 18          | Credentials required.  | Global         |
| 155<15>     | Protocol error. The <b>Options</b> element (section <a href="#">2.2.3.125.3</a> ) and the <b>MoveAlways</b> element (section <a href="#">2.2.3.118</a> ) are missing from the <b>ItemOperations</b> request. | Global         |
| 156         | Action not supported. The destination folder MUST be of type IPF.Note. For more details about folder types, see <a href="#">[MS-OXOSFLD]</a> section 2.2.8.  | Global         |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support, child of ItemOperations, Fetch, EmptyFolderContents | Element support, child of Move |
|------------------|--|--------------------------------|
| 2.5              |  |                                |
| 12.0             | Yes  |                                |
| 12.1             | Yes  |                                |
| 14.0             | Yes  | Yes                            |
| 14.1             | Yes  | Yes                            |
| 16.0             | Yes  | Yes                            |
| 16.1             | Yes  | Yes                            |

The **Move** element is supported as a parent of the **Status** element only when protocol version 14.0, 14.1, 16.0, or 16.1 is used.

### 2.2.3.177.9 Status (MeetingResponse)

The **Status** element is a required child element of the **Result** element in **MeetingResponse** command responses that indicates the success or failure of the **MeetingResponse** command request (section [2.2.1.11](#)).

All elements referenced in this section are defined in the **MeetingResponse** namespace.

| Command request/response                                   | Parent elements                                      | Child elements | Data type   | Number allowed   |
|--|--|----------------|---|------------------|
| <b>MeetingResponse</b> command response (section 2.2.1.11) | <b>Result</b> (section <a href="#">2.2.3.155.2</a> ) | None           | <b>integer</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.6) | 1...1 (required) |

The following table lists the status codes for the **MeetingResponse** command (section 2.2.1.11). For information about the scope of the status value and for status values common to all ActiveSync commands, see section [2.2.2](#).

| Value | Meaning                  | Cause   | Scope  | Resolution  |
|-------|--------------------------|---|--------|---|
| 1     | Success.                 | Server successfully completed command.  | Global | None.   |
| 2     | Invalid meeting request. | <p>The client has sent a malformed or invalid item. The request is referencing an item other than a meeting request, email, or calendar item.</p> <p>The request points to an appointment in which the user is the organizer.</p> <p>The <b>InstanceId</b> element (section <a href="#">2.2.3.92.1</a>) specifies an email meeting request item.</p> <p>The <b>InstanceId</b> element specifies a nonexistent</p> | Item   | Stop sending the item. This is not a transient condition. |

| Value | Meaning                                  | Cause   | Scope  | Resolution   |
|-------|--|---|--------|--|
|       |  | instance or is null.  |        |  |
| 3     | An error occurred on the server mailbox. | Server misconfiguration, temporary system issue, or bad item. This is frequently a transient condition. | Global | Retry the <b>MeetingResponse</b> command. If continued attempts fail, synchronize the folder again, and then attempt the <b>MeetingResponse</b> command again. If it still continues to fail, make no changes. |
| 4     | An error occurred on the server.         | Server misconfiguration, temporary system issue, or bad item. This is frequently a transient condition. | Global | Retry the <b>MeetingResponse</b> command. If continued attempts fail, synchronize the folder again, and then attempt the <b>MeetingResponse</b> command again. If it still continues to fail, make no changes. |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.177.10 Status (MoveItems)

The **Status** element is a required child element of the **Response** element and an optional child element of the **MoveItems** element in **MoveItems** command responses that indicates the success or failure the **MoveItems** command request (section 2.2.1.12). If the command failed, **Status** contains a code indicating the type of failure.

All elements referenced in this section are defined in the **Move** namespace.

| Command request/response          | Parent elements                       | Child elements | Data type                                 | Number allowed   |
|-----------------------------------|---------------------------------------|----------------|---|------------------|
| <b>MoveItems</b> command response | <b>Response</b> (section 2.2.3.153.5) | None           | <b>integer</b> ([MS-ASDTYPE] section 2.6) | 1...1 (required) |
| <b>MoveItems</b> command response | <b>MoveItems</b> (section 2.2.3.119)  | None           | <b>integer</b>                            | 0...1 (optional) |



The following table lists the status codes for the **MoveItems** command (section 2.2.1.12). For information about the scope of the status value and for status values common to all ActiveSync commands, see section [2.2.2](#).

| Value | Meaning   | Cause  | Scope  | Resolution  |
|-------|---|--|--------|---|
| 1     | Invalid source collection ID or invalid source Item ID.   | The source folder collection ID ( <b>CollectionId</b> element (section <a href="#">2.2.3.30.6</a> ) value) is not recognized by the server, possibly because the source folder has been deleted. Or, the item with the Item ID ( <b>SrcMsgId</b> element (section <a href="#">2.2.3.175</a> )) has been previously moved out of the folder with the Folder ID ( <b>SrcFldId</b> element (section <a href="#">2.2.3.174</a> )). | Item   | Issue a <b>FolderSync</b> command (section <a href="#">2.2.1.5</a> ) to get the new hierarchy. Then, issue a <b>Sync</b> command (section <a href="#">2.2.1.21</a> ) for the <b>SrcFldId</b> and reissue the <b>MoveItems</b> command request if the items are still present in this source collection. |
| 2     | Invalid destination collection ID.  | The destination folder collection ID ( <b>CollectionId</b> element value) is not recognized by the server, possibly because the source folder has been deleted.  | Item   | Issue a <b>FolderSync</b> command to get the new hierarchy. Then, use a valid collection ID.  |
| 3     | Success.  | Server successfully completed command.   | Global | None.   |
| 4     | Source and destination collection IDs are the same.   | The client supplied a destination folder that is the same as the source.   | Item   | Send only requests where the <b>CollectionId</b> element values for the source and destination differ.  |
| 5     | One of the following failures occurred: the item cannot be moved to more than one item at a time, or the source or destination item was locked. | More than one <b>DstFldId</b> element (section <a href="#">2.2.3.51.2</a> ) was included in the request.   | Global | Retry the <b>MoveItems</b> command request with only one <b>DstFldId</b> element or move the item to another location.  |
| 7     | Source or destination item was locked.  | Transient server condition.  | Item   | Retry the <b>MoveItems</b> command request.   |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.177.11 Status (Ping)

The **Status** element is a required child element of the **Ping** element in **Ping** command responses that indicates the success or failure of the **Ping** command request (section [2.2.1.13](#)). If the command failed, the **Status** element contains a code that indicates the type of failure. Certain status codes have additional information that is included in the response.

All elements referenced in this section are defined in the **Ping** namespace.

| Command request/response     | Parent elements                                  | Child elements | Data type  | Number allowed   |
|------------------------------|--|----------------|--|------------------|
| <b>Ping</b> command response | <b>Ping</b> (section <a href="#">2.2.3.136</a> ) | None           | <b>integer</b> ( <a href="#">IMS-ASDTYPE</a> section <a href="#">2.6</a> ) | 1...1 (required) |

The following table lists the status codes for the **Ping** command (section [2.2.1.13](#)). For information about the scope of the status value and for status values common to all ActiveSync commands, see section [2.2.2](#).

| Value | Meaning  | Cause   | Scope  | Resolution  |
|-------|--|---|--------|---|
| 1     | The heartbeat interval expired before any changes occurred in the folders being monitored.             |   | Global | Reissue the <b>Ping</b> command request.  |
| 2     | Changes occurred in at least one of the monitored folders. The response specifies the changed folders. |   | Global | Issue a <b>Sync</b> command request (section <a href="#">2.2.1.21</a> ) for each folder that was specified in the <b>Ping</b> command response to retrieve the server changes. Reissue the <b>Ping</b> command when the <b>Sync</b> command completes to stay up to date. |
| 3     | The <b>Ping</b> command request omitted required parameters.   | The <b>Ping</b> command request did not specify all the necessary parameters. The client MUST issue a <b>Ping</b> request that includes both the heartbeat interval and the folder list at least once. The server saves the heartbeat interval value (section <a href="#">2.2.3.88.1</a> ), so only the folder list is required on subsequent requests. | Global | Reissue the <b>Ping</b> command request with the entire XML body.   |
| 4     | Syntax error in <b>Ping</b> command request.   | Frequently caused by poorly formatted WBXML.  | Global | Double-check the request for accuracy.  |

| Value | Meaning  | Cause   | Scope  | Resolution   |
|-------|--|---|--------|--|
| 5     | The specified heartbeat interval is outside the allowed range. For intervals that were too short, the response contains the shortest allowed interval. For intervals that were too long, the response contains the longest allowed interval. | The client sent a <b>Ping</b> command request with a heartbeat interval that was either too long or too short.      | Global | Reissue the <b>Ping</b> command by using a heartbeat interval inside the allowed range. Setting the interval to the value returned in the <b>Ping</b> response will most closely accommodate the original value specified. |
| 6     | The <b>Ping</b> command request specified more than the allowed number of folders to monitor. The response indicates the allowed number in the <b>MaxFolders</b> element (section <a href="#">2.2.3.102</a> ).                               | The client sent a <b>Ping</b> command request that specified more folders than the server is configured to monitor. | Global | Direct the user to select fewer folders to monitor. Resend the <b>Ping</b> command request with the new, shorter list.   |
| 7     | Folder hierarchy sync required.  | The folder hierarchy is out of date; a folder hierarchy sync is required.   | Global | Issue a <b>FolderSync</b> command (section <a href="#">2.2.1.5</a> ) to get the new hierarchy and prompt the user, if it is necessary, for new folders to monitor. Reissue the <b>Ping</b> command.                        |
| 8     | An error occurred on the server.   | Server misconfiguration, temporary system issue, or bad item. This is frequently a transient condition.             | Global | Retry the <b>Ping</b> command.   |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.177.12 Status (ResolveRecipients)

The **Status** element is a required child element of the **ResolveRecipients** element, the **Response** element, the **Availability** element, the **Certificates** element, and the **Picture** element in **ResolveRecipients** command responses.

All elements referenced in this section are defined in the **ResolveRecipients** namespace.

| Command request/response  | Parent elements  | Child elements | Data type   | Number allowed   |
|---|--|----------------|---|------------------|
| <b>ResolveRecipients</b> command response (section <a href="#">2.2.1.15</a> ) | <b>ResolveRecipients</b> (section <a href="#">2.2.3.152</a> )<br><b>Response</b> (section <a href="#">2.2.3.153.6</a> )<br><b>Availability</b> (section <a href="#">2.2.3.16</a> )<br><b>Certificates</b> (section <a href="#">2.2.3.23.1</a> )<br><b>Picture</b> (section <a href="#">2.2.3.135.2</a> ) | None           | integer ( <a href="#">IMS-ASDTYPE</a> section <a href="#">2.6</a> ) | 1...1 (required) |

As a child element of the **ResolveRecipients** element, the **Status** element indicates the success or failure of the **ResolveRecipients** command request. The following table shows valid values for the **Status** element when it is returned as a child of the **ResolveRecipients** element.

| Value | Meaning   |
|-------|---|
| 1     | Success.  |
| 5     | Protocol error. Either an invalid parameter was specified or the range exceeded limits. |
| 6     | An error occurred on the server. The client SHOULD retry the request.                   |

As a child element of the **Response** element, the **Status** element provides the status of the **ResolveRecipients** command response **Response** element. The following table shows valid values for the **Status** element when it is returned as a child element of the **Response** element.

| Value | Meaning  |
|-------|--|
| 1     | The recipient was resolved successfully. For more details about the <b>Recipient</b> element, see section <a href="#">2.2.3.145</a> .  |
| 2     | The recipient was found to be ambiguous. The returned list of recipients are suggestions. No certificate nodes were returned. Prompt the user to select the intended recipient from the list returned.   |
| 3     | The recipient was found to be ambiguous. The returned list is a partial list of suggestions. The total count of recipients can be obtained from the <b>RecipientCount</b> element (section <a href="#">2.2.3.146</a> ). No certificate nodes were returned. Prompt the user to select the intended recipient from the list returned or to get more recipients. |
| 4     | The recipient did not resolve to any contact or <b>GAL</b> entry. No certificates were returned. Inform the user of the error and direct the user to check the spelling.   |

As a child element of the **Availability** element, the **Status** element provides the status of the **ResolveRecipients** command response **Availability** element. The following table shows valid values for the **Status** element when it is returned as a child element of the **Availability** element.

| Value | Meaning  |
|-------|--|
| 1     | Free/busy data was successfully retrieved for a given recipient. This value does not indicate that the response is complete.   |
| 160   | The command has exceeded the maximum number of exactly matched recipients for which it can request availability. <a href="#">&lt;16&gt;</a>  |
| 161   | The distribution group identified by the <b>To</b> element of the <b>ResolveRecipient</b> request included more than 20 recipients.  |
| 162   | The free/busy data could not be retrieved by the server due to a temporary failure. The client SHOULD reissue the request. This error is caused by a timeout value being reached while requesting free/busy data for some users, but not others. |
| 163   | Free/busy data could not be retrieved from the server for a given recipient. Clients SHOULD NOT reissue the request as it is caused by a lack of permission to retrieve the data.  |

As a child element of the **Certificates** element, the **Status** element provides the status of the **ResolveRecipients** command response **Certificates** element. The following table shows valid values for the **Status** element when it is returned as a child element of the **Certificates** element.

| Value | Meaning   |
|-------|---|
| 1     | One or more certificates were successfully returned.  |
| 7     | The recipient does not have a valid <b>S/MIME</b> certificate. No certificates were returned.   |
| 8     | The global certificate limit was reached and the recipient's certificate could not be returned. The count certificates not returned can be obtained from the <b>CertificateCount</b> element. Retry with fewer recipients if possible, otherwise prompt the user. |

As a child element of the **Picture** element, the **Status** element provides the status of the **ResolveRecipients** command response **Picture** element. The following table shows valid values for the **Status** element when it is returned as a child element of the **Picture** element.

| Value | Meaning   |
|-------|---|
| 1     | The contact photo was retrieved successfully.   |
| 173   | The user does not have a contact photo.   |
| 174   | The contact photo exceeded the size limit set by the <b>MaxSize</b> element (section <a href="#">2.2.3.105.2</a> ).                         |
| 175   | The number of contact photos returned exceeded the size limit set by the <b>MaxPictures</b> element (section <a href="#">2.2.3.104.2</a> ). |

For information about **Status** values common to all ActiveSync commands, see section [2.2.2](#).

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support, child of Availability | Element support, child of Picture | Element support, child of other elements |
|------------------|--|-----------------------------------|--|
| 2.5              |  |                                   | Yes                                      |

| Protocol version | Element support, child of Availability | Element support, child of Picture | Element support, child of other elements |
|------------------|--|-----------------------------------|--|
| 12.0             |  |                                   | Yes                                      |
| 12.1             |  |                                   | Yes                                      |
| 14.0             | Yes                                    |                                   | Yes                                      |
| 14.1             | Yes                                    | Yes                               | Yes                                      |
| 16.0             | Yes                                    | Yes                               | Yes                                      |
| 16.1             | Yes                                    | Yes                               | Yes                                      |

The following elements are supported as a parent element of the **Status** element when protocol version 2.5, 12.0, 12.1, 14.0, 14.1, 16.0, or 16.1 is used.

- **ResolveRecipients**
- **Response**
- **Certificates**

The **Availability** element is supported as a parent of the **Status** element only when protocol version 14.0, 14.1, 16.0, or 16.1 is used.

The **Picture** element is supported as a parent of the **Status** element only when protocol version 14.1, 16.0, or 16.1 is used.

### 2.2.3.177.13 Status (Search)

The **Status** element is a required child element of the **Search** element, the **Store** element, and the **gal:Picture** element in **Search** command responses.

Elements referenced in this section are defined in the **Search** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response   | Parent elements  | Child elements | Data type   | Number allowed   |
|--|--|----------------|---|------------------|
| <b>Search</b> command response (section <a href="#">2.2.1.16</a> ) | <b>Search</b> (section <a href="#">2.2.3.159</a> )<br><b>Store</b> (section <a href="#">2.2.3.178.3</a> )<br><b>gal:Picture</b> (section <a href="#">2.2.3.135.3</a> ) | None           | <b>integer</b> ( <a href="#">IMS-ASDTYPE</a> section 2.6) | 1...1 (required) |

As a child element of the **Search** element, the **Status** element indicates whether the server encountered an error while it was processing the search query. The **Status** element value indicates only that the overall **Search** command request (section 2.2.1.16) was processed correctly. It does not indicate whether any matches were found. The **Total** (section [2.2.3.184.3](#)) and **Range** (section [2.2.3.143.3](#)) elements in the **Search** command response indicate how many matches were found and returned, respectively. The following table specifies valid values for the **Status** element when it is returned as a child element of the **Search** element.

| Value | Meaning      |
|-------|--------------|
| 1     | Success      |
| 3     | Server error |

As a child element of the **Store** element, the **Status** element indicates whether the server encountered an error while it was processing the **Search** query for the specified store. The following table specifies valid values for the **Status** element as a child of the **Store** element in the **Search** response.

| Value | Meaning                           | Cause   | Scope  | Resolution  |
|-------|-----------------------------------|---|--------|---|
| 1     | Success.                          | Server successfully completed command.  | Global | None.   |
| 2     | The request was invalid.          | One or more of the client's search parameters was invalid.  | Item   | If the user formatted the request, prompt the user to retry with different options.   |
| 3     | An error occurred on the server.  | Server misconfiguration, temporary system issue, or bad item. This is frequently a transient condition. | Global | Retry the <b>Search</b> command.  |
| 4     | Bad link.                         | A bad link was supplied.  | Global | Prompt user to reformat link.   |
| 5     | Access denied.                    | Access was denied to the <b>resource</b>  | Global | Prompt the user.  |
| 6     | Not found.                        | Resource was not found.   | Global | Prompt the user.  |
| 7     | Connection failed.                | Failed to connect to the resource.  | Global | Prompt the user. Sometimes these are transient, so retry. If it continues to fail, point user to administrator.   |
| 8     | Too complex.                      | The query was too complex.  | Global | Reduce the complexity of the query. Prompt user if necessary.   |
| 10    | Timed out.                        | The search timed out.   | Global | The search timed out. Retry with or without rebuilding results. If it continues, contact the Administrator.   |
| 11    | FolderSync required.              | The folder hierarchy is out of date.  | Global | Issue a <b>FolderSync</b> command (section <a href="#">2.2.1.5</a> ) and then try the <b>Search</b> command again.  |
| 12    | End of retrievable range warning. | The requested range has gone past the end of the range of retrievable results.                          | Local  | Prompt the user that there are no more results that can be fetched, and the user might consider restricting their search query.                                   |
| 13    | Access blocked.                   | Access is blocked to the specified resource.  | Global | Prompt the user.  |
| 14    | Credentials required.             | To complete this request, basic credentials are required.   | Global | If over a trusted connection, supply the basic credentials from the user (prompt if necessary). Otherwise, fail as if the access denied status code was provided. |

As a child element of the **gal:Picture** element, the **Status** element indicates whether the server encountered an error while it was processing the **Search** query for the contact photos. The following

table shows valid values for the **Status** element when it is returned as a child of the **gal:Picture** element.

| Value | Meaning   |
|-------|---|
| 1     | The contact photo was retrieved successfully.   |
| 173   | The user does not have a contact photo.   |
| 174   | The contact photo exceeded the size limit set by the <b>MaxSize</b> element (section <a href="#">2.2.3.105.3</a> ).                         |
| 175   | The number of contact photos returned exceeded the size limit set by the <b>MaxPictures</b> element (section <a href="#">2.2.3.104.3</a> ). |

For information about **Status** values common to all ActiveSync commands, see section [2.2.2](#).

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support, child of Search, Store | Element support, child of gal:Picture |
|------------------|---|---------------------------------------|
| 2.5              | Yes                                     |                                       |
| 12.0             | Yes                                     |                                       |
| 12.1             | Yes                                     |                                       |
| 14.0             | Yes                                     |                                       |
| 14.1             | Yes                                     | Yes                                   |
| 16.0             | Yes                                     | Yes                                   |
| 16.1             | Yes                                     | Yes                                   |

The **gal:Picture** element is supported as a parent of the **Status** element only when protocol version 14.1, 16.0, or 16.1 is used.

### 2.2.3.177.14 Status (SendMail)

The **Status** element is an optional child element of the **SendMail** element in **SendMail** command responses that indicates the reason for the failure of a **SendMail** command request (section [2.2.1.17](#)).

All elements referenced in this section are defined in the **ComposeMail** namespace.

| Command request/response         | Parent elements                                      | Child elements | Data type  | Number allowed   |
|----------------------------------|--|----------------|--|------------------|
| <b>SendMail</b> command response | <b>SendMail</b> (section <a href="#">2.2.3.162</a> ) | None           | <b>integer</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.6) | 0...1 (optional) |



If the command succeeds, no XML body is returned in the response. If the command fails, the **Status** element contains a code that indicates the type of failure. Valid **Status** values are listed in section [2.2.2](#).

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.177.15 Status (Settings)

The **Status** element is a required child element of the **Settings** element, the **RightsManagementInformation** element, the **Oof** element, the **DevicePassword** element, the **DeviceInformation** element, and the **UserInformation** element in **Settings** command responses. It contains a code that indicates either the overall success or failure of the **Settings** command request (section [2.2.1.18](#)) or the success or failure of a **Get** (section [2.2.3.83](#)) or **Set** (section [2.2.3.167](#)) operation.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response         | Parent elements  | Child elements | Data type   | Number allowed   |
|----------------------------------|--|----------------|---|------------------|
| <b>Settings</b> command response | <b>Settings</b> (section <a href="#">2.2.3.168.2</a> )<br><b>RightsManagementInformation</b> (section <a href="#">2.2.3.156</a> )<br><b>Oof</b> (section <a href="#">2.2.3.122</a> )<br><b>DevicePassword</b> (section <a href="#">2.2.3.46</a> )<br><b>DeviceInformation</b> (section <a href="#">2.2.3.45</a> )<br><b>UserInformation</b> (section <a href="#">2.2.3.192</a> ) | None           | integer ( <a href="#">[MS-ASDTYPE]</a> section 2.6) | 1...1 (required) |

As a child element of the **Settings** element in the **Settings** command response, the **Status** element indicates the overall success or failure of the **Settings** command request. The following table lists the valid values for the **Status** element as the child element of the **Settings** element in the **Settings** command response.

| Value | Meaning               |
|-------|-----------------------|
| 1     | Success.              |
| 2     | Protocol error.       |
| 3     | Access denied.        |
| 4     | Server unavailable.   |
| 5     | Invalid arguments.    |
| 6     | Conflicting arguments |
| 7     | Denied by policy      |

Error code values 100 to 255 are reserved for property-specific error codes and vary from property to property. Any status value that is not 1 is a failure.

The following table lists the valid values for **Status** in a **Settings** command **RightsManagementInformation Get** operation, **Oof Get** operation, **Oof Set** operation, **DeviceInformation Set** operation, or **UserInformation Get** operation.

| Value | Meaning  |
|-------|--|
| 1     | Success.   |
| 2     | Protocol error. The XML code is formatted incorrectly. |
| 5     | Invalid arguments.                                     |
| 6     | Conflicting arguments.                                 |

For a **Settings** command **Oof Set** operation, if **Oof** nodes **AppliesToExternalKnown** (section [2.2.3.12](#)) or **AppliesToExternalUnknown** (section [2.2.3.13](#)) are not allowed and are disabled by the administrator but are sent by the client in the **Settings** command **Set** operation request, the **Settings** command **Set** operation response returns a successful **Status** element value of 1 even though the user does not have access to these settings.

The following table lists the values for **Status** in a **Settings** command **DevicePassword Set** response.

| Value | Meaning  |
|-------|--|
| 1     | Success.   |
| 2     | Protocol error. The XML code is formatted incorrectly.                                 |
| 5     | Invalid arguments. The specified password is too long.                                 |
| 7     | Denied by policy. The administrator has disabled password recovery in this deployment. |

For **Status** values common to all ActiveSync commands, see section [2.2.2](#).

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support, child of RightsManagementInformation | Element support, child of other elements |
|------------------|---|--|
| 2.5              |   |  |
| 12.0             |   | Yes                                      |
| 12.1             |   | Yes                                      |
| 14.0             |   | Yes                                      |
| 14.1             | Yes   | Yes                                      |
| 16.0             | Yes   | Yes                                      |
| 16.1             | Yes   | Yes                                      |

The following elements are supported as a parent element of the **Status** element when protocol version 12.0, 12.1, 14.0, 14.1, 16.0, or 16.1 is used.

- **Settings**
- **Oof**
- **DevicePassword**
- **DeviceInformation**
- **UserInformation**

The **RightsManagementInformation** element is supported as a parent of the **Status** element only when protocol version 14.1, 16.0, or 16.1 is used.

### 2.2.3.177.16 Status (SmartForward and SmartReply)

The **Status** element is an optional child element of the **SmartForward** element in **SmartForward** command responses and an optional child element of the **SmartReply** element in **SmartReply** command responses. It indicates the reason for the failure of a **SmartForward** command request (section [2.2.1.19](#)) or **SmartReply** command request (section [2.2.1.20](#)).

All elements referenced in this section are defined in the **ComposeMail** namespace.

| Command request/response             | Parent elements  | Child elements | Data type  | Number allowed   |
|--------------------------------------|--|----------------|--|------------------|
| <b>SmartForward</b> command response | <b>SmartForward</b> (section <a href="#">2.2.3.169</a> ) | None           | <b>integer</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.6) | 0...1 (optional) |
| <b>SmartReply</b> command response   | <b>SmartReply</b> (section <a href="#">2.2.3.170</a> )   | None           | <b>integer</b>   | 0...1 (optional) |

If the **SmartForward** command request or **SmartReply** command request succeeds, no XML body is returned in the response. If the **SmartForward** command request or **SmartReply** command request fails, the **Status** element contains a code that indicates the type of failure. Valid **Status** element values are listed in section [2.2.2](#). In particular, a **Status** element value of 117 indicates that the server does not allow a reply to the message.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support, SmartForward | Element support, SmartReply |
|------------------|-------------------------------|-----------------------------|
| 2.5              |                               |                             |
| 12.0             |                               |                             |
| 12.1             |                               |                             |
| 14.0             | Yes                           | Yes                         |
| 14.1             | Yes                           | Yes                         |
| 16.0             | Yes                           | Yes                         |
| 16.1             | Yes                           | Yes                         |

### 2.2.3.177.17 Status (Sync)

The **Status** element is a required child element of the **Collection** element, the **Change** element, the **Add** element, the **Delete** element, and the **Fetch** element in **Sync** command responses. It is an optional child element of the **Sync** element in **Sync** command responses.

Elements referenced in this section are defined in the **AirSync** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response   | Parent elements  | Child elements | Data type   | Number allowed   |
|--|--|----------------|---|------------------|
| <b>Sync</b> command response (section <a href="#">2.2.1.21</a> ) | <b>Collection</b> (section <a href="#">2.2.3.29.2</a> )<br><b>Change</b> (section <a href="#">2.2.3.24</a> )<br><b>Add</b> (section <a href="#">2.2.3.7.2</a> )<br><b>Delete</b> (section <a href="#">2.2.3.42.2</a> )<br><b>Fetch</b> (section <a href="#">2.2.3.67.2</a> ) | None           | <b>integer</b> ( <a href="#">[MS-ASDTYPE]</a> section <a href="#">2.6</a> ) | 1...1 (required) |
| <b>Sync</b> command response                                     | <b>Sync</b> (section <a href="#">2.2.3.180</a> )   | None           | <b>integer</b>  | 0...1 (optional) |

As a child element of the **Sync** element, the **Status** element indicates the success or failure of the **Sync** command request. If the request failed, the **Status** element contains a code that indicates the type of failure.

As a child element of the **Collection** element, the **Status** element indicates the success or failure of the **Sync** command operation on the collection. If the operation failed, the **Status** element contains a code that indicates the type of failure.

As a child element of the **Change** element, the **Add** element, or the **Fetch** element, the **Status** element indicates the success or failure of the change operation, the add operation, or the fetch

operation, respectively. If the operation failed, the **Status** element contains a code that indicates the type of failure.

The following table lists the status codes for the **Sync** command (section 2.2.1.21). For information about the scope of the status value and for status values common to all ActiveSync commands, see section [2.2.2](#).

| Value | Meaning  | Cause   | Scope          | Resolution  |
|-------|--|---|----------------|---|
| 1     | Success.   | Server successfully completed command.  | Global         | None.   |
| 3     | Invalid synchronization key.                     | Invalid or mismatched synchronization key.<br>—or—<br>Synchronization state corrupted on server.  | Global         | MUST return to <b>SyncKey</b> element value (section <a href="#">2.2.3.181.4</a> ) of 0 for the collection. The client SHOULD either delete any items that were added since the last successful Sync or the client MUST add those items back to the server after completing the full resynchronization. |
| 4     | Protocol error.                                  | There was a semantic error in the synchronization request. The client is issuing a request that does not comply with the specification requirements.  | Item or Global | Double-check the request for accuracy and retry the <b>Sync</b> command.  |
| 5     | Server error.                                    | Server misconfiguration, temporary system issue, or bad item. This is frequently a transient condition.   | Global         | Retry the synchronization. If continued attempts to synchronization fail, consider returning to synchronization key 0.  |
| 6     | Error in client/server conversion.               | The client has sent a malformed or invalid item.  | Item           | Stop sending the item. This is not a transient condition.   |
| 7     | Conflict matching the client and server object.  | The client has changed an item for which the conflict policy indicates that the server's changes take precedence.   | Item           | If it is necessary, inform the user that the change they made to the item has been overwritten by a server change.  |
| 8     | Object not found.                                | The client issued a fetch or change operation that has a <b>CollectionId</b> (section <a href="#">2.2.3.30.6</a> ) or <b>ServerId</b> (section <a href="#">2.2.3.155.7</a> ) value that is no longer valid on the server (for example, the item was deleted). | Item           | Issue a synchronization request and prompt the user if necessary.   |
| 9     | The <b>Sync</b> command cannot be completed.     | User account could be out of disk space.  | Item           | Free space in the user's mailbox and retry the <b>Sync</b> command.   |
| 12    | The folder hierarchy has changed.                | Mailbox folders are not synchronized.   | Global         | Perform a <b>FolderSync</b> command (section <a href="#">2.2.1.5</a> ) and then retry the <b>Sync</b> command.  |
| 13    | The <b>Sync</b> command request is not complete. | An empty or partial <b>Sync</b> command request is received and the cached set of notify-able collections is missing.   | Item           | Resend a full <b>Sync</b> command request.  |
| 14    | Invalid <b>Wait</b> or <b>HeartbeatInterval</b>  | The <b>Sync</b> request was processed successfully but the wait interval  | Item           | Update the <b>Wait</b> element value according to the <b>Limit</b> element  |

| Value | Meaning                              | Cause   | Scope  | Resolution  |
|-------|--------------------------------------|---|--------|---|
|       | value.                               | <p>(<b>Wait</b> element value (section <a href="#">2.2.3.198</a>)) or heartbeat interval (<b>HeartbeatInterval</b> element value (section <a href="#">2.2.3.88.2</a>)) that is specified by the client is outside the range set by the server administrator.</p> <p>If the <b>HeartbeatInterval</b> element value or <b>Wait</b> element value included in the <b>Sync</b> request is larger than the maximum allowable value, the response contains a <b>Limit</b> element that specifies the maximum allowed value.</p> <p>If the <b>HeartbeatInterval</b> element value or <b>Wait</b> value included in the <b>Sync</b> request is smaller than the minimum allowable value, the response contains a <b>Limit</b> element that specifies the minimum allowed value.</p> |        | and then resend the <b>Sync</b> command request.                  |
| 15    | Invalid <b>Sync</b> command request. | Too many collections are included in the <b>Sync</b> request.   | Item   | Notify the user and synchronize fewer folders within one request. |
| 16    | Retry                                | Something on the server caused a retrievable error.   | Global | Resend the request.   |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

## 2.2.3.177.18 Status (ValidateCert)

The **Status** element is a required child element of the **ValidateCert** element and the **Certificate** element in **ValidateCert** command responses that indicates whether one or more certificates were successfully validated.

All elements referenced in this section are defined in the **ValidateCert** namespace.

| Command request/response   | Parent elements  | Child elements | Data type  | Number allowed   |
|--|--|----------------|--|------------------|
| <b>ValidateCert</b> command response (section <a href="#">2.2.1.22</a> ) | <b>ValidateCert</b> (section <a href="#">2.2.3.195</a> )<br><b>Certificate</b> (section <a href="#">2.2.3.19</a> ) | None           | <b>integer</b> ( <a href="#">IMS-ASDTYPE</a> section <a href="#">2.6</a> ) | 1...N (required) |

As a child of the **ValidateCert** element, the **Status** element indicates the success or failure of the **ValidateCert** command. A value of 1 indicates success, and a value of 17 indicates failure.

As a child of the **Certificate** element, the **Status** element contains a status code which indicates the results of the validation of the specific certificate. The following table lists the status codes that apply to certificate validation for the **ValidateCert** command (section 2.2.1.22).

| Value | Meaning  | Cause  | Scope  | Resolution  |
|-------|--|--|--------|---|
| 1     | Success.   | Server successfully completed command.                               | Global | None.   |
| 2     | Protocol error.  | Supplied protocol parameters are out of range or invalid.            | Global | Fix client code.  |
| 3     | The signature in the digital ID cannot be validated.   | The signature in the certificate is invalid.                         | Item   | Verify that the certificate has a valid signature.  |
| 4     | The digital ID was issued by an untrusted source.  | The certificate source is not trusted by the server.                 | Item   | Contact the administrator to add the certificate to the trusted sources list if it is required. |
| 5     | The certificate chain that contains the digital ID was not created correctly.                        | Invalid, incorrectly formatted certificate.                          | Item   | Verify that the certificate chain is formatted correctly.                                       |
| 6     | The digital ID is not valid for signing email messages.  | The supplied certificate is not meant to be used for signing email.  | Item   | Prompt the user.  |
| 7     | The digital ID used to sign the message has expired or is not yet valid.                             | The certificate has expired.   | Item   | Obtain a new certificate.   |
| 8     | The time periods during which the digital IDs in the certificate chain are valid are not consistent. | One or more certificates in the chain could be out of date.          | Item   | Get the most recent certificate chain for the certificate.                                      |
| 9     | A digital ID in the certificate chain is used incorrectly.   | The supplied certificate is not valid for what it is being used for. | Item   | Obtain a new certificate.   |
| 10    | Information associated with the digital ID is missing or incorrect.                                  | The certificate format is incorrect.                                 | Item   | Obtain a new certificate.   |

| Value | Meaning  | Cause  | Scope | Resolution   |
|-------|--|--|-------|--|
| 11    | A digital ID in the certificate chain is used incorrectly.   | A certificate that can only be used as an end-entity is being used as a <b>certification authority (CA)</b> , or a CA that can only be used as an end-entity is being used as a certificate. | Item  | Obtain the correct certificate chain.  |
| 12    | The digital ID does not match the recipient's email address.   | Incorrect certificate was supplied, could be malicious.  | Item  | Obtain the correct certificate for the user.   |
| 13    | The digital ID used to sign this message has been revoked. This can indicate that the issuer of the digital ID no longer trusts the sender, the digital ID was reported stolen, or the digital ID was compromised. | The certificate has been revoked by the certification authority (CA) that issued it.   | Item  | Obtain a new certificate.  |
| 14    | The validity of the digital ID cannot be determined because the server that provides this information cannot be contacted.   | The certificate revocation server is offline.  | Item  | Retry request after some time.   |
| 15    | A digital ID in the chain has been revoked by the authority that issued it.  | A certificate in the chain has been revoked.   | Item  | Obtain a new certificate.  |
| 16    | The digital ID cannot be validated because its revocation status cannot be determined.   | The signature in the certificate is invalid.   | Item  | Verify that the certificate has a valid signature.   |
| 17    | An unknown server error has occurred.  | The certificate source is not trusted by the server.   | Item  | Contact the administrator to add the certificate to the trusted sources list if it is necessary. |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |



| Protocol version | Element support |
|------------------|-----------------|
| 16.1             | Yes             |

### 2.2.3.178 Store

The **Store** element is used in the following command requests and responses:

- **Find** command responses (section [2.2.1.2](#))
- **ItemOperations** command requests (section [2.2.1.10](#))
- **Search** command requests and responses (section [2.2.1.16](#))

The definition of the **Store** element differs according to the context in which it is used. For more details, see section [2.2.3.178.1](#), section [2.2.3.178.2](#) and section [2.2.3.178.3](#).

#### 2.2.3.178.1 Store (Find)

The **itemoperations:Store** element is a required child element of the **Response** element in **Find** command responses that specifies the name of the store to which the parent operation applies.

All elements referenced in this section are defined in the **Find** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements  | Child elements | Data type  | Number allowed   |
|---|--|----------------|--|------------------|
| <b>Find</b> command response (section <a href="#">2.2.1.2</a> ) | <b>Response</b> (section <a href="#">2.2.3.153.2</a> ) | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 1...1 (required) |

In the **Find** command response, the value of the **Store** element will be "Mailbox".

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.178.2 Store (ItemOperations)

The **Store** element is a required child element of the **Fetch** element in **ItemOperations** command requests that specifies the name of the store to which the parent operation applies.

All elements referenced in this section are defined in the **ItemOperations** namespace.

| Command request/response  | Parent elements                                    | Child elements | Data type  | Number allowed   |
|---|--|----------------|--|------------------|
| <b>ItemOperations</b> command request (section <a href="#">2.2.1.10</a> ) fetch operation | <b>Fetch</b> (section <a href="#">2.2.3.67.1</a> ) | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 1...1 (required) |

The **Store** element value can be up to 256 characters in length. The following values are valid for the **Store** element:

- Document Library (SharePoint Server and UNC links)
- Mailbox (items and attachments)

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.178.3 Store (Search)

The **Store** element is a required child element of the **Search** element in **Search** command requests that contains elements that specify the location, string, and options for the search. The **Store** element is a required child element of the **Response** element in **Search** command responses that contains the **Status**, **Result**, **Range**, and **Total** elements for the returned mailbox entries.

All elements referenced in this section are defined in the **Search** namespace.

| Command request/response  | Parent elements                                    | Child elements                                     | Data type   | Number allowed   |
|---|--|--|---|------------------|
| <b>Search</b> command request (section <a href="#">2.2.1.16</a> ) | <b>Search</b> (section <a href="#">2.2.3.159</a> ) | <b>Name</b> (section <a href="#">2.2.3.120.2</a> ) | <b>container</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 1...1 (required) |

| Command request/response       | Parent elements  | Child elements  | Data type        | Number allowed      |
|--------------------------------|--|---|------------------|---------------------|
|                                |  | <b>Query</b> (section <a href="#">2.2.3.142.2</a> )<br><b>Options</b> (section <a href="#">2.2.3.125.5</a> )  | 2.2)             |                     |
| <b>Search</b> command response | <b>Response</b> (section <a href="#">2.2.3.153.7</a> ) | <b>Status</b> (section <a href="#">2.2.3.177.13</a> )<br><b>Result</b> (section <a href="#">2.2.3.155.3</a> )<br><b>Range</b> (section <a href="#">2.2.3.143.3</a> )<br><b>Total</b> (section <a href="#">2.2.3.184.3</a> ) | <b>container</b> | 1...1<br>(required) |

The result of including more than one **Store** element in a **Search** command request is undefined. The server MAY return a protocol status error in response to such a command request.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.179 Supported

The **Supported** element is an optional child element of the **Collection** element, as specified in section [2.2.3.29.2](#), in **Sync** command requests (section [2.2.1.21](#)) that specifies which contact and calendar elements in a **Sync** request are managed by the client and therefore not **ghosted**. Elements that are not named by the **Supported** element are said to be ghosted.

Elements referenced in this section are defined in the **AirSync** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response    | Parent elements                        | Child elements                            | Data type                                   | Number allowed   |
|-----------------------------|--|---|---|------------------|
| <b>Sync</b> command request | <b>Collection</b> (section 2.2.3.29.2) | See the description following this table. | <b>container</b> ([MS-ASDTYPE] section 2.2) | 0...1 (optional) |

The status of properties that can be ghosted is determined by the client's usage of the **Supported** element in the initial **Sync** command request for the containing folder, according to the following rules:

1. If the client does not include a **Supported** element in the initial **Sync** command request for a folder, then all of the elements that can be ghosted are considered not ghosted.
2. If the client includes a **Supported** element that contains child elements in the initial **Sync** command request for a folder, then each child element of that **Supported** element is considered not ghosted. All elements that can be ghosted that are not included as child elements of the **Supported** element are considered ghosted.
3. If the client includes an empty **Supported** element in the initial **Sync** command request for a folder, then all elements that can be ghosted are considered ghosted.

When an existing item is modified via the **Change** element (section 2.2.3.24) in a **Sync** command request, the result of omitting an element that can be ghosted changes depending on the status of the element. If the element is ghosted, any existing value for that element is preserved. If the element is not ghosted, any existing value for that element is deleted.

The initial **Sync** request for a folder MUST include a **CollectionId** element (section 2.2.3.30.6), which MUST always precede the optional **Supported** element. For details about the order of elements within the **Collection** node, see section 2.2.3.29.2. This order is strictly enforced. A **Status** element (section 2.2.3.177.17) value of 4 is returned in the **Sync** response if the **CollectionId** element is not included in the **Sync** request. A **Status** element value of 4 is also returned if the order of elements is incorrect within the **Collection** node.

If the client uses the **Supported** element, it MUST be sent in a **Sync** command request when the **SyncKey** element value (section 2.2.3.181.4) is set to 0 (zero). The server caches the list of child elements of the **Supported** element for subsequent synchronizations. If the **Supported** element is included when the **SyncKey** element value is not set to 0 (zero), no error is returned, but the server ignores the request.

All of the **Contact** class properties specified in [MS-ASCNTC] can be included as child elements of the **Supported** element.

To support elements of the **Calendar** class, as specified in [MS-ASCAL], the following required elements MUST be included as child elements of the **Supported** element when protocol version 2.5, 12.0, 12.1, 14.0, or 14.1 is used:

- **calendar:DtStamp** ([MS-ASCAL] section 2.2.2.18)
- **calendar:Categories** ([MS-ASCAL] section 2.2.2.11)
- **calendar:Sensitivity** ([MS-ASCAL] section 2.2.2.41)
- **calendar:BusyStatus** ([MS-ASCAL] section 2.2.2.9)
- **calendar:UID** ([MS-ASCAL] section 2.2.2.46)
- **calendar:Timezone** ([MS-ASCAL] section 2.2.2.44)
- **calendar:StartTime** ([MS-ASCAL] section 2.2.2.42)

- **calendar:Subject** ([MS-ASCAL] section 2.2.2.43)
- **calendar:Location** ([MS-ASCAL] section 2.2.2.27)
- **calendar:EndTime** ([MS-ASCAL] section 2.2.2.20)
- **calendar:Recurrence** ([MS-ASCAL] section 2.2.2.37)
- **calendar:AllDayEvent** ([MS-ASCAL] section 2.2.2.1)
- **calendar:Reminder** ([MS-ASCAL] section 2.2.2.38)
- **calendar:Exceptions** ([MS-ASCAL] section 2.2.2.22)

The following elements are optional child elements of the **Supported** element when synchronizing the **Calendar** class.

- **calendar:Attendees** ([MS-ASCAL] section 2.2.2.4)
- **calendar:OrganizerName** ([MS-ASCAL] section 2.2.2.36)
- **calendar:OrganizerEmail** ([MS-ASCAL] section 2.2.2.35)
- **calendar:MeetingStatus** ([MS-ASCAL] section 2.2.2.28)
- **calendar:ResponseRequested** ([MS-ASCAL] section 2.2.2.39)
- **calendar:DisallowNewTimeProposal** ([MS-ASCAL] section 2.2.2.17)

For more information on which properties are ghosted by default, consult the ActiveSync class protocol specifications, [MS-ASCAL] and [MS-ASCNTC].

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

When synchronizing the **Calendar** class: The **ResponseRequested** element and the **DisallowNewTimeProposal** element are not supported as a child elements of the **Supported** element when the protocol version 2.5, 12.0, or 12.1 is used.

All **Calendar** class properties are ghosted by default when protocol version 16.0 or 16.1 is used.

### 2.2.3.180 Sync

The **Sync** element is a required element in **Sync** command requests and responses that identifies the body of the HTTP **POST** as containing a **Sync** command (section [2.2.1.21](#)). It is the top-level element in the XML stream.

All elements referenced in this section are defined in the **AirSync** namespace.

| Command request/response     | Parent elements | Child elements  | Data type   | Number allowed   |
|------------------------------|-----------------|---|---|------------------|
| <b>Sync</b> command request  | None            | <b>Collections</b> (section <a href="#">2.2.3.31.2</a> )<br><b>Partial</b> (section <a href="#">2.2.3.131</a> )<br><b>Wait</b> (section <a href="#">2.2.3.198</a> )<br><b>HeartbeatInterval</b> (section <a href="#">2.2.3.88.2</a> )<br><b>WindowSize</b> (section <a href="#">2.2.3.199</a> ) | <b>container</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.2) | 1...1 (required) |
| <b>Sync</b> command response | None            | <b>Collections</b> (section <a href="#">2.2.3.31.2</a> )<br><b>Limit</b> (section <a href="#">2.2.3.97</a> )<br><b>Status</b> (section <a href="#">2.2.3.177.17</a> )   | <b>container</b>  | 1...1 (required) |

The **Limit** element and **Collections** element are mutually exclusive in a **Sync** command response. That is, a **Sync** command response can include either a **Limit** element or a **Collections** element, but not both.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.181 SyncKey

The **SyncKey** element is used in the following command requests and responses:

- **FolderCreate** command requests and responses (section [2.2.1.3](#))
- **FolderDelete** command requests and responses (section [2.2.1.4](#))
- **FolderUpdate** command requests and responses (section [2.2.1.6](#))
- **FolderSync** command requests and responses (section [2.2.1.5](#))
- **GetItemEstimate** command requests (section [2.2.1.9](#))
- **Sync** command requests and responses (section [2.2.1.21](#))

The definition of the **SyncKey** element differs according to the context in which it is used. For more details, see section [2.2.3.181.1](#), section [2.2.3.181.2](#), section [2.2.3.181.3](#), section [2.2.3.181.4](#).

### 2.2.3.181.1 SyncKey (FolderCreate, FolderDelete, and FolderUpdate)

The **SyncKey** element is used in **FolderCreate** command requests and responses, **FolderDelete** command and responses, and **FolderUpdate** command and responses to represent the synchronization state of a collection.

All elements referenced in this section are defined in the **FolderHierarchy** namespace.

| Command request/response   | Parent elements   | Child elements | Data type  | Number allowed   |
|--|---|----------------|--|------------------|
| <b>FolderCreate</b> command request (section <a href="#">2.2.1.3</a> ) | <b>FolderCreate</b> (section <a href="#">2.2.3.72</a> ) | None           | <b>string</b> ( <a href="#">IMS-ASDTYPE</a> section 2.7) | 1...1 (required) |
| <b>FolderCreate</b> command response                                   | <b>FolderCreate</b>                                     | None           | <b>string</b>  | 0...1 (optional) |
| <b>FolderDelete</b> command request (section <a href="#">2.2.1.4</a> ) | <b>FolderDelete</b> (section <a href="#">2.2.3.73</a> ) | None           | <b>string</b>  | 1...1 (required) |
| <b>FolderDelete</b> command response                                   | <b>FolderDelete</b>                                     | None           | <b>string</b>  | 0...1 (optional) |
| <b>FolderUpdate</b> command request (section <a href="#">2.2.1.6</a> ) | <b>FolderUpdate</b> (section <a href="#">2.2.3.77</a> ) | None           | <b>string</b>  | 1...1 (required) |
| <b>FolderUpdate</b> command response                                   | <b>FolderUpdate</b>                                     | None           | <b>string</b>  | 0...1 (optional) |

The server returns a **Status** element (section [2.2.3.177.6](#)) value of 10 if the **SyncKey** element is not included in a **FolderUpdate** command request.

After a successful **FolderCreate** command (section 2.2.1.3), **FolderDelete** command (section 2.2.1.4), or **FolderUpdate** command (section 2.2.1.6), the server MUST send a synchronization key to the client in a response. If the **FolderCreate** command, **FolderDelete** command, or **FolderUpdate** command is not successful, the server MUST NOT return a **SyncKey** element.

The client MUST store this key and send it back to the server the next time the folder hierarchy is synchronized or updated. The server MUST check the value of the key to make sure the value of the **SyncKey** element provided in the request matches a synchronization key value on the server. The server MUST return a **Status** element (section [2.2.3.177.5](#)) value of 9 if the value of the **SyncKey** element does not match the value of the synchronization key on the server.

The client MUST store the synchronization key as an opaque string of up to 64 characters.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support, FolderCreate | Element support, FolderDelete | Element support, FolderUpdate |
|------------------|-------------------------------|-------------------------------|-------------------------------|
| 2.5              | Yes                           | Yes                           | Yes                           |
| 12.0             | Yes                           | Yes                           | Yes                           |
| 12.1             | Yes                           | Yes                           | Yes                           |
| 14.0             | Yes                           | Yes                           | Yes                           |
| 14.1             | Yes                           | Yes                           | Yes                           |
| 16.0             | Yes                           | Yes                           | Yes                           |
| 16.1             | Yes                           | Yes                           | Yes                           |

### 2.2.3.181.2 SyncKey (FolderSync)

The **SyncKey** element is a required child element of the **FolderSync** element in **FolderSync** command requests and an optional child element of the **FolderSync** element in **FolderSync** command responses. In both contexts, it is used by the server to track the current state of the client.

All elements referenced in this section are defined in the **FolderHierarchy** namespace.

| Command request/response   | Parent elements                                       | Child elements | Data type   | Number allowed   |
|--|---|----------------|---|------------------|
| <b>FolderSync</b> command request (section <a href="#">2.2.1.5</a> ) | <b>FolderSync</b> (section <a href="#">2.2.3.76</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 1...1 (required) |
| <b>FolderSync</b> command response                                   | <b>FolderSync</b>                                     | None           | <b>string</b>   | 0...1 (optional) |

After successful folder synchronization, the server MUST send a synchronization key to the client. The client MUST store this key and send the key back to the server the next time the folder hierarchy is synchronized or updated. The server MUST check the value of the key to make sure the value of the **SyncKey** element provided in the request matches a synchronization key value on the server. The server MUST return a **Status** element (section [2.2.3.177.5](#)) value of 9 if the value of the **SyncKey** element does not match the value of the synchronization key on the server.

The client MUST store the synchronization key as an opaque string of up to 64 characters.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.



| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.181.3 SyncKey (GetItemEstimate)

The **airsync:SyncKey** element is a required child element of the **Collection** element in **GetItemEstimate** command requests that represents the current state of a collection.

Elements referenced in this section are defined in the **GetItemEstimate** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements   | Child elements | Data type   | Number allowed   |
|---|---|----------------|---|------------------|
| <b>GetItemEstimate</b> command request (section <a href="#">2.2.1.9</a> ) | <b>Collection</b> (section <a href="#">2.2.3.29.1</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 1...1 (required) |

The value of the element is examined by the server to determine the state of the synchronization process. The **airsync:SyncKey** element is the first child element of the **Collection** element (section [2.2.3.29.1](#)) in a **GetItemEstimate** command request.

The **airsync:SyncKey** element value used within the **GetItemEstimate** requests is the same as the one returned within the **Sync** responses. The server does not update the **airsync:SyncKey** value on **GetItemEstimate** requests. For more details about the **airsync:SyncKey** element, see section [2.2.3.181.4](#). The server checks the value of the key to verify that the value of the **airsync:SyncKey** element provided in the request matches a **airsync:SyncKey** value on the server. The server MUST provide a **Status** element (section [2.2.3.177.7](#)) value of 4 if the **airsync:SyncKey** value provided in the **GetItemEstimate** request does not match those expected within the next **Sync** command request (section [2.2.1.21](#)).

The **airsync:SyncKey** element value is a **string** value up to 64 characters in length.

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

When the protocol version 2.5, 12.0, or 12.1 is used, the **airsync:SyncKey** element is placed after the **FilterType** element in a **GetItemEstimate** command request.

#### 2.2.3.181.4 SyncKey (Sync)

The **SyncKey** element is a required child element of the **Collection** element in **Sync** command requests and responses that contains a value that is used by the server to mark the synchronization state of a collection.

All elements referenced in this section are defined in the **AirSync** namespace.

| Command request/response  | Parent elements   | Child elements | Data type   | Number allowed   |
|---|---|----------------|---|------------------|
| <b>Sync</b> command request (section <a href="#">2.2.1.21</a> ) | <b>Collection</b> (section <a href="#">2.2.3.29.2</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 1...1 (required) |
| <b>Sync</b> command response                                    | <b>Collection</b> (section <a href="#">2.2.3.29.2</a> ) | None           | <b>string</b>   | 1...1 (required) |

A synchronization key of value 0 (zero) initializes the synchronization state on the server and causes a full synchronization of the collection. The server sends a response that includes a new synchronization key value. The client **MUST** store this synchronization key value until the client requires the key value for the next synchronization request for that collection. When the client uses this synchronization key value to do the next synchronization of the collection, the client sends this synchronization key value to the server in a **Sync** request. If the synchronization is successful, the server responds by sending all objects in the collection. The response includes a new synchronization key value that the client **MUST** use on the next synchronization of the collection.

The client **MUST** store the synchronization key as an opaque string of up to 64 characters.

The client **MUST** send a synchronization key value of 0 in an initial **Sync** request and the server sends a new synchronization key value in its response to the client. The client **MUST NOT** ignore the synchronization key value that is included in the initial response from the server.

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.182 Title

The **Title** element is used in the following command requests and responses:

- **Find** command responses (section [2.2.1.2](#))
- **Search** command requests and responses (section [2.2.1.16](#))

The definition of the **Title** element differs according to the context in which it is used. For more details, see section [2.2.3.182.1](#) and section [2.2.3.182.2](#)

#### 2.2.3.182.1 Title (Find)

The **Title** element in the **GAL** namespace is an optional child element of the **find:Properties** element in **Search** command responses. The **Title** element is only present in response to **Find** command requests that contain a **GalSearchCriterion** element as specified in section [2.2.3.82](#). It contains the title of a recipient in the **GAL** that matched the search criteria from the corresponding **Search** command request.

| Command request/response  | Parent elements  | Child elements | Data type   | Number allowed   |
|---|--|----------------|---|------------------|
| <b>Find</b> command response (section <a href="#">2.2.1.2</a> ) | <b>Properties</b> (section <a href="#">2.2.3.139.1</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 0...1 (optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |

| Protocol version | Element support |
|------------------|-----------------|
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.182.2 Title (Search)

The **Title** element in the **GAL** namespace is an optional child element of the **search:Properties** element in **Search** command responses. The **Title** element is only present in response to **Search** command requests that contain a **search:Name** element with a value of "GAL", as specified in section [2.2.3.120.2](#). It contains the title of a recipient in the **GAL** that matched the search criteria from the corresponding **Search** command request.

| Command request/response   | Parent elements  | Child elements | Data type   | Number allowed   |
|--|--|----------------|---|------------------|
| <b>Search</b> command response (section <a href="#">2.2.1.16</a> ) | <b>Properties</b> (section <a href="#">2.2.3.139.3</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 0...1 (optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.183 To

The **To** element is a required child element of the **ResolveRecipients** element in **ResolveRecipients** command requests that specifies one or more recipients to be resolved. The **To** element is a required child element of the **Response** element in **ResolveRecipients** command responses that specifies a recipient to be resolved. The **To** element is an **ANR** search field. Its value can be up to 256 characters in length.

All elements referenced in this section are defined in the **ResolveRecipients** namespace.

| Command request/response   | Parent elements   | Child elements | Data type                                | Number allowed     |
|--|---|----------------|--|--------------------|
| <b>ResolveRecipients</b> command request (section <a href="#">2.2.1.15</a> ) | <b>ResolveRecipients</b> (section <a href="#">2.2.3.152</a> ) | None           | <b>string</b> ([MS-ASDTYPE] section 2.7) | 1...100 (required) |
| <b>ResolveRecipients</b> command response                                    | <b>Response</b> (section <a href="#">2.2.3.153.6</a> )        | None           | <b>string</b>                            | 1...1 (required)   |

The result of including more than 100 **To** elements in the request is undefined. The server SHOULD [<17>](#) return a protocol status error in response to such a command request.

If the **To** element specifies an ambiguous name and the **Availability** element (section [2.2.3.16](#)) is included in the request, the response will not include free/busy data for that user. The **Availability** element is only included when the **To** element includes a valid SMTP address or name that resolves to a unique individual on the server.

The server attempts to match the **To** element value specified in the request to common directory service user attributes, and then return the matches. The **To** element(s) that are returned in the response corresponds directly to the **To** element(s) that are specified in the request. [<18>](#)

If the **ResolveRecipients** command request includes the **Availability** element, the number of exactly matched recipients cannot exceed the maximum number. [<19>](#) If the number of exactly matched recipients exceeds the maximum number, **Status** element (section [2.2.3.177.12](#)) value 160 is returned in the response.

If the **ResolveRecipients** command request includes the **Availability** element and includes a **To** element for an ambiguous user, the response does not include a **MergedFreeBusy** element (section [2.2.3.107](#)) for that user. Only users or **distribution lists** specified with valid SMTP addresses or a uniquely identifiable string in the request message **To** element have **MergedFreeBusy** elements included in the response.

If the **ResolveRecipients** command request includes the **Availability** element and the **To** element specifies a distribution group, then the availability data is returned as a single string that merges the data for the individual members of the distribution group. If the distribution group contains more than 20 members, a **Status** element value of 161 is returned in the response indicating that the merged free busy information of such a large distribution group is not useful. For more information about the **Status** element, see section 2.2.3.177.12.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 16.1             | Yes             |

### 2.2.3.184 Total

The **Total** element is used in the following command responses:

- **Find** command responses (section [2.2.1.2](#))
- **ItemOperations** command responses (section [2.2.1.10](#))
- **Search** command responses (section [2.2.1.16](#))

The definition of the **Total** element differs according to the context in which it is used. For more details, see section [2.2.3.184.1](#), section [2.2.3.184.2](#) and section [2.2.3.184.3](#).

#### 2.2.3.184.1 Total (Find)

The **Total** element is an optional child element of the **Response** element in **Find** command responses that provides an estimate of the total number of mailbox entries that matched the search **Query** element (section [2.2.3.142.1](#)) value.

All elements referenced in this section are defined in the **Find** namespace.

| Command request/response  | Parent elements  | Child elements | Data type   | Number allowed   |
|---|--|----------------|---|------------------|
| <b>Find</b> command response (section <a href="#">2.2.1.2</a> ) | <b>Response</b> (section <a href="#">2.2.3.153.2</a> ) | None           | integer ( <a href="#">[MS-ASDTYPE]</a> section 2.6) | 0...1 (optional) |

The value of the **Total** element does not always equal the number of entries that are returned. To determine the number of entries that are returned by the **Find** command, use the **Range** element (section [2.2.3.143.1](#)) value.

The **Total** element indicates the number of entries that are available. In cases where all the results are returned in the response XML, the value of the **Total** element is one more than the end-index value that is provided in the **Range** element. For example, if the **Find** command returns 15 entries, the value of the **Range** element is 0–14, while the value of the **Total** element is 15.

The **Total** element is used by clients to determine whether more matching entries were found in the mailbox than have been returned by the **Find** command. For example, a client might perform an initial search and specify a requested **Range** of 0–4 (return 5 entries maximum). If the **Total** element indicates that there are actually 25 matching items, the client can then enable the user to retrieve the full results.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |

| Protocol version | Element support |
|------------------|-----------------|
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.184.2 Total (ItemOperations)

The **Total** element is an optional child element of the **Properties** element in **ItemOperations** command responses that indicates the total size of an item on the server, in bytes.

All elements referenced in this section are defined in the **ItemOperations** namespace.

| Command request/response   | Parent elements  | Child elements | Data type  | Number allowed   |
|--|--|----------------|--|------------------|
| <b>ItemOperations</b> command response (section <a href="#">2.2.1.10</a> ) fetch operation | <b>Properties</b> (section <a href="#">2.2.3.139.2</a> ) | None           | integer ([ <a href="#">MS-ASDTYPE</a> ] section 2.6) | 0...1 (optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.184.3 Total (Search)

The **Total** element is an optional child element of the **Store** element in **Search** command responses that provides an estimate of the total number of mailbox entries that matched the search **Query** element (section [2.2.3.142.2](#)) value.

All elements referenced in this section are defined in the **Search** namespace.

| Command request/response   | Parent elements                                     | Child elements | Data type  | Number allowed   |
|--|---|----------------|--|------------------|
| <b>Search</b> command response (section <a href="#">2.2.1.16</a> ) | <b>Store</b> (section <a href="#">2.2.3.178.3</a> ) | None           | <b>integer</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.6) | 0...1 (optional) |

The value of the **Total** element does not always equal the number of entries that are returned. To determine the number of entries that are returned by the **Search** command, use the **Range** element (section [2.2.3.143.3](#)) value.

The **Total** element indicates the number of entries that are available. In cases where all the results are returned in the response XML, the value of the **Total** element is one more than the end-index value that is provided in the **Range** element. For example, if the **Search** command returns 15 entries, the value of the **Range** element is 0–14, while the value of the **Total** element is 15.

The **Total** element is used by clients to determine whether more matching entries were found in the mailbox than have been returned by the **Search** command. For example, a client might perform an initial search and specify a requested **Range** of 0–4 (return 5 entries maximum). If the **Total** element indicates that there are actually 25 matching items, the client can then enable the user to retrieve the full results.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

## 2.2.3.185 Truncation

The **Truncation** element is an optional child element of the **Options** element in **Sync** command requests that specifies how the body text of a **calendar**, **contact (1)**, email, or task item is to be truncated when it is sent from the server to the client.

If the **Truncation** element is omitted, no text is truncated. It is not possible to fetch calendar, contact (1), and task items after they have been truncated.



Elements referenced in this section are defined in the **AirSync** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements                                       | Child elements | Data type   | Number allowed   |
|---|---|----------------|---|------------------|
| <b>Sync</b> command request (section <a href="#">2.2.1.21</a> ) | <b>Options</b> (section <a href="#">2.2.3.125.6</a> ) | None           | <b>unsignedByte</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.8) | 0...1 (optional) |

This truncation applies only to the **calendar:Body** element, as specified in [\[MS-ASCAL\]](#) section 2.2.2.7.2, the **contacts:Body** element, as specified in [\[MS-ASCNTC\]](#) section 2.2.2.7.2, the **email:Body** element, as specified in [\[MS-ASEMAIL\]](#) section 2.2.2.10.2, and the **tasks:Body** element, as specified in [\[MS-ASTASK\]](#) section 2.2.2.1.2.

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

| Value | Meaning  |
|-------|--|
| 0     | Truncate all body text.                                  |
| 1     | Truncate body text that is more than 512 characters.     |
| 2     | Truncate body text that is more than 1,024 characters.   |
| 3     | Truncate body text that is more than 2,048 characters.   |
| 4     | Truncate body text that is more than 5,120 characters.   |
| 5     | Truncate body text that is more than 10,240 characters.  |
| 6     | Truncate body text that is more than 20,480 characters.  |
| 7     | Truncate body text that is more than 51,200 characters.  |
| 8     | Truncate body text that is more than 102,400 characters. |
| 9     | Do not truncate body text.                               |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             |                 |

| Protocol version | Element support |
|------------------|-----------------|
| 16.0             |                 |
| 16.1             |                 |

### 2.2.3.186 Type

The **Type** element is used in the following command requests and responses:

- **Autodiscover** command responses (section [2.2.1.1](#))
- **FolderCreate** command requests (section [2.2.1.3](#))
- **FolderSync** command requests (section [2.2.1.5](#))
- **GetHierarchy** command response (section [2.2.1.8](#))
- **ResolveRecipients** command responses (section [2.2.1.15](#))

The definition of the **Type** element differs according to the context in which it is used. For more details, see section [2.2.3.186.1](#), section [2.2.3.186.2](#), section [2.2.3.186.3](#), section [2.2.3.186.4](#), and section [2.2.3.186.5](#).

#### 2.2.3.186.1 Type (Autodiscover)

The **Type** element is an optional child element of the **Server** element in **Autodiscover** command responses that specifies the server type.

All elements referenced in this section are defined in the <http://schemas.microsoft.com/exchange/autodiscover/mobilesync/responseschema/2006> namespace.

| Command request/response  | Parent elements                                    | Child elements | Data type  | Number allowed   |
|---|--|----------------|--|------------------|
| <b>Autodiscover</b> command response (section <a href="#">2.2.1.1</a> ) | <b>Server</b> (section <a href="#">2.2.3.164</a> ) | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 0...1 (optional) |

The following are the valid values for the **Type** element:

- **MobileSync**—Indicates that the URL that is returned by the **URL** element (section [2.2.3.188](#)) can be accessed by clients.
- **CertEnroll**—Indicates that the URL that is returned by the **URL** element can be accessed by clients to obtain a client certificate for **Secure Sockets Layer (SSL)** negotiation.

If the server supports both "MobileSync" and "CertEnroll", the response buffer includes multiple **Server** elements (section [2.2.3.164](#)) that contain a URL value for each **Type** element value. The presence of a **Server** element with a child **Type** element with a value of "CertEnroll" is optional.

#### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.186.2 Type (FolderCreate)

The **Type** element is a required child element of the **FolderCreate** element in **FolderCreate** command requests that specifies the type of the folder to be created.

All elements referenced in this section are defined in the **FolderHierarchy** namespace.

| Command request/response   | Parent elements   | Child elements | Data type   | Number allowed   |
|--|---|----------------|---|------------------|
| <b>FolderCreate</b> command request (section <a href="#">2.2.1.3</a> ) | <b>FolderCreate</b> (section <a href="#">2.2.3.72</a> ) | None           | <b>unsignedByte</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.8) | 1...1 (required) |

The folder type values are listed in the following table. Folder types 2–11 and 19 are reserved for default folder types.

| Value | Meaning                             |
|-------|-------------------------------------|
| 1     | User-created folder (generic)       |
| 12    | User-created mail folder            |
| 13    | User-created <b>Calendar folder</b> |
| 14    | User-created Contacts folder        |
| 15    | User-created Tasks folder           |
| 16    | User-created Journal folder         |
| 17    | User-created Notes folder           |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.186.3 Type (FolderSync)

The **Type** element is a required child element of the **Update** element and the **Add** element in **FolderSync** command responses that specifies the type of the folder that was updated (renamed or moved) or added on the server.

All elements referenced in this section are defined in the **FolderHierarchy** namespace.

| Command request/response  | Parent elements                                    | Child elements | Data type  | Number allowed   |
|---|--|----------------|--|------------------|
| <b>FolderSync</b> command response (section <a href="#">2.2.1.5</a> ) | <b>Update</b> (section <a href="#">2.2.3.187</a> ) | None           | <b>integer</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.6) | 1...1 (required) |
| <b>FolderSync</b> command response                                    | <b>Add</b> (section <a href="#">2.2.3.7.1</a> )    | None           | <b>integer</b>   | 1...1 (required) |

Each **Update** element and each **Add** element included in a **FolderSync** response MUST contain one **Type** element.

The folder type values are listed in the following table.

| Value | Meaning                             |
|-------|-------------------------------------|
| 1     | User-created folder (generic)       |
| 2     | Default <b>Inbox folder</b>         |
| 3     | Default <b>Drafts folder</b>        |
| 4     | Default <b>Deleted Items folder</b> |
| 5     | Default <b>Sent Items folder</b>    |
| 6     | Default <b>Outbox folder</b>        |
| 7     | Default Tasks folder                |
| 8     | Default <b>Calendar folder</b>      |
| 9     | Default Contacts folder             |
| 10    | Default Notes folder                |

| Value | Meaning                      |
|-------|------------------------------|
| 11    | Default Journal folder       |
| 12    | User-created Mail folder     |
| 13    | User-created Calendar folder |
| 14    | User-created Contacts folder |
| 15    | User-created Tasks folder    |
| 16    | User-created journal folder  |
| 17    | User-created Notes folder    |
| 18    | Unknown folder type          |
| 19    | Recipient information cache  |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

The value 19 for the **Type** element is not supported when the protocol version 2.5, 12.0, or 12.1 is used.

### 2.2.3.186.4 Type (GetHierarchy)

The **Type** element is a required child element of the **Folder** element in **GetHierarchy** command responses that specifies the type of the folder.

All elements referenced in this section are defined in the **FolderHierarchy** namespace.

| Command request/response  | Parent elements                                     | Child elements | Data type   | Number allowed   |
|---|---|----------------|---|------------------|
| <b>GetHierarchy</b> command response (section <a href="#">2.2.1.8</a> ) | <b>Folder</b> (section <a href="#">2.2.3.71.1</a> ) | None           | <b>unsignedByte</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.8) | 1...1 (required) |

The following table lists the valid values for this element. Each value corresponds to a type of folder.

| Value | Meaning                             |
|-------|-------------------------------------|
| 1     | User-created folder (generic)       |
| 2     | Default <b>Inbox folder</b>         |
| 3     | Default <b>Drafts folder</b>        |
| 4     | Default <b>Deleted Items folder</b> |
| 5     | Default <b>Sent Items folder</b>    |
| 6     | Default <b>Outbox folder</b>        |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             |                 |
| 14.1             |                 |
| 16.0             |                 |
| 16.1             | Yes             |

### 2.2.3.186.5 Type (ResolveRecipients)

The **Type** element is a required child element of the **Recipient** element in **ResolveRecipients** command responses that indicates the type of recipient, either a contact entry (2) or a GAL entry (1).

All elements referenced in this section are defined in the **ResolveRecipients** namespace.

| Command request/response  | Parent elements                                       | Child elements | Data type   | Number allowed   |
|---|---|----------------|---|------------------|
| <b>ResolveRecipients</b> command response (section <a href="#">2.2.1.15</a> ) | <b>Recipient</b> (section <a href="#">2.2.3.145</a> ) | None           | <b>unsignedByte</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.8) | 1...1 (required) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.187 Update

The **Update** element is an optional child element of the **Changes** element in **FolderSync** command responses that identifies a folder on the server that has been updated (renamed or moved).

All elements referenced in this section are defined in the **FolderHierarchy** namespace.

| Command request/response  | Parent elements                                    | Child elements   | Data type  | Number allowed   |
|---|--|--|--|------------------|
| <b>FolderSync</b> command response (section <a href="#">2.2.1.5</a> ) | <b>Changes</b> (section <a href="#">2.2.3.25</a> ) | <b>ServerId</b> (section <a href="#">2.2.3.166.4</a> )<br><b>ParentId</b> (section <a href="#">2.2.3.129.2</a> )<br><b>DisplayName</b> (section <a href="#">2.2.3.49.4</a> )<br><b>Type</b> (section <a href="#">2.2.3.186.3</a> ) | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 0...N (optional) |

The child elements of the **Update** element identify the server ID of the folder that was updated, the server ID of its parent folder, the new display name of the updated folder, and the folder type.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.188 Url

The **Url** element is an optional child element of the **Server** element in **Autodiscover** command responses that specifies a **URL** string that conveys the protocol, port, **resource** location, and other information.

All elements referenced in this section are defined in the <http://schemas.microsoft.com/exchange/autodiscover/mobilesync/responseschema/2006> namespace.

| Command request/response  | Parent elements                                    | Child elements | Data type  | Number allowed   |
|---|--|----------------|--|------------------|
| <b>Autodiscover</b> command response (section <a href="#">2.2.1.1</a> ) | <b>Server</b> (section <a href="#">2.2.3.164</a> ) | None           | <b>string</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.7) | 0...1 (optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.189 User

The **User** element is a required child element of the **Response** element in **Autodiscover** command responses that encapsulates information about the user to whom the **Response** element relates.



All elements referenced in this section are defined in the <http://schemas.microsoft.com/exchange/autodiscover/mobilesync/responseschema/2006> namespace.

| Command request/response  | Parent elements  | Child elements   | Data type  | Number allowed   |
|---|--|--|--|------------------|
| <b>Autodiscover</b> command response (section <a href="#">2.2.1.1</a> ) | <b>Response</b> (section <a href="#">2.2.3.153.1</a> ) | <b>DisplayName</b> (section <a href="#">2.2.3.49.1</a> )<br><b>EEmailAddress</b> (section <a href="#">2.2.3.56</a> ) | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 1...1 (required) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.190 UserAgent

The **UserAgent** element is an optional child element of the **Set** element in **Settings** command requests that specifies the user agent. The **UserAgent** element value can be up to 1024 characters in length.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response   | Parent elements                                 | Child elements | Data type   | Number allowed   |
|--|---|----------------|---|------------------|
| <b>Settings</b> command <b>DeviceInformation</b> request (section <a href="#">2.2.1.18</a> ) | <b>Set</b> (section <a href="#">2.2.3.167</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 0...1 (optional) |

The **UserAgent** element SHOULD contain the information in the User-Agent header. The User-Agent header SHOULD be removed from the HTTP request. The server does not validate the value of the **UserAgent** element.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.191 UserDisplayName

The **UserDisplayName** element is an optional child element of the **Account** element in **Settings** command responses (section 2.2.1.18). The value of this element specifies the display name of the user associated with the given account. The **UserDisplayName** element value can be up to 512 characters in length. The server MAY return this element in **Settings** command responses.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response                            | Parent elements                  | Child elements | Data type                         | Number allowed      |
|---|----------------------------------|----------------|-----------------------------------|---------------------|
| <b>Settings</b> command<br><b>UserInfo</b> response | <b>Account</b> (section 2.2.3.2) | None           | string ([MS-ASDTYPE] section 2.7) | 0...1<br>(optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             |                 |
| 14.0             |                 |
| 14.1             | Yes             |
| 16.0             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 16.1             | Yes             |

### 2.2.3.192 UserInformation

The **UserInformation** element is an optional child element of the **Settings** element in **Settings** command requests that serves as a container node that is used to request a list of a user's email addresses from the server. The **UserInformation** element is an optional child element of the **Settings** element in **Settings** command responses that serves as a container node that is used to return the status of the request and a list of a user's email addresses.

All elements referenced in this section are defined in the **Settings** namespace.

| Command request/response  | Parent elements  | Child elements  | Data type  | Number allowed   |
|---|--|---|--|------------------|
| <b>Settings</b> command request (section <a href="#">2.2.1.18</a> ) | <b>Settings</b> (section <a href="#">2.2.3.168.2</a> ) | <b>Get</b> (section <a href="#">2.2.3.83</a> )            | <b>container</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 0...1 (optional) |
| <b>Settings</b> command response                                    | <b>Settings</b>  | <b>Get Status</b> (section <a href="#">2.2.3.177.15</a> ) | <b>container</b>   | 0...1 (optional) |

The list of a user's email addresses can be useful, for example, for ensuring that the user is not included when performing a Reply to All operation to an email message.

In a request, the **UserInformation** element contains the **Get** element to indicate that the server is to return all available email addresses for the user.

The **Settings** command (section 2.2.1.18) supports read-only access to the list of a user's various email addresses via the **Get** element. The client is unable to write this information.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.193 UserName

The **UserName** element is used in the following command requests:

- **ItemOperations** command requests (section [2.2.1.10](#))
- **Search** command requests (section [2.2.1.16](#))

The definition of the **UserName** element differs according to the context in which it is used. For more details, see section [2.2.3.193.1](#) and section [2.2.3.193.2](#).

#### 2.2.3.193.1 UserName (ItemOperations)

The **UserName** element is an optional child element of the **Options** element in **ItemOperations** command requests that specifies the username of the account leveraged to fetch the desired item. The **Password** element (section [2.2.3.132.1](#)) contains the corresponding account password. The **UserName** element value can be up to 100 characters in length.

All elements referenced in this section are defined in the **ItemOperations** namespace.

| Command request/response  | Parent elements                                       | Child elements | Data type                                | Number allowed   |
|---|---|----------------|--|------------------|
| <b>ItemOperations</b> command request (section <a href="#">2.2.1.10</a> ) fetch operation | <b>Options</b> (section <a href="#">2.2.3.125.3</a> ) | None           | <b>string</b> ([MS-ASDTYPE] section 2.7) | 0...1 (optional) |

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

#### 2.2.3.193.2 UserName (Search)

The **UserName** element is an optional child element of the **Options** element in **Search** command requests that specifies the user account used to search the document from the document library. The **UserName** element value can be up to 100 characters in length.

All elements referenced in this section are defined in the **Search** namespace.

| Command request/response  | Parent elements                                       | Child elements | Data type                                | Number allowed   |
|---|---|----------------|--|------------------|
| <b>Search</b> command request (section <a href="#">2.2.1.16</a> ) | <b>Options</b> (section <a href="#">2.2.3.125.5</a> ) | None           | <b>string</b> ([MS-ASDTYPE] section 2.7) | 0...1 (optional) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [MS-ASHTTP] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [MS-ASHTTP] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.194 UserResponse

The **UserResponse** element is a required child element of the **Request** element in **MeetingResponse** command requests that indicates whether the meeting is being accepted, tentatively accepted, or declined.

All elements referenced in this section are defined in the **MeetingResponse** namespace.

| Command request/response   | Parent elements                                       | Child elements | Data type                                 | Number allowed   |
|--|---|----------------|---|------------------|
| <b>MeetingResponse</b> command request (section <a href="#">2.2.1.11</a> ) | <b>Request</b> (section <a href="#">2.2.3.150.2</a> ) | None           | <b>integer</b> ([MS-ASDTYPE] section 2.6) | 1...1 (required) |

The following table shows valid values for the element.

| Value | Meaning              |
|-------|----------------------|
| 1     | Accepted             |
| 2     | Tentatively accepted |
| 3     | Declined             |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.195 ValidateCert

The **ValidateCert** element is a required element in **ValidateCert** command requests and responses that identifies the body of the HTTP **POST** as containing a **ValidateCert** command (section [2.2.1.22](#)). It is the top-level element in the XML stream.

All elements referenced in this section are defined in the **ValidateCert** namespace.

| Command request/response             | Parent elements | Child elements  | Data type   | Number allowed   |
|--------------------------------------|-----------------|---|---|------------------|
| <b>ValidateCert</b> command request  | None            | <b>CertificateChain</b> (section <a href="#">2.2.3.20</a> )<br><b>Certificates</b> (section <a href="#">2.2.3.23.2</a> )<br><b>CheckCRL</b> (section <a href="#">2.2.3.26</a> ) | container ( <a href="#">[MS-ASDTYPE]</a> section 2.2) | 1...1 (required) |
| <b>ValidateCert</b> command response | None            | <b>Status</b> (section <a href="#">2.2.3.177.18</a> )<br><b>Certificate</b> (section <a href="#">2.2.3.19.2</a> )   | container   | 1...1 (required) |

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.196 Value

The **Value** element is a required child element of the **GreaterThan** element, the **LessThan** element, and the **EqualTo** element in **Search** command requests. In each context, it specifies the value that is to be used in a comparison. The **Value** element value can be up to 1024 bytes in length.

All elements referenced in this section are defined in the **Search** namespace.

| Command request/response  | Parent elements   | Child elements | Data type   | Number allowed   |
|---|---|----------------|---|------------------|
| <b>Search</b> command request (section <a href="#">2.2.1.16</a> ) | <b>GreaterThan</b> (section <a href="#">2.2.3.86</a> )<br><b>LessThan</b> (section <a href="#">2.2.3.96</a> )<br><b>EqualTo</b> (section <a href="#">2.2.3.62</a> ) | None           | <b>string</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.7) | 1...1 (required) |

The **Value** element is used in the query together with an element that specifies the name of a property. The value that is specified by the **Value** element is compared with the value of the specified property.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 16.1             | Yes             |

### 2.2.3.197 Version

The **Version** element is an optional child element of the **Properties** element in **ItemOperations** command responses that indicates the time at which a document item was last modified.

All elements referenced in this section are defined in the **ItemOperations** namespace.

| Command request/response   | Parent elements  | Child elements | Data type  | Number allowed   |
|--|--|----------------|--|------------------|
| <b>ItemOperations</b> command response (section <a href="#">2.2.1.10</a> ) fetch operation | <b>Properties</b> (section <a href="#">2.2.3.139.2</a> ) | None           | <b>datetime</b> ([ <a href="#">MS-ASDTYPE</a> ] section 2.3) | 0...1 (optional) |

The **Version** element is present only when the **ItemOperations** command is used to access a Windows SharePoint Services or UNC **resource**.

### Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [[MS-ASHTTP](#)] section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

### 2.2.3.198 Wait

The **Wait** element is an optional child element of the **Sync** element in **Sync** command requests that specifies the number of minutes that the server SHOULD delay a response if no new items are added to the included folders, as specified in section [3.1.5.4](#).

All elements referenced in this section are defined in the **AirSync** namespace.



| Command request/response  | Parent elements                                  | Child elements | Data type  | Number allowed   |
|---|--|----------------|--|------------------|
| <b>Sync</b> command request (section <a href="#">2.2.1.21</a> ) | <b>Sync</b> (section <a href="#">2.2.3.180</a> ) | None           | <b>integer</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.6) | 0...1 (optional) |

Valid values for the **Wait** element are 1 through 59. When the client requests a wait interval that is outside the acceptable range, the server will send a response that includes a **Status** element (section [2.2.3.177.17](#)) value of 14 and a **Limit** element (section [2.2.3.97](#)).

Either the **Wait** element or the **HeartbeatInterval** element (section [2.2.3.88.2](#)) can be included in a **Sync** command request, but not both. If both elements are included, the server response will contain a **Status** element value of 4.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              |                 |
| 12.0             |                 |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |
| 16.1             | Yes             |

## 2.2.3.199 WindowSize

The **WindowSize** element is an optional child element of the **Collection** element and the **Sync** element in **Sync** command requests that specifies a maximum number of changed items in a collection or a request that SHOULD be included in the synchronization response.

Elements referenced in this section are defined in the **AirSync** namespace, except where otherwise indicated by the presence of a namespace prefix (as defined in section [2.2.4](#)).

| Command request/response  | Parent elements   | Child elements | Data type  | Number allowed   |
|---|---|----------------|--|------------------|
| <b>Sync</b> command request (section <a href="#">2.2.1.21</a> ) | <b>Collection</b> (section <a href="#">2.2.3.29.2</a> )<br><b>Sync</b> (section <a href="#">2.2.3.180</a> ) | None           | <b>integer</b> ( <a href="#">[MS-ASDTYPE]</a> section 2.6) | 0...1 (optional) |

The maximum value for the **WindowSize** element is 512. However, if the **WindowSize** element is set to 512, the server can send **Sync** response messages that contain less than 512 updates. If the server does not send all the updates in a single message, the **Sync** response message contains the

**MoreAvailable** element (section [2.2.3.116](#)), which indicates that there are additional updates on the server to be downloaded to the client.

The **WindowSize** element appears only in requests that are sent to the server from the client. If the **WindowSize** element is omitted, the server behaves as if a **WindowSize** element with a value of 100 were submitted. The server interprets the value 0 (zero) and values above 512 as 512.

**WindowSize** element values less than 100 increase the load on the server, increase bandwidth, and decrease battery life because of the additional requests that are required to obtain all changes.

**WindowSize** element values larger than 100 cause larger responses, which are more susceptible to communication errors. A **WindowSize** element value less than 100 can be useful if the client can display the initial set of objects while additional ones are still being retrieved from the server.

If the number of changes on the server is greater than the value of the **WindowSize** element, the server returns a **MoreAvailable** element in the response. If this occurs, the client **MUST** synchronize again to continue getting items from the server.

The **WindowSize** element has been repurposed to also impose a global limit on the number of changes that are returned by the server. The **WindowSize** element value can still be specified at the collection level and the server **MUST** honor both the global and collection level settings.

Collections are to be processed by the server in the order received, as follows:

- If the server has filled the **WindowSize** on a particular collection that has more changes, it will return the **MoreAvailable** element for that collection and continue to process the other collections until the global **WindowSize** has been filled.
- When the server has filled the global **WindowSize** and collections that have changes did not fit in the response, the server can return a **MoreAvailable** element.
- If a collection is not present in a **Sync** command response, the client can assume that no changes are currently available for that collection.

The actual number of changes that are included in a **Sync** command response for any particular collection depends on the value of the **WindowSize** element of the collection, the overall number of changes that are already included in the response, and the value of the global **WindowSize** element. The server will stop processing after the global **WindowSize** has been filled and simply not process the remaining collections. Any server-side changes that are pending in the unprocessed collections are picked up in the next synchronization.

## Protocol Versions

The following table specifies the protocol versions that support this element. The client indicates the protocol version being used by setting either the MS-ASProtocolVersion header, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.6, or the **Protocol version** field, as specified in [\[MS-ASHTTP\]](#) section 2.2.1.1.1.1, in the request.

| Protocol version | Element support |
|------------------|-----------------|
| 2.5              | Yes             |
| 12.0             | Yes             |
| 12.1             | Yes             |
| 14.0             | Yes             |
| 14.1             | Yes             |
| 16.0             | Yes             |

| Protocol version | Element support |
|------------------|-----------------|
| 16.1             | Yes             |

## 2.2.4 Namespaces

This specification defines and references various **XML namespaces** using the mechanisms specified in [\[XMLNS\]](#). Although this specification associates a specific XML namespace prefix for each XML namespace that is used, the choice of any particular XML namespace prefix is implementation-specific and not significant for interoperability.

| Prefix          | Namespace URI  | Reference                    |
|-----------------|--|------------------------------|
| Airsync         | <b>AirSync</b>   |                              |
| airsyncbase     | <b>AirSyncBase</b>   | <a href="#">[MS-ASAIRS]</a>  |
| autodiscover    | <b>http://schemas.microsoft.com/exchange/autodiscover/mobilesync/requestschem/2006</b> |                              |
| calendar        | <b>Calendar</b>  | <a href="#">[MS-ASCAL]</a>   |
| composemail     | <b>ComposeMail</b>   |                              |
| contacts        | <b>Contacts</b>  | <a href="#">[MS-ASCNTC]</a>  |
| contacts2       | <b>Contacts2</b>   | [MS-ASCNTC]                  |
| documentlibrary | <b>DocumentLibrary</b>   | <a href="#">[MS-ASDOC]</a>   |
| email           | <b>Email</b>   | <a href="#">[MS-ASEMAIL]</a> |
| email2          | <b>Email2</b>  | [MS-ASEMAIL]                 |
| find            | <b>Find</b>  |                              |
| folderhierarchy | <b>FolderHierarchy</b>   |                              |
| gal             | <b>GAL</b>   |                              |
| getitemestimate | <b>GetItemEstimate</b>   |                              |
| itemoperations  | <b>ItemOperations</b>  |                              |
| meetingresponse | <b>MeetingResponse</b>   |                              |
| move            | <b>Move</b>  |                              |
| notes           | <b>Notes</b>   | <a href="#">[MS-ASNOTE]</a>  |

| Prefix            | Namespace URI  | Reference                    |
|-------------------|--|------------------------------|
| ping              | <b>Ping</b>  |                              |
| provision         | <b>Provision</b>   | <a href="#">[MS-ASPROV]</a>  |
| resolverecipients | <b>ResolveRecipients</b>   |                              |
| rm                | <b>RightsManagement</b>  | <a href="#">[MS-ASRM]</a>    |
| search            | <b>Search</b>  |                              |
| settings          | <b>Settings</b>  |                              |
| tasks             | <b>Tasks</b>   | <a href="#">[MS-ASTASK]</a>  |
| validatecert      | <b>ValidateCert</b>  |                              |
| xs                | <b><a href="http://www.w3.org/2001/XMLSchema">http://www.w3.org/2001/XMLSchema</a></b> | <a href="#">[XMLSCHEMA1]</a> |

## 3 Protocol Details

### 3.1 Common Details

#### 3.1.1 Abstract Data Model

None.

#### 3.1.2 Timers

None.

#### 3.1.3 Initialization

None.

#### 3.1.4 Higher-Layer Triggered Events

None.

#### 3.1.5 Message Processing Events and Sequencing Rules

The client creates request messages consisting of an HTTP header, as specified in [\[MS-ASHTTP\]](#), and the **XML** command to be performed on the server, as specified in [\[MS-ASHTTP\]](#) section 2.2.1. The request message is sent to the server by the client and a response message is received back from the server.

##### 3.1.5.1 Downloading Policy Settings

This section specifies how the client downloads policy settings from the server by using the **Provision** command (section [2.2.1.14](#)).

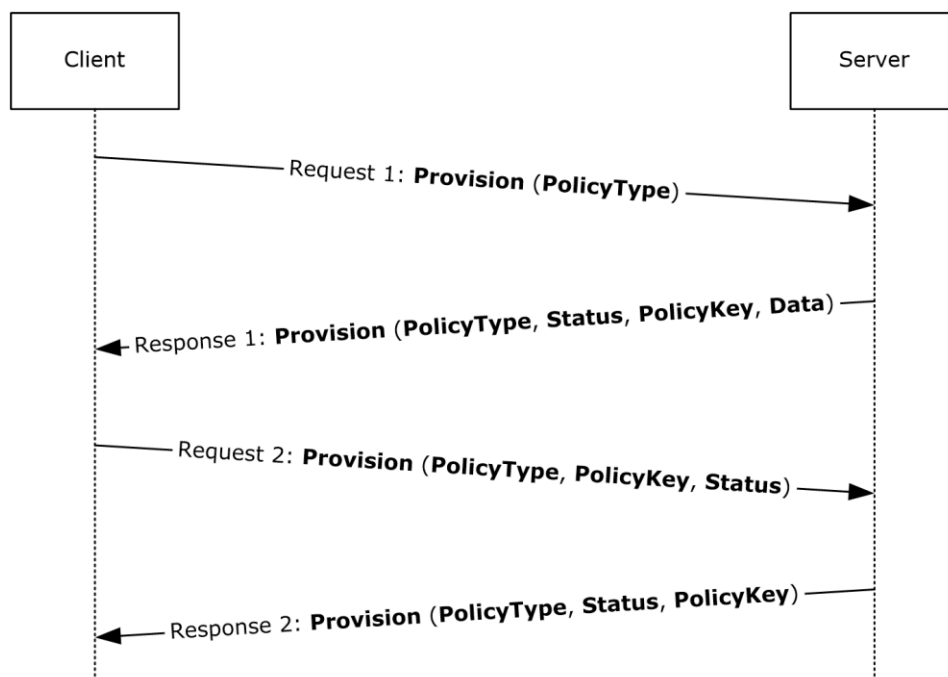
The first command the client issues to the server SHOULD [<20>](#) be a **Provision** command, as specified in [\[MS-ASPROV\]](#). The client can send the HTTP **OPTIONS** command to the server before sending the **Provision** command, to retrieve server settings, but the HTTP **OPTIONS** command is optional. If the client sends other commands to the server before sending the **Provision** command, the server will return a **Status** element (as specified in [\[MS-ASPROV\]](#) section 2.2.2.54) value of 142 to the client.

The initial **Provision** command request MUST contain the **provision:PolicyType** element (as specified in [\[MS-ASPROV\]](#) section 2.2.2.43), which specifies the format in which the policy settings are provided. If the **provision:PolicyType** element is not included in the initial **Provision** command request, the server responds with a **provision:Status** element value of 2. The server then responds with the **provision:PolicyType**, **provision:PolicyKey** (as specified in [\[MS-ASPROV\]](#) section 2.2.2.42), and **provision:Data** ([\[MS-ASPROV\]](#) section 2.2.2.24) elements. The **provision:PolicyKey** element is used by the server to mark the state of policy settings on the client device. The policy settings, in the format specified in the **provision:PolicyType** element, are contained in the **provision:Data** element.

The client device then applies the policy settings that were received from the server and sends an acknowledgement back to the server in another **Provision** command request. The acknowledgement from the client device contains **provision:PolicyType**, **provision:PolicyKey**, and **provision:Status** elements. The **provision:Status** element indicates whether the policy settings were successfully applied by the client. The response from the server contains **provision:PolicyType**,

**provision:PolicyKey**, and **provision:Status** elements. The **provision:Status** element indicates whether the server successfully recorded the client's acknowledgement.

The following figure shows the process for downloading policy settings.



**Figure 3 Downloading policy settings**

The following table lists the command sequence for downloading policy settings.

| Order | Client action   | Server action  |
|-------|---|--|
| 1     | The client sends a <b>Provision</b> command request with the type of policy settings to be downloaded.  | The server responds with the policy type, policy key, data, and status code.   |
| 2     | The client acknowledges that it received and applied the policy settings by sending another <b>Provision</b> command request with the policy type, policy key, and status code. | The server responds with the policy type, policy key, and status code to indicate that the server recorded the client's acknowledgement. |

### 3.1.5.2 Setting Device Information

This section specifies how the client uses the **Settings** command (section [2.2.1.18](#)) to set device information on the server.

Clients SHOULD<21> send **settings:DeviceInformation** (section [2.2.3.45](#)) parameters to the server as soon as possible after the client has been provisioned, and before the **FolderSync** command (section [2.2.1.5](#)), so that the server can use this information to determine what the device has access to.<22>

The client sets device information by sending an initial **Settings** command request to the server with the **settings:Set** element (section [2.2.3.167](#)) identifying **settings:DeviceInformation** parameters as specified in section 2.2.3.45.

### 3.1.5.3 Synchronizing a Folder Hierarchy

This section specifies how the client uses the **FolderSync** command (section [2.2.1.5](#)) to replicate the folder hierarchy of the user's mailbox on the client.

The client initiates folder synchronization by sending an initial **FolderSync** command request to the server with a **folderhierarchy:SyncKey** element (section [2.2.3.181.2](#)) value of zero (0). The server responds with a new **folderhierarchy:SyncKey** element value and provides a list of all the folders in the user's mailbox. The folders are identified by a **folderhierarchy:ServerId** element (section [2.2.3.166.4](#)), which can then be used in a **Sync** command (section [2.2.1.21](#)) to synchronize the items in those folders.

Additional folder synchronizations can be performed by using the **folderhierarchy:SyncKey** element value from the initial **FolderSync** command response to get folder additions, deletions, or updates from the server. At any point, the client can repeat the initial **FolderSync** command, sending a **SyncKey** element value of zero (0), and resynchronizing the entire hierarchy. Existing **folderhierarchy:ServerId** values do not change when the client resynchronizes.

The client can use the **GetItemEstimate** command (section [2.2.1.9](#)) to obtain an estimate of the number of items that need to be synchronized in a collection, which is useful when the client UI displays a progress bar while it retrieves items from the server. The client can also limit the number of changed items returned in the **Sync** response by submitting the **airsync:WindowSize** element (section [2.2.3.199](#)), which specifies the maximum number of items to synchronize at one time. If the number of items returned is larger than the value specified by the **airsync:WindowSize** element, the **airsync:MoreAvailable** element (section [2.2.3.116](#)) is returned in the **Sync** command response. The client then continues to call the **Sync** command (section [2.2.1.21](#)) until no more items are available.

The following table lists the command sequence for folder hierarchy synchronization.

The asterisk (\*) in the Order column means that a step is run once and can be repeated multiple times.

| Order | Client action   | Server action   |
|-------|---|---|
| 1     | The client sends the <b>FolderSync</b> command with the <b>folderhierarchy:SyncKey</b> element set to zero (0) to get the folder hierarchy and the <b>folderhierarchy:ServerId</b> values of all the folders. | The server responds with the folder hierarchy and a new <b>folderhierarchy:SyncKey</b> value. The client stores the names and <b>folderhierarchy:ServerId</b> values of all folders that can be synchronized. |
| 2*    | The client sends the <b>FolderSync</b> command with the new <b>folderhierarchy:SyncKey</b> value to update the folder hierarchy.  | If any changes have occurred on the server, the new, deleted, or changed folders are returned to the client.  |

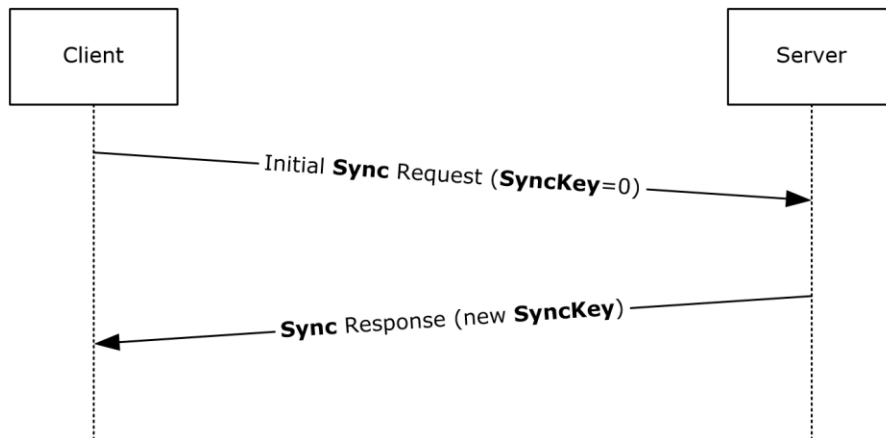
The folder hierarchy is now populated on the client and ready for the contents of the folders to be synchronized.

If the **FolderSync** response contains a **Status** element value of 9 (see section [2.2.3.177.5](#)), the client's local copy of the folder hierarchy list can no longer be considered valid. The client SHOULD [<23>](#) restart the synchronization process with a synchronization key of 0. Any changes that were sent in the **FolderSync** request were not applied to the server.

### 3.1.5.4 Synchronizing Inbox, Calendar, Contacts, and Tasks Folders

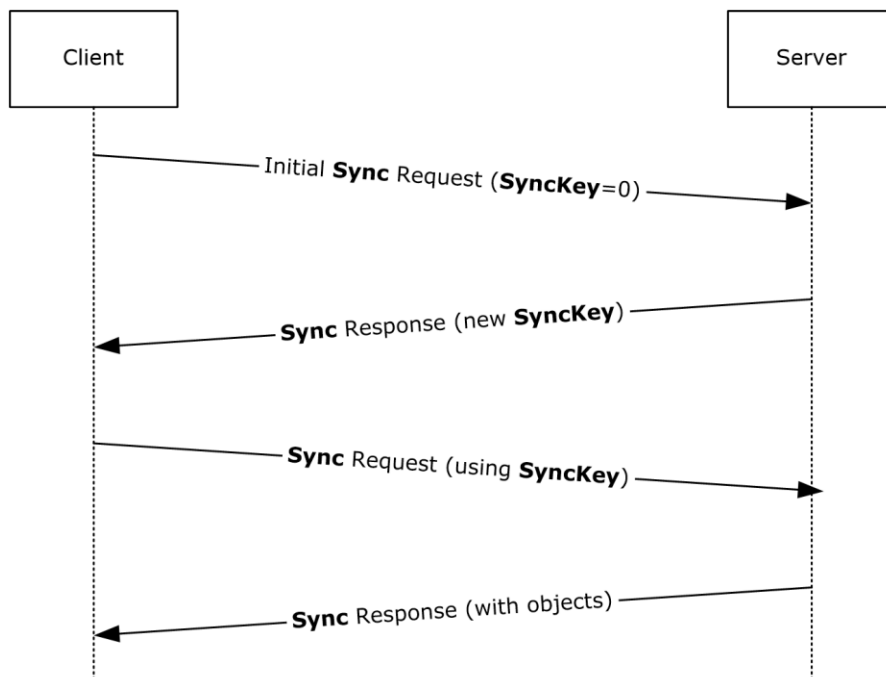
The client synchronizes the contents of individual folders by using the **Sync** command (section [2.2.1.21](#)). The client can synchronize the **Inbox folder**, **Calendar folder**, or Contacts folder, or any folder within the mailbox after the folder hierarchy has been populated by the **FolderSync** command (section [2.2.1.5](#)), as specified in section [3.1.5.3](#). Clients MUST NOT synchronize the **Drafts folder** when using version 2.5, 12.0, 12.1, 14.0, or 14.1 of this protocol.

In order to synchronize the content of each of the folders, an initial synchronization key for each folder **MUST** be obtained from the server. The client obtains the key by sending the server an initial **Sync** request with a **airsync:SyncKey** element (section [2.2.3.181.4](#)) value of zero (0) and the **airsync:CollectionId** element (section [2.2.3.30.6](#)) value that identifies the folder to be synchronized. The **Sync** command response includes a new **airsync:SyncKey** value, which is generated by the server for each transaction.



**Figure 4 Retrieval of SyncKey value**

The **airsync:SyncKey** issued in the initial **Sync** response **MUST** be stored by the client, and is sent in the second **Sync** request. The second **Sync** request includes the new **airsync:SyncKey** element as well as the **airsync:GetChanges** (section [2.2.3.84](#)) element.



**Figure 5 Retrieval of folder content**

The server responds by adding all the items in the collection to the client and returning a new **airsync:SyncKey** element value, which can be used in successive synchronizations. The order of items in the response is implementation-specific. Clients **SHOULD NOT** rely on any specific ordering of



items in the response. The client deletes its copy of all objects in the collection that are being synchronized before the client performs a full synchronization. The client can use the **GetItemEstimate** command (section [2.2.1.9](#)) to obtain an estimate of the number of items that have to be synchronized before completely synchronizing a collection, which is useful when the client user interface displays a progress bar while getting items from the server. In some cases, the client could have to submit a **airsync:WindowSize** element (section [2.2.3.199](#)) that specifies the number of items to be synchronized at a time.

If more items remain to be synchronized, the **airsync:MoreAvailable** element (section [2.2.3.116](#)) is returned in the **Sync** command response. The client then continues to call the **Sync** command until no more items are available. For more details about the **airsync:WindowSize** element of the **Sync** command, see section [2.2.3.199](#).

After a full synchronization has been performed on a collection, successive synchronizations are used to obtain additions, deletions, or changes to the initial collection state. The client can use the **Sync** command request to add, delete, or change items on the server, and the server can use the **Sync** command response to add, delete, or change items on the client.

The following table lists the command sequence for folder synchronization.

The asterisk (\*) in the Order column means that the step can be repeated multiple times. [n] means that a step is optional.

| Order | Client action   | Server action  |
|-------|---|--|
| 1     | The client sends the <b>Sync</b> command for the Email, Calendar, Contacts, and/or Tasks collection with a synchronization key of zero (0). This establishes a partnership with the server, initializing server data for the device.  | The server responds with the synchronization key for the collection, to be used in successive synchronizations.  |
| 2*    | The client sends the <b>Sync</b> command with a synchronization key of zero (0) for other collections to be synchronized.   | The server responds with new synchronization keys for each collection.   |
| [3]   | The client sends the <b>GetItemEstimate</b> command for all collections to be synchronized. This step can be skipped if it is not required by the client UI.  | The server responds to indicate how many items will be added, changed, or deleted, for each collection.  |
| 4*    | The client sends the <b>Sync</b> command with the <b>airsync:GetChanges</b> element for a collection. The command SHOULD include the <b>airsync:WindowSize</b> element, the recommended value for which is 100. This step is repeated for each collection to be synchronized or all collections can be combined into one request. | The server responds with <b>airsync:Add</b> (section <a href="#">2.2.3.7.2</a> ), <b>airsync:Change</b> (section <a href="#">2.2.3.24</a> ), or <b>airsync&gt;Delete</b> (section <a href="#">2.2.3.42.2</a> ) elements for items in the collection. If the response contains the <b>airsync:MoreAvailable</b> element, this step is repeated. |

The client can use the **airsync:WindowSize** element to break the server **airsync:Add** elements into multiple sets of items. The recommended window size is 100. For more details about the **airsync:WindowSize** element used by the **Sync** command, see section [2.2.3.199](#).

When the **Sync** command request contains a **HeartbeatInterval** element (section [2.2.3.88.2](#)) or a **Wait** element (section [2.2.3.198](#)), the server SHOULD delay sending a response until either of the following conditions are met:

- The interval specified by the **HeartbeatInterval** element or **Wait** element has elapsed.
- An item is added to one or more of the enumerated collections. This condition includes new mail being delivered and items being copied or moved into the collection.

In most cases, the server SHOULD NOT send the response before the interval specified by the **HeartbeatInterval** element or **Wait** element for any other changes to the collection, including items being modified, items being deleted, items being moved out of the collection, or items being soft deleted due to falling out of scope of a synchronization filter, as specified in section [2.2.3.68.2](#). However, if the **Sync** command request includes an **Add** or **Change** element, and the addition or change does not involve only flags, the server SHOULD return immediately, regardless of the current **HeartbeatInterval** or **Wait** value.

### 3.1.5.5 Creating a Meeting or Appointment

The client creates a new calendar item, an appointment or meeting, on the server by using the **Sync** command (section [2.2.1.21](#)). The **Sync** command request that is used to create an appointment is the same as the **Sync** command request that is used to create a meeting, except that when creating an appointment, the initial calendar item that is uploaded to the server does not have any attendees.

In protocol version 16.0 and 16.1, the server will send meeting requests to the attendees automatically while processing the **Sync** command request that creates the meeting. In protocol versions 2.5, 12.0, 12.1, 14.0, and 14.1, the client uses the **SendMail** command (section [2.2.1.17](#)) to send meeting requests to the attendees. When an attendee's **Inbox folder** is synchronized, the **Sync** response from the server adds the new meeting request to the attendee's Inbox folder. When the attendee's **Calendar folder** is synchronized, the **Sync** response from the server adds the new calendar item to the attendee's Calendar folder. For more details about how an attendee's client handles a meeting request, see section [3.1.5.6](#).

### 3.1.5.6 Receiving and Accepting Meeting Requests

This section specifies how the client retrieves items from the **Inbox folder** by using the **Sync** command (section [2.2.1.21](#)), responds to a meeting request item by using the **MeetingResponse** command (section [2.2.1.11](#)), and synchronizes the **Calendar folder** by using the **Sync** command so that the new **Calendar object** is added to the client's calendar.

A meeting request is returned by the server in response to a synchronization of the Inbox folder. A meeting request is an email message that has an embedded calendar item. The message contains an **email:MessageClass** element (as specified in [MS-ASEMAIL] section 2.2.2.49) that has a value of "IPM.Schedule.Meeting.Request", and its **airsync:ApplicationData** element (section [2.2.3.11](#)) contains an **email:MeetingRequest** element (as specified in [MS-ASEMAIL] section 2.2.2.48). If the meeting request is a delegated meeting request, the server SHOULD [<24>](#) return a substitute meeting invitation email message instead of a meeting request, as specified in section [3.1.5.6.1](#). Servers MAY [<25>](#) return the actual meeting request with the **email2:MeetingMessageType** element set to 6, as specified in [MS-ASEMAIL] section 2.2.2.47. In this case, clients MUST NOT attempt to respond to the meeting request with the **MeetingResponse** command.

When the client displays the meeting request message, if the value of the **email2:MeetingMessageType** element is 1 or 2, the client SHOULD offer the options of accepting, declining, or tentatively accepting the meeting. If one of these actions is selected, the client sends a **MeetingResponse** command to the server. For other values of the **email2:MeetingMessageType** element, the client SHOULD NOT send a **MeetingResponse** command to the server.

If the response to the meeting is accepted or is tentatively accepted, the server will add or update the corresponding calendar item and return its server ID in the **meetingresponse:CalendarId** element (section [2.2.3.18](#)) of the response. If the response to the meeting is declined, the response will not contain a **meetingresponse:CalendarId** element because the server will delete the corresponding calendar item. If the client had created a tentative meeting **calendar** item, the client updates that item with the returned server ID (if accepted or tentative). The client MUST also change the busy status on the client calendar item from tentative to busy if the meeting request was accepted. Note that, if the client synchronizes the Calendar folder after responding to a meeting request, the calendar item in question will be in conflict if the client also sends the changed item change for it back to the

server. This conflict is resolved according to the conflict resolution rules that are specified by the client in the **Sync** command request.

If the meeting request was accepted, the Calendar folder **MUST** be synchronized for the client to obtain the new calendar item. The new calendar item for the accepted meeting is added here and **MUST** be added to the client's calendar.

The following table lists the command sequence for receiving and accepting meeting requests. The asterisk (\*) in the Order column means that a step can be repeated multiple times.

| Order | Client action   | Server action   |
|-------|---|---|
| 1     | The client sends the <b>Sync</b> command request for the Inbox collection with the value of the <b>airsync:SyncKey</b> element (section <a href="#">2.2.3.181.4</a> ) set to zero (0).  | The server responds with the <b>airsync:SyncKey</b> for the collection, to be used in successive synchronizations.  |
| 2*    | The client sends a <b>Sync</b> command request, specifying the <b>airsync:GetChanges</b> element (section <a href="#">2.2.3.84</a> ) and the <b>airsync:SyncKey</b> element for the Inbox folder. The command <b>SHOULD</b> include the <b>airsync:WindowSize</b> element (section <a href="#">2.2.3.199</a> ), the recommended value for which is 100. | The server responds with <b>airsync:Add</b> elements (section <a href="#">2.2.3.7.2</a> ) for items in the Inbox collection, including a meeting request item. If the response contains the <b>airsync:MoreAvailable</b> element (section <a href="#">2.2.3.116</a> ), this step is repeated. |
| 3     | The user chooses to accept, decline, or tentatively accept a meeting request that is displayed in the client UI.  |   |
| 4     | The client sends a <b>MeetingResponse</b> command request (section <a href="#">2.2.1.11</a> ) to the server, which specifies that the meeting was accepted, declined, or tentatively accepted, and provides the server IDs of the meeting request message and its parent folder.  | The server sends a response that contains the <b>MeetingResponse</b> command request status along with the ID of the calendar item that corresponds to this meeting request if the meeting was not declined.  |
| 5     | If a response was requested by the organizer, the client <b>SHOULD</b> use a <b>SendMail</b> command (section <a href="#">2.2.1.17</a> ) to send an appropriately formatted meeting response. This client action applies only to protocol versions 2.5, 12.0, 12.1, 14.0, and 14.1.   | If the message was sent successfully, the server returns an empty response. Otherwise, the server responds with a <b>Status</b> element (section <a href="#">2.2.3.177.9</a> ) that indicates the type of failure.  |
| 6     | If the meeting was not declined, the client sends a <b>Sync</b> command for the calendar collection, specifying the <b>GetChanges</b> element.  | The server responds with any changes to the Calendar folder caused by the last synchronization and the new calendar item for the accepted meeting.  |

### 3.1.5.6.1 Substitute Meeting Invitation Email

To send a substitute meeting invitation email message, the server creates a temporary item. The server **MUST NOT** modify or remove the original meeting request in order to create the temporary item.

The substitute meeting invitation email message elements are set according to the following table.

| Substitute meeting invitation email message element | Value                                     |
|---|---|
| <b>email:To</b>                                     | Set to the email address of the delegate. |
| <b>email:Cc</b>                                     | Blank.                                    |

| Substitute meeting invitation email message element | Value   |
|---|---|
| <b>email:From</b>                                   | Copy value from original meeting request.         |
| <b>email:Subject</b>                                | Original subject prepended with explanatory text. |
| <b>email:DateReceived</b>                           | Copy value from original meeting request.         |
| <b>email:DisplayTo</b>                              | Copy value from original meeting request.         |
| <b>email:ThreadTopic</b>                            | Copy value from original meeting request.         |
| <b>email:Importance</b>                             | Copy value from original meeting request.         |
| <b>email:Read</b>                                   | Copy value from original meeting request.         |
| <b>airsynbase:Body</b>                              | Summary of meeting details.                       |
| <b>email:MessageClass</b>                           | Set to "IPM.Note".                                |
| <b>email:InternetCPID</b>                           | Copy value from original meeting request.         |
| <b>email:Flag</b>                                   | Copy value from original meeting request.         |
| <b>email:ContentClass</b>                           | Set to "urn:content-classes:message".             |
| <b>airsynbase:NativeBodyType</b>                    | Copy value from original meeting request.         |
| <b>email2:ConversationId</b>                        | Copy value from original meeting request.         |
| <b>email2:ConversationIndex</b>                     | Copy value from original meeting request.         |
| <b>email:Categories</b>                             | Copy value from original meeting request.         |

The exact format of the explanatory text for the **email:Subject** element is implementation-specific but SHOULD indicate that the email message represents a meeting request for the delegator.

The exact format of the **airsynbase:Body** element is implementation-specific but SHOULD include summary details of the original meeting request, such as date, time, and location.

Actions taken by the client on the substitute meeting invitation email message will actually take effect on the original meeting request on the server (for example, flagging the substitute meeting invitation email message for follow-up will result in the original meeting request being flagged for follow-up on the server), with the following exceptions:

- Replying to the substitute meeting invitation email message with the **SendMail** command will reply to the substitute meeting invitation email message. The server will append the original meeting request to the reply.
- Forwarding the substitute meeting invitation email message with the **SendMail** command will forward the substitute meeting invitation email message. The server will append the original meeting request to the forwarded message.
- Any attachments on the original meeting request are not exposed via the substitute meeting invitation email message.

For an example of a substitute meeting invitation email message, see section [4.5.11](#).

### 3.1.5.7 Receiving and Forwarding Meeting Requests

The client retrieves items from the **Inbox folder** by using the **Sync** command (section [2.2.1.21](#)) and a meeting request is returned by the server in the **Sync** command response, as specified in section [3.1.5.6](#).

Once the client retrieves the meeting request, the user can forward the meeting request to another user. The client uses the **SmartForward** command (section [2.2.1.19](#)) to forward the meeting request. When a user forwards a meeting request, the organizer of the meeting remains unchanged. [<26>](#)

### 3.1.5.8 Monitoring Folders for New Items

The client uses the **Ping** command (as specified in section [2.2.1.13](#)) to monitor a folder or set of folders for changes. The client **MUST** include a **HeartbeatInterval** element (as specified in section [2.2.3.88.1](#)) in the initial **Ping** command request to specify an amount of time that the server **SHOULD** wait before sending a response if there are no new items added to the included folders. The server **MUST** cache the value of the **HeartbeatInterval** element and use it in subsequent **Ping** requests that do not include a **HeartbeatInterval** element.

The client **MUST** include a **Folders** element (as specified in section [2.2.3.75.2](#)) in the initial **Ping** command request to specify one or more folders that the server will monitor for additions. The server **MUST** cache the list of included folders and use it in subsequent **Ping** requests that do not include a **Folders** element.

Because the server caches the values of the **HeartbeatInterval** element and the **Folders** element, the client can omit either element, or both from subsequent **Ping** requests if those parameters have not changed from the previous **Ping** request. If neither the heartbeat interval nor the folder list has changed, the client can issue an empty **Ping** request – one with no **XML** body. The server will use the previously cached XML sent by the client if it receives an empty **Ping** request.

The server uses the last **airsync:SyncKey** element (as specified in section [2.2.3.181.4](#)) value returned to the client when determining what to report in the **Ping** response. Therefore, the client **MUST** have received the response to its last **Sync** request (as specified in section [2.2.1.21](#)) and successfully applied the changes sent by the server, prior to issuing a **Ping** request.

The server **SHOULD** delay sending a response until either of the following conditions are met:

- The interval specified by the **HeartbeatInterval** element has elapsed.
- An item is added to one or more of enumerated collections. This condition includes new mail being delivered and items being copied or moved into the collection.

The server **SHOULD NOT** send the response before the interval specified by the **HeartbeatInterval** element for any other changes to a collection, including items being modified, items being deleted, or items being moved out of the collection.

In the case of no changes on the server, the client can then reissue a new **Ping** request. In the case of changes, the response indicates in which folders those changes occurred so that the client can resynchronize those folders.

Note that if no changes occur in any of the folders that are specified by the client for a significant length of time (longer than the value of the **HeartbeatInterval** element (section [2.2.3.88.1](#))), the client can run in a loop in which it issues a **Ping** request, receives a response indicating that there are no changes, and then reissues the **Ping** request. The length of time that the server waits before issuing a response is called the heartbeat interval.

### 3.1.5.9 Handling Status Errors

The client **MUST** handle errors that occur during synchronization sessions. Errors fall into two categories: HTTP errors and ActiveSync protocol errors. HTTP errors are standard error codes, such as "401 Logon failed", and they are returned from the server in response to an HTTP **POST**. ActiveSync protocol errors result from a problem on the server, in an attempt to perform the task requested by the command request message. ActiveSync protocol errors are indicated by codes that are returned in the **Status** element (section [2.2.3.177](#)) of a command response. For more details about the status codes, see section [2.2.2](#).

The client **MUST** implement error handling and a user interface (UI). Some errors are handled by a recovery procedure. Other errors require that an error message be displayed, along with a prompt for the user to respond. The client determines whether to run a recovery procedure or prompt for user input.

In addition to the ActiveSync protocol errors that the server sends, incomplete communication between server and client can result in the failure of a synchronization session. The server has an error recovery feature that enables a client to respond to errors by repeating the most recent synchronization session. The client **MUST** handle synchronization failures by retrying the synchronization. The server tracks synchronization requests to be able to respond appropriately in both of the following cases:

- The client failed in communicating a full request to the server for synchronization.
  - In this case, the client sends a request but the server does not receive the request. The server does not act on the request, and no server-side changes occur. Therefore, no response is sent to the client. The client **MUST** resend a synchronization request if there is no immediate server response and neither the **airsync:Wait** element (section [2.2.3.198](#)) nor the **airsync:HeartbeatInterval** element (section [2.2.3.88.2](#)) was sent in the **Sync** request (section [2.2.1.21](#)), or if the **airsync:Wait** element value or **airsync:HeartbeatInterval** element value was specified in the **Sync** request and the time has elapsed.
- The server failed in communicating a response to the client for updates.
  - In this case, the server response is not received by the client. The client knows it has not received a response if neither the **airsync:Wait** element nor **airsync:HeartbeatInterval** element was sent in the **Sync** request and the server response is not received immediately, or if the **airsync:Wait** element value or the **airsync:HeartbeatInterval** element value was specified in the **Sync** request and that time has elapsed. The data on the server changed. The client **MUST** resend the request. The server recognizes the duplicate request. Because the server changes have already occurred, the server resends the response to the client to keep the server and client synchronized.

### 3.1.5.10 Limiting Size of Command Requests

Clients **SHOULD** limit the number of elements in command requests as specified in the following table. Servers **SHOULD** [<27>](#) impose the limits specified in the table and return the specified error if the limit is exceeded. Servers **MAY** [<28>](#) use different values for the limits specified in the table, so long as they conform to the specified minimum and maximum values.

| Command request   | Element to limit   | Limit value                            | Error returned  |
|---|--|--|---|
| <b>GetItemEstimate</b> (section <a href="#">2.2.1.9</a> ) | <b>Collection</b> (section <a href="#">2.2.3.29.1</a> )  | 1000 (minimum 30, maximum 5000)        | <b>Status</b> element (section <a href="#">2.2.3.177.7</a> ) value of 103 |
| <b>ItemOperations</b> (section <a href="#">2.2.1.10</a> ) | The sum of the number of <b>EmptyFolderContents</b> (section <a href="#">2.2.3.58</a> ), <b>Fetch</b> (section <a href="#">2.2.3.67.1</a> ), and | 100 (minimum 1, maximum 2,147,483,647) | <b>Status</b> element (section <a href="#">2.2.3.177.8</a> ) value of 11  |

| Command request  | Element to limit  | Limit value                             | Error returned   |
|--|---|---|--|
|  | <b>Move</b> (section <a href="#">2.2.3.117.1</a> ) elements   |   |  |
| <b>MeetingResponse</b> (section <a href="#">2.2.1.11</a> )   | <b>Request</b> (section <a href="#">2.2.3.150.2</a> )   | 100 (minimum 1, maximum 2,147,483,647)  | <b>Status</b> element (section <a href="#">2.2.3.177.9</a> ) value of 103  |
| <b>MoveItems</b> (section <a href="#">2.2.1.12</a> )         | <b>Move</b> (section <a href="#">2.2.3.117.2</a> )  | 1000 (minimum 1, maximum 2,147,483,647) | <b>Status</b> element (section <a href="#">2.2.3.177.10</a> ) value of 103 |
| <b>ResolveRecipients</b> (section <a href="#">2.2.1.15</a> ) | <b>To</b> (section <a href="#">2.2.3.183</a> )  | 100 (minimum 1, maximum 2,147,483,647)  | <b>Status</b> element (section <a href="#">2.2.3.177.12</a> ) value of 5   |
| <b>Sync</b> (section <a href="#">2.2.1.21</a> )              | The sum of the number of <b>Add</b> (section <a href="#">2.2.3.7.2</a> ), <b>Change</b> (section <a href="#">2.2.3.24</a> ), <b>Delete</b> (section <a href="#">2.2.3.42.2</a> ), and <b>Fetch</b> (section <a href="#">2.2.3.67.2</a> ) elements | 200 (minimum 1, maximum 2,147,483,647)  | <b>Status</b> element (section <a href="#">2.2.3.177.17</a> ) value of 4   |
| <b>ValidateCert</b> (section <a href="#">2.2.1.22</a> )      | <b>Certificate</b> (section <a href="#">2.2.3.19.2</a> )  | 100 (minimum 1, maximum 2,147,483,647)  | <b>Status</b> element (section <a href="#">2.2.3.177.18</a> ) value of 2   |

### 3.1.6 Timer Events

None.

### 3.1.7 Other Local Events

None.



## 4 Protocol Examples

### 4.1 Downloading the Current Server Security Policy by Using the Provision Command

For examples on downloading the current server security policy by using the **Provision** command (section [2.2.1.14](#)), see [\[MS-ASPROV\]](#) section 4.

### 4.2 Discovering Account Settings by Using the Autodiscover Command

The **Autodiscover** command (section [2.2.1.1](#)) enables clients to discover core account configuration information by using the user's **SMTP** address as the primary input by means of the following process:

1. The end-user enters his or her email address and domain credentials, for example, kim@contoso.com.
2. The client uses the domain information in the user's email address, that is, contoso.com, and tries to locate the Autodiscover service by sending an **Autodiscover** command request to the following predefined URLs:
  - `https://<SMTP-address-domain>/autodiscover/autodiscover.xml` (In this example, this URL is: `https://contoso.com/autodiscover/autodiscover.xml`.)
  - `https://autodiscover.<SMTP-address-domain>/autodiscover/autodiscover.xml` (In this example, this URL is: `https://autodiscover.contoso.com/autodiscover/autodiscover.xml`.)
3. If the **Domain Name System (DNS)** contains a host record that maps one of these URLs to a server where the Autodiscover service is hosted, then the Autodiscover service responds with the settings that are required for the device to begin synchronizing. This response includes values for the server type, the URL, and the **Name** element (section [2.2.3.120.1](#)).
4. If redirection to another Autodiscover service is required, then the **Redirect** element (section [2.2.3.147](#)) is present and contains a URL to the **Autodiscover server** to query for the desired information.
5. The device then re-creates a partnership with the new server, and send an **Autodiscover** command request to that server.
6. If the response included the settings that are required for the device to begin synchronization, then the device applies the settings to initiate synchronization.
7. If the **Autodiscover** command request in step 3 fails, then the device performs a DNS SRV lookup for `_autodiscover._tcp.<smtp-address-domain>.com`, which in this example maps to `_autodiscover._tcp.contoso.com`. If the DNS lookup is successful, then "mail.<smtp-address-domain>.com" is returned, which maps to "mail.contoso.com". The device then applies the settings to initiate synchronization. For more information about performing the DNS SRV lookup, see [\[MSFT-DNS-SRV\]](#).

The following sections show success and error response messages.

Account autodiscovery uses an email address to look up information that is required to configure software. Given an email name (such as chris@woodgrovebank.com), a list of possible Autodiscover servers is generated. The client contacts the name `Autodiscover.domainname` to provide the information. If that information is not found, the client tries to send the request to the domain name. If the information still is not retrieved, the client can use a manual configuration. For example, the client tries these servers:

- autodiscover.woodgrovebank.com



- woodgrovebank.com

The client sends each server an HTTP **POST** command. The post data is an XML request for a certain type of information. Email account configuration is the first use. The XML contains information that helps execute the request. For mail, the information includes the email address, the protocols that the client software supports, the Web browser that is installed, the type of proxy that is being used, and the types of authentication that can be used.

The post is sent for *servername/autodiscover/autodiscover.xml*. The server name is defined according to the process described earlier in this topic.

#### 4.2.1 Request

The following example shows the **Autodiscover** command request (section [2.2.1.1](#)) sent from the client to the server.

```
<?xml version="1.0" encoding="utf-8"?>
<Autodiscover
xmlns="http://schemas.microsoft.com/exchange/autodiscover/mobilesync/requestschem/2006">
  <Request>
    <EmailAddress>chris@woodgrovebank.com</EmailAddress>
    <AcceptableResponseSchema>
      http://schemas.microsoft.com/exchange/autodiscover/mobilesync/
      responseschema/2006
    </AcceptableResponseSchema>
  </Request>
</Autodiscover>
```

#### 4.2.2 Response - Case Error

The following example shows an **Autodiscover** command response (section [2.2.1.1](#)) sent from the server to the client when an error occurred. In this example, the error is that the directory service could not be reached.

```
<?xml version="1.0" encoding="utf-8"?>
<Autodiscover
xmlns="http://schemas.microsoft.com/exchange/autodiscover/mobilesync/responseschema/2006">
  <Response>
    <Culture>en:us</Culture>
    <User>
      <EmailAddress>chris@woodgrovebank.com</EmailAddress>
    </User>
    <Action>
      <Error>
        <Status>2</Status>
        <Message>The directory service could not be reached</Message>
        <DebugData>MailUser</DebugData>
      </Error>
    </Action>
  </Response>
</Autodiscover>
```

#### 4.2.3 Response - Case Redirect

The following example shows an **Autodiscover** command response (section [2.2.1.1](#)) that indicates that a redirection to another Autodiscover service is required. In the following redirect example, assume that the initial **Autodiscover** command request was sent to autodiscover.woodgrovebank.com. The redirect node indicates to the client to try issuing an **Autodiscover** command request to autodiscover.loandep.woodgrovebank.com.

```
<?xml version="1.0" encoding="utf-8"?>
<Autodiscover
xmlns="http://schemas.microsoft.com/exchange/autodiscover/mobilesync/responseschema/2006">
  <Response>
    <Culture>en:us</Culture>
    <User>
      <DisplayName>Chris Gray</DisplayName>
      <EmailAddress>chris@woodgrovebank.com</EmailAddress>
    </User>
    <Action>
      <Redirect>chris@loandep.woodgrovebank.com </Redirect>
    </Action>
  </Response>
</Autodiscover>
```

#### 4.2.4 Response - Case Server Settings

The following example shows an **Autodiscover** command response (section [2.2.1.1](#)) that provides server URL information for two services: MobileSync and CertEnroll. The client can use the MobileSync URL to configure the synchronization settings. The client can also optionally use the CertEnroll information to obtain a client certificate for **SSL** negotiation.

```
<?xml version="1.0" encoding="utf-8"?>
<Autodiscover
xmlns="http://schemas.microsoft.com/exchange/autodiscover/mobilesync/responseschema/2006">
  <Response>
    <Culture>en:us</Culture>
    <User>
      <DisplayName>Chris Gray</DisplayName>
      <EmailAddress>chris@woodgrovebank.com</EmailAddress>
    </User>
    <Action>
      <Settings>
        <Server>
          <Type>MobileSync</Type>
          <Url>
            https://loandep.woodgrovebank.com/Microsoft-Server-ActiveSync
          </Url>
          <Name>
            https://loandep.woodgrovebank.com/Microsoft-Server-ActiveSync
          </Name>
        </Server>
        <Server>
          <Type>CertEnroll</Type>
          <Url>https://cert.woodgrovebank.com/CertEnroll</Url>
          <Name />
          <ServerData>CertEnrollTemplate</ServerData>
        </Server>
      </Settings>
    </Action>
  </Response>
</Autodiscover>
```

#### 4.2.5 Response - Case Framework Error

The following example shows an **Autodiscover** command response (section [2.2.1.1](#)) that indicates either the provider cannot be found, or the **autodiscover:AcceptableResponseSchema** (section [2.2.3.1](#)) value cannot be matched.

The error code 600 means an invalid request was sent to the service, and the error code 601 means that a provider could not be found to handle the **autodiscover:AcceptableResponseSchema** value that was indicated.

```
<?xml version="1.0" encoding="utf-8"?>
<Autodiscover
xmlns ="http://schemas.microsoft.com/exchange/autodiscover/mobilesync/responseschema/2006">
  <Response>
    <Error Time="16:56:32.6164027" Id="1054084152">
      <ErrorCode>600</ErrorCode>
      <Message>Invalid Request</Message>
      <DebugData />
    </Error>
  </Response>
</Autodiscover>
```

## 4.2.6 Response – Case Framework Default

For unauthenticated requests, the server can create and serve a static page with contents to aid in troubleshooting errors, such as the following.

```
<?xml version="1.0" encoding="utf-8"?>
<Autodiscover>
  <Account>
    <AccountType>default_email</AccountType>
    <Action>settings</Action>
    <Image>http://www.abcd.com/def.jpg</Image>
    <ServiceHome>http://www.microsoft.com</ServiceHome>
    <RedirectUrl>...</RedirectUrl>

    <Protocol>
      <Type>POP</Type>
      <Server>popserverFQDN</Server>
      <Port>110</Port>
    </Protocol>

    <Protocol>
      <Type>SMTP</Type>
      <Server>smtpserverFQDN</Server>
      <Port>25</Port>
    </Protocol>

    <Protocol>
      <Type>IMAP</Type>
      <Server>imapserver1FQDN</Server>
    </Protocol>

    <Protocol>
      <Type>IMAP</Type>
      <Server>imapserver2FQDN</Server>
      <Port>143</Port>
    </Protocol>
  </Account>
</Autodiscover>
```

## 4.3 Setting Device Information by Using the Settings Command

The following sections show how to set device information by using the **Settings** command (section [2.2.1.18](#)).

### 4.3.1 Request

The following example shows the **Settings** command request (section [2.2.1.18](#)) sent from the client to the server to set device information.

```
<?xml version="1.0" encoding="utf-8"?>
<Settings xmlns="Settings">
  <DeviceInformation>
    <Set>
      <Model>...</Model>
      <IMEI>...</IMEI>
      <FriendlyName>...</FriendlyName>
      <OS>...</OS>
      <OSLanguage>...</OSLanguage>
      <PhoneNumber>...</PhoneNumber>
      <MobileOperator>...</MobileOperator>
      <UserAgent>...</UserAgent>
    </Set>
  </DeviceInformation>
</Settings>
```

### 4.3.2 Response

The following example shows the **Settings** command response (section [2.2.1.18](#)) sent from the server to the client.

```
<?xml version="1.0" encoding="utf-8"?>
<Settings xmlns="Settings">
  <Status>1</Status>
  <DeviceInformation>
    <Set>
      <Status>...</Status>
    </Set>
  </DeviceInformation>
</Settings>
```

## 4.4 Synchronizing Folders by Using the FolderSync Command

The following sections show how to synchronize folders by using the **FolderSync** command (section [2.2.1.5](#)).

### 4.4.1 Request

The following example shows the initial **FolderSync** command request (section [2.2.1.5](#)) sent from the client to the server. The **folderhierarchy:SyncKey** element (section [2.2.3.181.2](#)) in the request is set to 0 (zero), because this is the first **FolderSync** command issued. Any subsequent **FolderSync** requests will contain the **folderhierarchy:SyncKey** value that was returned in the previous **FolderSync** response.

```
<?xml version="1.0" encoding="utf-8"?>
<FolderSync xmlns="FolderHierarchy">
  <SyncKey>0</SyncKey>
</FolderSync>
```

### 4.4.2 Response

The following example shows the initial **FolderSync** command response (section [2.2.1.5](#)) sent from the server to the client. The **folderhierarchy:SyncKey** element (section [2.2.3.181.2](#)) value has been incremented in the response, and this value will be used in the next **FolderSync** request, **FolderCreate** request (section [2.2.1.3](#)), **FolderDelete** request (section [2.2.1.4](#)), or **FolderUpdate** request (section [2.2.1.6](#)). Each folder in the collection is added to the client using an **folderhierarchy:Add** element (section [2.2.3.7.1](#)), which indicates the server ID of the folder, the

parent ID of the folder, a display name, and the type of the folder, which indicates whether it is an email, calendar, task, or other type of folder.

```
<?xml version="1.0" encoding="utf-8"?>
<FolderSync xmlns="FolderHierarchy">
  <Status>1</Status>
  <SyncKey>1</SyncKey>
  <Changes>
    <Count>13</Count>
    <Add>
      <ServerId>1</ServerId>
      <ParentId>0</ParentId>
      <DisplayName>Calendar</DisplayName>
      <Type>8</Type>
    </Add>
    <Add>
      <ServerId>2</ServerId>
      <ParentId>0</ParentId>
      <DisplayName>Contacts</DisplayName>
      <Type>9</Type>
    </Add>
    <Add>
      <ServerId>3</ServerId>
      <ParentId>0</ParentId>
      <DisplayName>Deleted Items</DisplayName>
      <Type>4</Type>
    </Add>
    <Add>
      <ServerId>4</ServerId>
      <ParentId>0</ParentId>
      <DisplayName>Drafts</DisplayName>
      <Type>3</Type>
    </Add>
    <Add>
      <ServerId>5</ServerId>
      <ParentId>0</ParentId>
      <DisplayName>Inbox</DisplayName>
      <Type>2</Type>
    </Add>
    <Add>
      <ServerId>12</ServerId>
      <ParentId>5</ParentId>
      <DisplayName>NewFolder</DisplayName>
      <Type>12</Type>
    </Add>
    <Add>
      <ServerId>6</ServerId>
      <ParentId>0</ParentId>
      <DisplayName>Journal</DisplayName>
      <Type>11</Type>
    </Add>
    <Add>
      <ServerId>7</ServerId>
      <ParentId>0</ParentId>
      <DisplayName>Junk E-Mail</DisplayName>
      <Type>12</Type>
    </Add>
    <Add>
      <ServerId>8</ServerId>
      <ParentId>0</ParentId>
      <DisplayName>Notes</DisplayName>
      <Type>10</Type>
    </Add>
    <Add>
      <ServerId>9</ServerId>
      <ParentId>0</ParentId>
      <DisplayName>Outbox</DisplayName>
      <Type>6</Type>
    </Add>
```

```

    <Add>
      <ServerId>10</ServerId>
      <ParentId>0</ParentId>
      <DisplayName>Sent Items</DisplayName>
      <Type>5</Type>
    </Add>
    <Add>
      <ServerId>11</ServerId>
      <ParentId>0</ParentId>
      <DisplayName>Tasks</DisplayName>
      <Type>7</Type>
    </Add>
    <Add>
      <ServerId>RI</ServerId>
      <ParentId>0</ParentId>
      <DisplayName>RecipientInfo</DisplayName>
      <Type>19</Type>
    </Add>
  </Changes>
</FolderSync>

```

## 4.5 Synchronizing Data by Using the Sync Command

The following sections show how to accomplish several different tasks by using the **Sync** command (section [2.2.1.21](#)).

### 4.5.1 Downloading Current Information from the Server

The following sections show how a client synchronizes an email folder by using the **Sync** command (section [2.2.1.21](#)).

#### 4.5.1.1 Request

The following example shows the **Sync** command request (section [2.2.1.21](#)) sent from the client to the server to synchronize an email folder. The request asks that deleted items be moved to the **Deleted Items folder**. The request also asks for changes on the server to be included in the response.

```

<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync">
  <Collections>
    <Collection>
      <SyncKey>6</SyncKey>
      <CollectionId>1</CollectionId>
      <DeletesAsMoves/>
      <GetChanges/>
      <Options> ... </Options>
    </Collection>
  </Collections>
</Sync>

```

#### 4.5.1.2 Response

The following example shows the **Sync** command response (section [2.2.1.21](#)) sent from the server to the client. The response contains the new synchronization key and the items to be added, deleted, and changed on the client.

```

<?xml version="1.0" encoding="utf-8"?>

```

```

<Sync xmlns="AirSync">
  <Collections>
    <Collection>
      <SyncKey>7</SyncKey>
      <CollectionId>1</CollectionId>
      <Status>1</Status>
      <Commands>
        <Add>...</Add>
        <Delete>...</Delete>
        <Change>...</Change>
      </Commands>
    </Collection>
  </Collections>
</Sync>

```

## 4.5.2 Fetching an Email by Using the ServerId

The following sections show how a client retrieves an item from the server by using the **Sync** command (section [2.2.1.21](#)) and the item's server ID (**airsync:ServerId** (section [2.2.3.166.8](#))).

### 4.5.2.1 Request

The following example shows the **Sync** command request (section [2.2.1.21](#)) sent from the client to the server to retrieve an email.

```

<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync">
...
  <Commands>
    <Fetch >
      <ServerId>1:14</ServerId>
    </Fetch >
  </Commands>
...
</Sync>

```

### 4.5.2.2 Response

The following example shows the **Sync** command response (section [2.2.1.21](#)) sent from the server to the client. The response contains the server ID, status, and application data of the requested item.

```

<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync">
...
  <Responses>
    <Fetch>
      <ServerId>1:14</ServerId>
      <Status>1</Status>
      <ApplicationData>...</ApplicationData>
    </Fetch>
  </Responses>
...
</Sync>

```

## 4.5.3 Uploading New ApplicationData to the Server

The following sections show how a client uploads new application data to the server by using the **Sync** command (section [2.2.1.21](#)).

### 4.5.3.1 Request

The following example shows the **Sync** command request (section [2.2.1.21](#)) sent from the client to the server to add a contact.

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns:contacts="Contacts" xmlns="AirSync">
...
  <Commands>
    <Add>
      <ClientId>123</ClientId>
      <ApplicationData>
        <contacts:EmaillAddress>anat@fourthcoffee.com</contacts:EmaillAddress>
        <contacts:FirstName>Anat</contacts:FirstName>
        <contacts:MiddleName>W</contacts:MiddleName>
        <contacts:LastName>Kerry</contacts:LastName>
        <contacts:Title>Sr Marketing Manager</contacts:Title>
      </ApplicationData>
    </Add>
  </Commands>
...
</Sync>
```

### 4.5.3.2 Response

The following example shows the **Sync** command response (section [2.2.1.21](#)) sent from the server to the client. The response shows that the synchronization was successful and that the new item from the client, identified by the **airsync:ClientId** element (section [2.2.3.36.2](#)), was added to the collection on the server. The server also assigns a permanent ID for the newly added item in the **airsync:ServerId** element (section [2.2.3.166.8](#)). After the client receives a successful response, the client uses this server ID for any future **airsync:Change** (section [2.2.3.32](#)) or **airsync>Delete** (section [2.2.3.51.2](#)) commands for this item.

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync">
...
  <Responses>
    <Add>
      <ClientId>123</ClientId>
      <ServerId>4:1</ServerId>
      <Status>1</Status>
    </Add>
  </Responses>
...
</Sync>
```

## 4.5.4 Updating ApplicationData on the Server

The following sections show how a client updates application data on the server by using the **Sync** command (section [2.2.1.21](#)).

### 4.5.4.1 Request

The following example shows the **Sync** command request (section [2.2.1.21](#)) sent from the client to the server to modify the contact that is identified by the server ID.

```
<?xml version="1.0" encoding="utf-8"?>
```



```

<Sync xmlns:contacts="Contacts" xmlns="AirSync">
...
  <Commands>
    <Change>
      <ServerId>3:1</ServerId>
      <ApplicationData>
        <contacts:EmaillAddress>anat@fourthcoffee.com</contacts:EmaillAddress>
        <contacts:FirstName>Anat</contacts:FirstName>
      </ApplicationData>
    </Change>
  </Commands>
...
</Sync>

```

#### 4.5.4.2 Response

The following example shows the **Sync** command response (section [2.2.1.21](#)) sent from the server to the client. The response shows that the change that is identified by the **Sync** request of the client succeeded and supplies the synchronization key and collection ID of the changed item.

```

<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync">
...
  <Collections>
    <Collection>
      <SyncKey>4</SyncKey>
      <CollectionId>1</CollectionId>
      <Status>1</Status>
    </Collection>
  </Collections>
...
</Sync>

```

### 4.5.5 Deleting an Item from the Server

The following sections show how a client deletes an email message from the server by using the **Sync** command (section [2.2.1.21](#)).

#### 4.5.5.1 Request

The following example shows the **Sync** command request (section [2.2.1.21](#)) sent from the client to the server to delete the email message that is identified by the **airsync:ServerId** element (section [2.2.3.166.8](#)).

```

<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync">
  <Collections>
    <Collection>
      <SyncKey>1537401391</SyncKey>
      <CollectionId>5</CollectionId>
      <DeletesAsMoves>1</DeletesAsMoves>
      <GetChanges>1</GetChanges>
      <WindowSize>512</WindowSize>
      <Commands>
        <Delete>
          <ServerId>5:1</ServerId>
        </Delete>
      </Commands>
    </Collection>
  </Collections>
</Sync>

```

```

    </Collections>
  </Sync>

```

#### 4.5.5.2 Response

The following example shows the **Sync** command response (section [2.2.1.21](#)) sent from the server to the client. The response includes the incremented **airsync:SyncKey** element (section [2.2.3.181.4](#)) value, an **airsync:Status** element (section [2.2.3.177.17](#)) value of 1, indicating the success of the message deletion, and the **airsync:CollectionId** element (section [2.2.3.30.6](#)) value of the updated collection.

```

<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync">
  <Collections>
    <Collection>
      <SyncKey>609636509</SyncKey>
      <CollectionId>5</CollectionId>
      <Status>1</Status>
    </Collection>
  </Collections>
</Sync>

```

#### 4.5.6 Identifying Acceptance of Partial Collections

The following example shows a **Sync** command request (section [2.2.1.21](#)) that includes the **Partial** element (section [2.2.3.131](#)). The **Partial** element indicates that the current **Sync** request does not include all of the settings for all the collections to be synchronized, and that the server is to use the values from the previous **Sync** request.

```

<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync">
  <Collections>
    <Collection>
      <SyncKey>1723058747</SyncKey>
      <CollectionId>10</CollectionId>
    </Collection>
  </Collections>
  <Wait>8</Wait>
  <Partial/>
</Sync>

```

#### 4.5.7 Identifying Acceptance of MIME Content

The following sections show how to use the **airsync:MIMESupport** element (section [2.2.3.110.3](#)), the **airsync:MIMETruncation** element (section [2.2.3.111](#)), and the **airsyncbase:Type** element (as described in [\[MS-ASAIRS\]](#) section 2.2.2.41.4) to identify acceptance of **MIME** content on the client.

##### 4.5.7.1 Sync Request With Support for MIME Content

The following example shows a **Sync** command request (section [2.2.1.21](#)) that enables **MIME** support for email items that are returned from the server to the client, and requests that all MIME data of an email item over 4,096 characters be truncated when returned from the server to the client.

```

<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync">
  <Collections>
    <Collection>

```

```

    <SyncKey>2</SyncKey>
    <CollectionId>1</CollectionId>
    <DeletesAsMoves/>
    <GetChanges/>
    <Options>
      <MIMETruncation>1</MIMETruncation>
      <MIMESupport>1</MIMESupport>
    </Options>
  </Collection>
</Collections>
</Sync>

```

#### 4.5.7.2 Sync Response with MIME Content

The following example shows a **Sync** command response (section [2.2.1.21](#)) with **MIME** content sent from the server to the client.

```

<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns:email="Email" xmlns:airsyncbase="AirSyncBase" xmlns="AirSync">
  ...
  <Add>
    <ServerId>1:3</ServerId>
    <ApplicationData>
      <email:To>"Dag Rovik" &lt;dag@contoso.com&gt;</email:To>
      <email:From>"Jan Kotas" &lt;jan@contoso.com&gt;</email:From>
      <email:Subject>RE: Presentation</email:Subject>
      <email:DateReceived>2004-11-12T00:45:06.000Z</email:DateReceived>
      <email:DisplayTo>Dag Rovik</email:DisplayTo>
      <email:Importance>1</email:Importance>
      <email:Read>0</email:Read>
      <email:Importance>1</email:Importance>
      <email:Read>0</email:Read>
      <airsyncbase:Body>
        <airsyncbase:Type>4</airsyncbase:Type>
        <airsyncbase:EstimatedDataSize>1</airsyncbase:EstimatedDataSize>
        <airsyncbase:Truncated>5408</airsyncbase:Truncated>
        <airsyncbase:Data>
          <!--Content removed -->
        </airsyncbase:Data>
      </airsyncbase:Body>
      <email:MessageClass>IPM.Note.SMIME.MultipartSigned</email:MessageClass>
      <email:InternetCPID>20127</email:InternetCPID>
      <email:Flag/>
      <email:ContentClass>urn:content-classes:message</email:ContentClass>
      <airsyncbase:NativeBodyType>1</airsyncbase:NativeBodyType>
    </ApplicationData>
  </Add>
  ...
</Sync>

```

#### 4.5.7.3 Sync Request with BodyPreference and MIME Support

The following example shows a **Sync** command request (section [2.2.1.21](#)) that enables **MIME** support for email items that are returned from the server to the client.

```

<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync" xmlns:airsyncbase="AirSyncBase">
  <Collections>
    <Collection>
      <SyncKey>2</SyncKey>
      <CollectionId>17</CollectionId>
      <DeletesAsMoves/>
      <GetChanges/>
    </Collection>
  </Collections>

```

```

    <Options>
      <airsyncbase:BodyPreference>
        <airsyncbase:Type>4</airsyncbase:Type>
        <airsyncbase:TruncationSize>512</airsyncbase:TruncationSize>
      </airsyncbase:BodyPreference>
      <MIMESupport>1</MIMESupport>
    </Options>
  </Collection>
</Collections>
</Sync>

```

#### 4.5.7.4 Sync Response with MIME Support

The following example shows a **Sync** command response (section [2.2.1.21](#)) with **MIME** content sent from the server to the client.

```

<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync" xmlns:email="Email" xmlns:email2="Email2"
xmlns:airsyncbase="AirSyncBase">
  <Collections>
    <Collection>
      <SyncKey>3</SyncKey>
      <CollectionId>17</CollectionId>
      <Status>1</Status>
      <Commands>
        <Change>
          <ServerId>17;11</ServerId>
          <ApplicationData>
            <email:To>"Leonor Marques" <mailto:leonor@contoso.com></email:To>
            <email:From>"Wei Yu" <mailto:wei@contoso.com></email:From>
            <email:Subject>opaque s + e </email:Subject>
            <email:DateReceived>2007-02-01T06:42:46.015Z</email:DateReceived>
            <email:DisplayTo>Leonor Marques</email:DisplayTo>
            <email:ThreadTopic>opaque s + e</email:ThreadTopic>
            <email:Importance>1</email:Importance>
            <email:Read>1</email:Read>
            <airsyncbase:Attachments>
              <airsyncbase:Attachment>
                <airsyncbase:DisplayName>smime.p7m</airsyncbase:DisplayName>
                <airsyncbase:FileReference>17%3a11%3a0</airsyncbase:FileReference>
                <airsyncbase:Method>1</airsyncbase:Method>
                <airsyncbase:EstimatedDataSize>9340</airsyncbase:EstimatedDataSize>
              </airsyncbase:Attachment>
            </airsyncbase:Attachments>
            <airsyncbase:Body>
              <airsyncbase:Type>4</airsyncbase:Type>
              <airsyncbase:EstimatedDataSize>13814</airsyncbase:EstimatedDataSize>
              <airsyncbase:Truncated>1</airsyncbase:Truncated>
              <airsyncbase:Data>Received: from contoso.com ([157.55.97.121])
By contoso.com ([157.55.97.121]) with mapi;
Wed, 31 Jan 2007 22:42:45 -0800
From: Wei Yu <mailto:wei@contoso.com>;
To: Leonor <mailto:leonor@contoso.com>;
Content-Class: urn:content-classes:message
Date: Wed, 31 Jan 2007 22:42:41 -0800
Subject: opaque s + e
Thread-Topic: opaque s + e
Thread-Index: AcdFzCv5tyCXieBuTd2I5APpEvS+iQ==
Message-ID:
<3AA64EB47EA90</airsyncbase:Data>
            </airsyncbase:Body>
            <email:MessageClass>IPM.Note.SMIME</email:MessageClass>
            <email:InternetCPID>20127</email:InternetCPID>
            <email:Flag/>
            <email:ContentClass>urn:content-classes:message</email:ContentClass>
            <airsyncbase:NativeBodyType>1</airsyncbase:NativeBodyType>
          </ApplicationData>
        </Change>
      </Commands>
    </Collection>
  </Collections>
</Sync>

```

```

        <email2:ConversationId>...</email2:ConversationId>
        <email2:ConversationIndex>...</email2:ConversationIndex>
    </ApplicationData>
</Change>
</Commands>
</Collection>
</Collections>
</Sync>

```

#### 4.5.8 Identifying That More Content is Ready for Download

The following example shows a **Sync** command response (section [2.2.1.21](#)) message that indicates that more content is available for download from the server. Because the content exceeded the value indicated by the **airsync:WindowSize** element (section [2.2.3.199](#)) in the request, the **airsync:MoreAvailable** element (section [2.2.3.116](#)) is included in the response, indicating that additional content is available on the server for download.

```

<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync">
...
    <Collection>
        <SyncKey>2</SyncKey>
        <CollectionId>1</CollectionId>
        <Status>1</Status>
        <Commands>
            ...
        </Commands>
        <MoreAvailable/>
    </Collection>
...
</Sync>

```

#### 4.5.9 Synchronizing the Calendar Folder

The following sections show how a client performs the initial synchronization of the **Calendar folder** by using the **Sync** command (section [2.2.1.21](#)).

##### 4.5.9.1 Initial Request

The following example shows the initial **Sync** command request (section [2.2.1.21](#)) sent from the client to the server used to retrieve a nonzero **airsync:SyncKey** (section [2.2.3.181.4](#)) value for the collection. The nonzero **airsync:SyncKey** value is used by a second **Sync** command request to retrieve the contents of the collection. The **airsync:CollectionId** element (section [2.2.3.30.6](#)) identifies the **Calendar folder** as the collection being synchronized.

```

<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync">
    <Collections>
        <Collection>
            <SyncKey>0</SyncKey>
            <CollectionId>1</CollectionId>
            <DeletesAsMoves>1</DeletesAsMoves>
            <WindowSize>100</WindowSize>
        </Collection>
    </Collections>
</Sync>

```

#### 4.5.9.2 Initial Response

The following example shows the initial **Sync** command response (section [2.2.1.21](#)) used to synchronize the **Calendar folder**. The **airsync:SyncKey** (section [2.2.3.181.4](#)) value returned in the response is nonzero and is used in the next request to retrieve the contents of the Calendar folder.

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync">
  <Collections>
    <Collection>
      <SyncKey>1024910360</SyncKey>
      <CollectionId>1</CollectionId>
      <Status>1</Status>
    </Collection>
  </Collections>
</Sync>
```

#### 4.5.9.3 Second Request

The following example shows the second **Sync** command request (section [2.2.1.21](#)) used to synchronize the **Calendar folder**. The nonzero **airsync:SyncKey** element (section [2.2.3.181.4](#)) value from the previous **Sync** response is included in this request to retrieve the contents of the Calendar folder.

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync">
  <Collections>
    <Collection>
      <SyncKey>1024910360</SyncKey>
      <CollectionId>1</CollectionId>
      <DeletesAsMoves>1</DeletesAsMoves>
      <GetChanges>1</GetChanges>
      <WindowSize>100</WindowSize>
    </Collection>
  </Collections>
</Sync>
```

#### 4.5.9.4 Second Response

The following example shows the **Sync** command response (section [2.2.1.21](#)) used to synchronize the contents of the **Calendar folder**.

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns:calendar="Calendar" xmlns:airsyncbase="AirSyncBase" xmlns="AirSync">
  <Collections>
    <Collection>
      <SyncKey>1024910365</SyncKey>
      <CollectionId>1</CollectionId>
      <Status>1</Status>
      <Commands>
        <Add>
          <ServerId>1:1</ServerId>
          <ApplicationData>

<calendar:TimeZone>aAEEACgARwBNAFQALQAwADYAOGAwADAQAgAEMAZQBwAHQAQgBhAGwAIABUAGkAbQBIACAAKA
BVAFMAIAAmACAAQwAAAAaAAABAAIAAAAAAAAAAAAAACgARwBNAFQALQAwADYAOGAwADAQAgAEMAZQBwAHQAQgBhAGw
AIABUAGkAbQBIACAAKABVAFMAIAAmACAAQwAAAAAAMAAACAAIAAAAAAAAAAAXP//w==</calendar:TimeZone>

          <calendar:DtStamp>20091020T161724Z</calendar:DtStamp>
          <calendar:StartTime>20091020T163000Z</calendar:StartTime>
          <calendar:Subject>Status Meeting</calendar:Subject>

        </Add>
      </Commands>
    </Collection>
  </Collections>
</Sync>
```

```

<calendar:UID>040000008200E00074C5B7101A82E0080000000039F2FBCEA051CA010000000000000001000000
0D9221B7FF439514E87E0D2FE13295CE2</calendar:UID>
  <calendar:OrganizerName>Kim Truelsen</calendar:OrganizerName>
  <calendar:OrganizerEmail>kim@contoso.com</calendar:OrganizerEmail>
  <calendar:Attendees>
    <calendar:Attendee>
      <calendar:Email>toby@contoso.com</calendar:Email>
      <calendar:Name>Toby Nixon</calendar:Name>
      <calendar:AttendeeType>1</calendar:AttendeeType>
    </calendar:Attendee>
  </calendar:Attendees>
  <calendar:Location>My office</calendar:Location>
  <calendar:EndTime>20091020T173000Z</calendar:EndTime>
  <calendar:Recurrence>
    <calendar:Type>1</calendar:Type>
    <calendar:Interval>1</calendar:Interval>
    <calendar:DayOfWeek>4</calendar:DayOfWeek>
  </calendar:Recurrence>
  <airsyncbase:Body>
    <airsyncbase:Type>3</airsyncbase:Type>
    <airsyncbase:EstimatedDataSize>275</airsyncbase:EstimatedDataSize>
    <airsyncbase:Truncated>1</airsyncbase:Truncated>
  </airsyncbase:Body>
  <calendar:Sensitivity>0</calendar:Sensitivity>
  <calendar:BusyStatus>1</calendar:BusyStatus>
  <calendar:AllDayEvent>0</calendar:AllDayEvent>
  <calendar:Reminder>15</calendar:Reminder>
  <calendar:Exceptions>
    <calendar:Exception>
      <calendar:DtStamp>20091020T162543Z</calendar:DtStamp>
      <calendar:Location>Your office</calendar:Location>
      <airsyncbase:Body>
        <airsyncbase:Type>3</airsyncbase:Type>
        <airsyncbase:EstimatedDataSize>273</airsyncbase:EstimatedDataSize>
        <airsyncbase:Truncated>1</airsyncbase:Truncated>
      </airsyncbase:Body>
      <calendar:Categories />
      <calendar:ExceptionStartTime>20091020T163000Z</calendar:ExceptionStartTime>
      <calendar:BusyStatus>2</calendar:BusyStatus>
    </calendar:Exception>
  </calendar:Exceptions>
  <calendar:AppointmentReplyTime>20091020T180257Z</calendar:AppointmentReplyTime>
  <calendar:ResponseType>3</calendar:ResponseType>
  </calendar:Exception>
  <calendar:Exception>
    <calendar:DtStamp>20091027T161136Z</calendar:DtStamp>
    <calendar:StartTime>20091027T163000Z</calendar:StartTime>
    <calendar:EndTime>20091027T173000Z</calendar:EndTime>
    <calendar:Categories />
    <calendar:ExceptionStartTime>20091027T163000Z</calendar:ExceptionStartTime>
    <calendar:BusyStatus>2</calendar:BusyStatus>
  </calendar:Exception>
  <calendar:AppointmentReplyTime>20091027T161136Z</calendar:AppointmentReplyTime>
  <calendar:ResponseType>3</calendar:ResponseType>
  </calendar:Exception>
  </calendar:Exceptions>
  <calendar:MeetingStatus>3</calendar:MeetingStatus>
  <airsyncbase:NativeBodyType>3</airsyncbase:NativeBodyType>
  <calendar:ResponseRequested>1</calendar:ResponseRequested>
  <calendar:ResponseType>2</calendar:ResponseType>
</ApplicationData>
</Add>
<Add>
  <ServerId>1:2</ServerId>
  <ApplicationData>

<calendar:TimeZone>4AEAACgARwBNAFQALQAwADgAOgAwADAAKQAgAFAAYQBjAGkAZgBpAGMAIABUAGkAbQBlACAACA
BVAfMAIAAmACAAQwAAAAaAAAAAIAAAAAAAAAAAAAACgARwBNAFQALQAwADgAOgAwADAAKQAgAFAAYQBjAGkAZgBpAGM
AIABUAGkAbQBlACAABVAfMAIAAmACAAQwAAAAaAAAAAIAAAAAAAAAAAxP//w==</calendar:TimeZone>

```

```

<calendar:DtStamp>20091027T161226Z</calendar:DtStamp>
<calendar:StartTime>20091029T163000Z</calendar:StartTime>
<calendar:Subject>Planning meeting</calendar:Subject>

<calendar:UID>040000008200E00074C5B7101A82E008000000007D5639462057CA0100000000000000001000000
065870766FB4D69479C217C16F9AD5E5B</calendar:UID>
<calendar:OrganizerName>Kim Truelsen</calendar:OrganizerName>
<calendar:OrganizerEmail>kim@contoso.com</calendar:OrganizerEmail>
<calendar:Location />
<calendar:EndTime>20091029T173000Z</calendar:EndTime>
<airsyncbase:Body>
  <airsyncbase:Type>3</airsyncbase:Type>
  <airsyncbase:EstimatedDataSize>238</airsyncbase:EstimatedDataSize>
  <airsyncbase:Truncated>1</airsyncbase:Truncated>
</airsyncbase:Body>
<calendar:Sensitivity>0</calendar:Sensitivity>
<calendar:BusyStatus>2</calendar:BusyStatus>
<calendar:AllDayEvent>0</calendar:AllDayEvent>
<calendar:Reminder>15</calendar:Reminder>
<calendar:MeetingStatus>0</calendar:MeetingStatus>
<airsyncbase:NativeBodyType>3</airsyncbase:NativeBodyType>
<calendar:ResponseRequested>1</calendar:ResponseRequested>
<calendar:ResponseType>1</calendar:ResponseType>
</ApplicationData>
</Add>
</Commands>
</Collection>
</Collections>
</Sync>

```

#### 4.5.10 Empty Sync Request and Response

This section demonstrates a scenario in which an empty **Sync** request (section [2.2.1.21.1](#)) and an empty **Sync** response (section [2.2.1.21.2](#)) are exchanged between the client and server.

The scenario begins when a **Sync** request is issued by the client and indicates that there are no pending changes to report to the server. The **Sync** request is as follows:

```

<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync">
  <Collections>
    <Collection>
      <SyncKey>560109801</SyncKey>
      <CollectionId>5</CollectionId>
      <DeletesAsMoves>1</DeletesAsMoves>
      <GetChanges>1</GetChanges>
      <WindowSize>512</WindowSize>
    </Collection>
  </Collections>
  <HeartbeatInterval>60</HeartbeatInterval>
  <WindowSize>512</WindowSize>
</Sync>

```

When the server receives this **Sync** request and determines that it contains no changes, it caches the request for future use. The server then responds to the **Sync** request with an empty **Sync** response when no changes or errors have occurred on the server. The empty **Sync** response is as follows:

```

HTTP/1.1 200 OK
Date: Fri, 10 Apr 2009 20:32:39 GMT
Content-Length: 0

```



When the client receives the empty **Sync** response, it can in turn send an empty **Sync** request if there are no pending changes. The empty **Sync** request is as follows:

```
POST /Microsoft-Server-ActiveSync?Cmd=Sync&User=DeviceUser&DeviceId=v140Device&DeviceType=SmartPhone HTTP/1.1
Content-Type: application/vnd.ms-sync.wbxml
MS-ASProtocolVersion: 14.0
X-MS-PolicyKey: 2401271238
User-Agent: ASOM
Host: contoso.com
```

The exchange of the empty **Sync** requests and responses continues until a change is detected on either the client or server, at which time a **Sync** request or response with an **XML** payload is sent.

#### 4.5.11 Receiving a Substitute Meeting Invitation Email Message

The following example shows a **Sync** command response (section [2.2.1.21](#)) that contains a substitute meeting invitation email message, as specified in section [3.1.5.6.1](#). In this example, Jason Carlson has configured his calendar to give Toby Nixon delegate access. Toby receives copies of all meeting requests sent to Jason. David Jones has sent a meeting request to Jason with the following information:

| Meeting request field | Value  |
|-----------------------|--|
| <b>Subject</b>        | "Meet for lunch"                                     |
| <b>Start time</b>     | "2012-02-23T16:00:00.000Z"                           |
| <b>End time</b>       | "2012-02-23T17:00:00.000Z"                           |
| <b>Location</b>       | "Cafeteria downstairs"                               |
| <b>Body</b>           | "Let's meet for lunch to discuss upcoming projects." |

The server sends a **Sync** command response that contains the following.

```
<ApplicationData xmlns="AirSync" xmlns:email="Email" xmlns:email2="Email2"
xmlns:airsyncbase="AirSyncBase">
  <email:To>"Toby Nixon" &lt;toby@contoso.com&gt;</email:To>
  <email:From>"David Jones" &lt;david@contoso.com&gt;</email:From>
  <email:Subject>Meeting request for Jason Carlson: Meet for lunch</email:Subject>
  <email:DateReceived>2012-02-23T15:51:02.277Z</email:DateReceived>
  <email:DisplayTo>Toby Nixon</email:DisplayTo>
  <email:ThreadTopic>Meet for lunch</email:ThreadTopic>
  <email:Importance>1</email:Importance>
  <email:Read>1</email:Read>
  <airsyncbase:Body>
    <airsyncbase:Type>3</airsyncbase:Type>
    <airsyncbase:EstimatedDataSize>429</airsyncbase:EstimatedDataSize>
    <airsyncbase:Truncated>1</airsyncbase:Truncated>
  </airsyncbase:Body>
  <email:MessageClass>IPM.Note</email:MessageClass>
  <email:InternetCPID>28591</email:InternetCPID>
  <email:Flag />
  <email:ContentClass>urn:content-classes:message</email:ContentClass>
  <airsyncbase:NativeBodyType>3</airsyncbase:NativeBodyType>
  <email2:ConversationId>...</email2:ConversationId>
  <email2:ConversationIndex>...</email2:ConversationIndex>
  <email:Categories />
</airsync:ApplicationData>
```

The body of the item retrieved via the **ItemOperations** command (section [2.2.1.10](#)) has the following value:

```
When: Thursday, February 23, 2012 11:00 AM-12:00 PM. (UTC-05:00) Eastern Time (US & Canada)
Where: Cafeteria downstairs
```

```
*****
```

```
Let's meet for lunch to discuss upcoming projects.
```

## 4.6 Sending Email Messages by Using the SendMail Command

The following sections show how to send email messages by using the **SendMail** command (section [2.2.1.17](#)).

### 4.6.1 Request

The following example shows the **SendMail** command request (section [2.2.1.17](#)) sent from the client to the server to send an email message. The **composemail:ClientId** element (section [2.2.3.28.1](#)) represents the unique message ID of the message to be sent. The **composemail:SaveInSentItems** element (section [2.2.3.157](#)) indicates to the server that a copy of the message is placed in the **Sent Items folder**, and the **composemail:Mime** element (section [2.2.3.109](#)) contains the message contents.

```
<?xml version="1.0" encoding="utf-8"?>
<SendMail xmlns="ComposeMail">
  <ClientId>633916348086136194</ClientId>
  <SaveInSentItems />
  <Mime>From: testuser1
To: testuser2
Cc:
Bcc:
Subject:
MIME-Version: 1.0
Content-Type: text/plain; charset="iso-8859-1"
Content-Transfer-Encoding: 7bit
X-MimeOLE: Produced By Microsoft MimeOLE V6.00.2900.3350
This is the email body content.</Mime>
</SendMail>
```

### 4.6.2 Response

The following example shows the successful **SendMail** command response (section [2.2.1.17](#)) sent from the server to the client.

```
HTTP/1.1 200 OK
Date: Wed, 24 Feb 2010 16:33:31 GMT
Content-Length: 0
```

## 4.7 Replying to Email Messages by Using the SmartReply Command

The following sections show how to reply to email messages by using the **SmartReply** command (section [2.2.1.20](#)).

## 4.7.1 Request

The following example shows the **SmartReply** command request (section [2.2.1.20](#)) sent from the client to the server to reply to an email message. The **composemail:ClientId** element (section [2.2.3.28.1](#)) represents the unique message ID of the reply message to be sent. The **composemail:SaveInSentItems** element (section [2.2.3.157](#)) indicates to the server that a copy of the message is placed in the **Sent Items folder**. The **composemail:FolderId** element (section [2.2.3.74](#)) identifies the folder that contains the message that is being responded to, the **composemail:ItemId** element (section [2.2.3.93](#)) identifies the message being responded to, and the **composemail:Mime** element (section [2.2.3.109](#)) contains the message contents of the reply message.

```
<?xml version="1.0" encoding="utf-8"?>
<SmartReply xmlns="ComposeMail">
  <ClientId>d7b99822-685a-4a40-8dfb-87a114926986</ClientId>
  <SaveInSentItems />
  <Source>
    <FolderId>5</FolderId>
    <ItemId>5:10</ItemId>
  </Source>
  <Mime>From: testuser1
To: "Test User 2" &lt;testuser2@contoso.com>;
Cc:
Bcc:
Subject: RE: Lunch
MIME-Version: 1.0
Content-Type: text/plain; charset="iso-8859-1"
Content-Transfer-Encoding: 7bit
X-MimeOLE: Produced By Microsoft MimeOLE V6.00.2900.3350
This is the body of the smart reply message.</Mime>
</SmartReply>
```

## 4.7.2 Response

The following example shows the successful **SmartReply** command response (section [2.2.1.20](#)) sent from the server to the client. A successful **SmartReply** response contains no **XML** content.

```
HTTP/1.1 200 OK
Date: Wed, 22 Feb 2010 18:19:26 GMT
Content-Length: 0
```

## 4.8 Pinging the Server for Updates by Using the Ping Command

The following sections show how to query the server for updates by using the **Ping** command (section [2.2.1.13](#)).

### 4.8.1 Ping Command Request

The following example shows the **Ping** command request (section [2.2.1.13](#)) sent from the client to the server to query for new email received in the folder that has an **ping:Id** (section [2.2.3.90](#)) value of 5.

```
<?xml version="1.0" encoding="utf-8"?>
<Ping xmlns="Ping">
  <HeartbeatInterval>80</HeartbeatInterval>
  <Folders>
    <Folder>
      <Id>5</Id>
      <Class>Email</Class>
    </Folder>
  </Folders>
</Ping>
```

```

    </Folder>
  </Folders>
</Ping>

```

## 4.8.2 Ping Command Response

### 4.8.2.1 Typical Response

The following example shows a typical **Ping** command response (section [2.2.1.13](#)) when the heartbeat interval that was indicated by the client has expired and there were no changes in any of the identified folders.

```

<?xml version="1.0" encoding="utf-8"?>
<Ping xmlns="Ping">
  <Status>1</Status>
</Ping>

```

### 4.8.2.2 Response – Changes Found

The following example shows a **Ping** command response (section [2.2.1.13](#)) that indicates that changes have occurred in two folders that were being monitored. The client responds to this information by synchronizing the folders identified in the response (before reissuing the next **Ping** command request).

```

<?xml version="1.0" encoding="utf-8"?>
<Ping xmlns="Ping">
  <Status>2</Status>
  <Folders>
    <Folder>1234</Folder>
    <Folder>5678</Folder>
  </Folders>
</Ping>

```

### 4.8.2.3 Response – HeartbeatInterval Error

The following example shows a **Ping** command response (section [2.2.1.13](#)) to a **Ping** command request that indicated a heartbeat interval outside the acceptable range. The returned heartbeat interval is either the minimum or maximum allowed value. The client responds to this information by comparing the requested interval with the returned interval and determines whether the requested heartbeat interval was either too great or too small.

```

<?xml version="1.0" encoding="utf-8"?>
<Ping xmlns="Ping">
  <Status>5</Status>
  <HeartbeatInterval>60</HeartbeatInterval>
</Ping>

```

### 4.8.2.4 Response – Folder Error

The following example shows a **Ping** command response (section [2.2.1.13](#)) to a **Ping** command request where the number of folders that was indicated was greater than the maximum number of folders that are allowed to be monitored. The maximum number of folders that are allowed to be monitored is returned in the **ping:MaxFolders** element (section [2.2.3.102](#)).

```
<?xml version="1.0" encoding="utf-8"?>
<Ping xmlns="Ping">
  <Status>6</Status>
  <MaxFolders>200</MaxFolders>
</Ping>
```

## 4.9 Retrieving Item Estimates by Using the GetItemEstimate Command

The following sections show how to retrieve the number of items in a folder that require synchronization by using the **GetItemEstimate** command (section [2.2.1.9](#)).

### 4.9.1 Request

The following example shows the **GetItemEstimate** command request (section [2.2.1.9](#)) sent from the client to the server to retrieve the number of items in a folder that require synchronization. The **airsync:SyncKey** element (section [2.2.3.181.3](#)) in the request is set to the value returned by the last **Sync** command response (section [2.2.1.21](#)). The **getitemestimate:CollectionId** element (section [2.2.3.30.2](#)) identifies the folder to query, and the **airsync:Options** (section [2.2.3.125.2](#)) elements indicate any time filters or specific content class items to retrieve.

```
<?xml version="1.0" encoding="utf-8"?>
<GetItemEstimate xmlns="GetItemEstimate" xmlns:airsync="AirSync">
  <Collections>
    <Collection>
      <airsync:SyncKey>785971245</airsync:SyncKey>
      <CollectionId>5</CollectionId>
      <airsync:Options>
        <airsync:FilterType>0</airsync:FilterType>
        <airsync:Class>Email</airsync:Class>
      </airsync:Options>
    </Collection>
  </Collections>
</GetItemEstimate>
```

### 4.9.2 Response

The following example shows the **GetItemEstimate** command response (section [2.2.1.9](#)) sent from the server to the client. A **getitemestimate:Status** element (section [2.2.3.177.7](#)) value of 1 is returned to indicate that the **GetItemEstimate** request (section [2.2.1.9](#)) was completed successfully. The **getitemestimate:CollectionId** element (section [2.2.3.30.2](#)) identifies the folder that was queried, and the **getitemestimate:Estimate** element (section [2.2.3.65](#)) indicates the number of items that require synchronization in the folder.

```
<?xml version="1.0" encoding="utf-8"?>
<GetItemEstimate xmlns="GetItemEstimate">
  <Response>
    <Status>1</Status>
    <Collection>
      <CollectionId>5</CollectionId>
      <Estimate>1</Estimate>
    </Collection>
  </Response>
</GetItemEstimate>
```

## 4.10 Fetching Email and Attachments by Using the ItemOperations Command

The **ItemOperations** command (section [2.2.1.10](#)) enables the client to retrieve **PIM** items and attachments (in addition to document library items and search results) outside the **Sync** command (section [2.2.1.21](#)) context.

The following sections contain examples that focus on retrieval of items and attachments, following a simple request and response model. The following figure shows the request and response model used in fetching email and attachments.

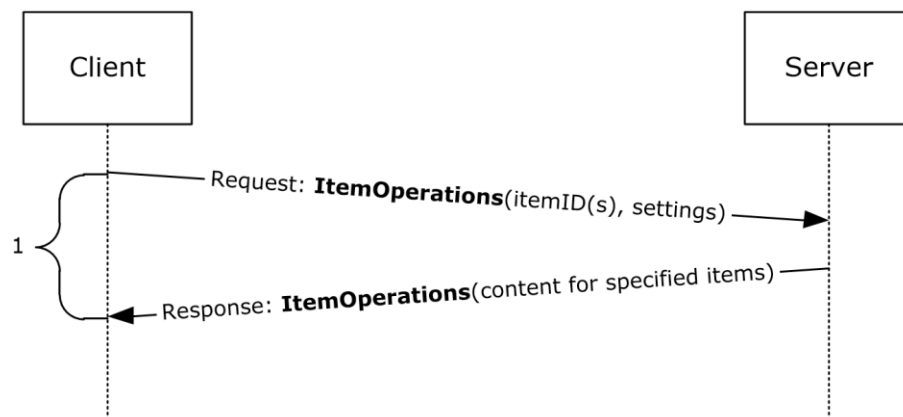


Figure 6: Fetching Email

### 4.10.1 Fetching an Email Item

The following sections show how the client retrieves an email message by using the **ItemOperations** command (section [2.2.1.10](#)).

#### 4.10.1.1 Request

The following example shows the **ItemOperations** command request (section [2.2.1.10](#)) sent from the client to the server to retrieve an email message.

```
<?xml version="1.0" encoding="utf-8"?>
<ItemOperations xmlns:airsync="AirSync"
xmlns:airsyncbase="AirSyncBase" xmlns="ItemOperations">
  <Fetch>
    <Store>Mailbox</Store>
    <airsync:CollectionId>7</airsync:CollectionId>
    <airsync:ServerId>7:1</airsync:ServerId>
    <Options>
      <airsyncbase:BodyPreference>
        <airsyncbase:Type>1</airsyncbase:Type>
        <airsyncbase:TruncationSize>5120</airsyncbase:TruncationSize>
        <airsyncbase:AllOrNone>0</airsyncbase:AllOrNone>
      </airsyncbase:BodyPreference>
    </Options>
  </Fetch>
</ItemOperations>
```

#### 4.10.1.2 Response

The following example shows the **ItemOperations** command response (section [2.2.1.10](#)) sent from the server to the client.

```
<?xml version="1.0" encoding="utf-8"?><ItemOperations
xmlns:airsync="AirSync" xmlns:email="Email" xmlns:email2="Email2"
xmlns="ItemOperations">
  <Status>1</Status>
  <Response>
    <Fetch>
      <Status>1</Status>
      <airsync:CollectionId>7</airsync:CollectionId>
      <airsync:ServerId>7:1</airsync:ServerId>
      <airsync:Class>Email</airsync:Class>
      <Properties>
        <email:To>"deviceuser" &lt;anat@contoso.com&gt;</email:To>
        <email:Cc>"deviceuser3" &lt;chris@contoso.com.com&gt;</email:Cc>
        <email:From>"deviceuser2" &lt;dag@contoso.com&gt;</email:From>
        <email:Subject>Subject</email:Subject>
        <email:DateReceived>2007-05-08T17:29:07.890Z
        </email:DateReceived>
        <email:DisplayTo>DeviceUserDisplayName</email:DisplayTo>
        <email:ThreadTopic>Subject</email:ThreadTopic>
        <email:Importance>1</email:Importance>
        <email:Read>0</email:Read>
        <airsyncbase:Body>
          <airsyncbase:Type>1</airsyncbase:Type>
          <airsyncbase:EstimatedDataSize>20
          </airsyncbase:EstimatedDataSize>
          <airsyncbase:Data>Body as plain text</airsyncbase:Data>
        </airsyncbase:Body>
        <email:MessageClass>IPM.Note</email:MessageClass>
        <email:InternetCPID>28591</email:InternetCPID>
        <email:Flag />
        <email:ContentClass>urn:content-classes:message
        </email:ContentClass>
        <airsyncbase:NativeBodyType>1</airsyncbase:NativeBodyType>
        <email2:ConversationId>...</email2:ConversationId>
        <email2:ConversationIndex>...</email2:ConversationIndex>
      </Properties>
    </Fetch>
  </Response>
</ItemOperations>
```

## 4.10.2 Fetching a MIME Email Item

The following sections show how the client retrieves a **MIME** email message by using the **airsync:MIMESupport** option (section [2.2.3.110.1](#)).

### 4.10.2.1 Request

The following example shows the **ItemOperations** command request (section [2.2.1.10](#)) sent from the client to the server to retrieve a **MIME** email message.

```
<?xml version="1.0" encoding="utf-8"?>
<ItemOperations xmlns="ItemOperations" xmlns:airsync="AirSync"
xmlns:airsyncbase="AirSyncBase">
  <Fetch>
    <Store>Mailbox</Store>
    <airsync:CollectionId>17</airsync:CollectionId>
    <airsync:ServerId>17:11</airsync:ServerId>
    <Options>
      <airsync:MIMESupport>1</airsync:MIMESupport>
      <airsyncbase:BodyPreference>
        <airsyncbase:Type>4</airsyncbase:Type>
      </airsyncbase:BodyPreference>
    </Options>
  </Fetch>
</ItemOperations>
```

```

    </Options>
  </Fetch>
</ItemOperations>

```

#### 4.10.2.2 Response

The following example shows the **ItemOperations** command response (section [2.2.1.10](#)) sent from the server to the client.

```

<?xml version="1.0" encoding="utf-8"?>
<ItemOperations xmlns="ItemOperations" xmlns:airsync="AirSync" xmlns:email="Email"
xmlns:email2="Email2" xmlns:airsyncbase="AirSyncBase">
  <Status>1</Status>
  <Response>
    <Fetch>
      <Status>1</Status>
      <airsync:CollectionId>17</airsync:CollectionId>
      <airsync:ServerId>17:11</airsync:ServerId>
      <airsync:Class>Email</airsync:Class>
      <Properties>
        <email:To>"Anat Kerry" &lt;anat@contoso.com&gt;</email:To>
        <email:From>"Chris Gray" &lt;chris@contoso.com&gt;</email:From>
        <email:Subject>opaque s + e</email:Subject>
        <email:DateReceived>2007-02-01T06:42:46.015Z</email:DateReceived>
        <email:DisplayTo>Anat Kerry</email:DisplayTo>
        <email:ThreadTopic>opaque s + e</email:ThreadTopic>
        <email:Importance>1</email:Importance>
        <email:Read>1</email:Read>
        <airsyncbase:Attachments>
          <airsyncbase:Attachment>
            <airsyncbase:DisplayName>smime.p7m</airsyncbase:DisplayName>

            <airsyncbase:FileReference>RgAAAAA4u8%2fWvU8lQ7GtLlC7V9V3BwCdyWYIRkOHRp2ozB%2f0DXQsAHgM%2bwAF
            AAA6pk60fqkEQbWH4Wm%2bnjh7AHgNBA%2bgAAAJ%3a0</airsyncbase:FileReference>
              <airsyncbase:Method>1</airsyncbase:Method>
              <airsyncbase:EstimatedDataSize>9340</airsyncbase:EstimatedDataSize>
            </airsyncbase:Attachment>
          </airsyncbase:Attachments>
          <airsyncbase:Body>
            <airsyncbase:Type>4</airsyncbase:Type>
            <airsyncbase:EstimatedDataSize>13813</airsyncbase:EstimatedDataSize>
            <airsyncbase:Data>Received: from contoso.com ([157.55.97.121])
              by contoso.com ([157.55.97.121]) with mapi;
              Wed, 31 Jan 2007 22:42:45 -0800
            From: Chris Gray &lt;chris@contoso.com&gt;
            To: Anat Kerry &lt;anat@contoso.com&gt;
            Content-Class: urn:content-classes:message
            Date: Wed, 31 Jan 2007 22:42:41 -0800
            Subject: opaque s + e
            Thread-Topic: opaque s + e
            Thread-Index: AcdFzCv5tyCXieBuTd2I5APpEvS+iQ==
            Message-ID:
              &lt;3AA64EB47EA90441B587E169BE9E387B780D00C326@contoso.com&gt;
            Content-Language: en-US
            X-MS-Exchange-Organization-AuthAs: Internal
            X-MS-Exchange-Organization-AuthMechanism: 04
            X-MS-Exchange-Organization-AuthSource:
              contoso.com
            X-MS-Has-Attach: yes
            X-MS-Exchange-Organization-SCL: -1
            X-MS-TNEF-Correlator:
            acceptlanguage: en-US
            Content-Type: application/x-pkcs7-mime; smime-type=enveloped-data;
            name="smime.p7m"
            Content-Disposition: attachment; filename="smime.p7m"
            Content-Transfer-Encoding: base64

```



MIME-Version: 1.0

```
MIAGCSqGSib3DQEHA6CAMIACAQAxggJEMIIBHgIBADCBhjB4MRMwEQYKCZImiZPyLQGQBGryDY29t
MRkwFwYKCZImiZPyLQGQBGryJbWljcm9zb2Z0MRYwFAYKCZImiZPyLQGQBGryGZXh0ZXN0MR0wGwYK
CZImiZPyLQGQBGryNamluZ2h1YWwMURPTTEPMA0GA1UEAxMGVGVzdENBAgonJIo2AAAAAAHMA0G
(Large section of sample data removed)
    </airsyncbase:Data>
  </airsyncbase:Body>
  <email:MessageClass>IPM.Note.SMIME</email:MessageClass>
  <email:InternetCPID>20127</email:InternetCPID>
  <email:Flag/>
  <email:ContentClass>urn:content-classes:message</email:ContentClass>
  <airsyncbase:NativeBodyType>1</airsyncbase:NativeBodyType>
  <email2:ConversationId>...</email2:ConversationId>
  <email2:ConversationIndex>...</email2:ConversationIndex>
</Properties>
</Fetch>
</Response>
</ItemOperations>
```

### 4.10.3 Fetching an Email Item with a LongId

The following sections show how the client retrieves an email message by using the **search:LongId** element (section [2.2.3.98.3](#)). The client uses the **Search** command (section [2.2.1.16](#)) to get the **search:LongId** value corresponding to the message, and then uses the **itemoperations:Fetch** element (section [2.2.3.67.1](#)) with the **search:LongId** element to retrieve the message.

#### 4.10.3.1 Search Request

The following example shows the **Search** command request (section [2.2.1.16](#)) sent from the client to the server to search for emails containing the text "Sales Totals".

```
<?xml version="1.0" encoding="utf-8"?>
<Search xmlns="Search" xmlns:airsync="AirSync"
xmlns:email="Email">
  <Store>
    <Name>Mailbox</Name>
    <Query>
      <And>
        <airsync:Class>Email</airsync:Class>
        <airsync:CollectionId>7</airsync:CollectionId>
        <FreeText>Sales Totals</FreeText>
      </And>
    </Query>
    <Options>
      <RebuildResults />
      <Range>0-4</Range>
    </Options>
  </Store>
</Search>
```

#### 4.10.3.2 Search Response

The following example shows the **Search** command response (section [2.2.1.16](#)) sent from the server to the client. The response includes email data for email that contains the string "Sales Totals". Included with the results is the **search:LongId** element (section [2.2.3.98.3](#)) that uniquely identifies the search result.

```
<?xml version="1.0" encoding="utf-8"?><Search xmlns:airsync="AirSync"
xmlns:email="Email" xmlns:email2="Email2" xmlns:airsyncbase="AirSyncBase"
```

```

xmlns="Search">
  <Status>1</Status>
  <Response>
    <Store>
      <Status>1</Status>
      <Result>
        <airsync:Class>Email</airsync:Class>
        <LongId>RgAAAAACYWCHnyBZ%2fTq8bujFmR1EPBwBzyWfENpcEQ7zU
        NyaWwM4BAAAA8FxEAABzyWfENpcEQ7zUNyaWwM4BAAAA8HACAAAJ</LongId>
        <airsync:CollectionId>7</airsync:CollectionId>
        <Properties>
          <email:To>"deviceuser" &lt;anat@contoso.com&gt;
          </email:To>
          <email:From>"deviceuser2" &lt;chris@contoso.com&gt;
          </email:From>
          <email:Subject>Sales Totals for April</email:Subject>
          <email:DateReceived>2007-05-08T17:29:07.890Z
          </email:DateReceived>
          <email:DisplayTo>DeviceUserDisplayName</email:DisplayTo>
          <email:ThreadTopic>Subject</email:ThreadTopic>
          <email:Importance>1</email:Importance>
          <email:Read>1</email:Read>
          <airsyncbase:Body>
            <airsyncbase:Type>1</airsyncbase:Type>
            <airsyncbase:EstimatedDataSize>6
            </airsyncbase:EstimatedDataSize>
            <airsyncbase:Truncated>1</airsyncbase:Truncated>
          </airsyncbase:Body>
          <email:MessageClass>IPM.Note</email:MessageClass>
          <email:InternetCPID>28591</email:InternetCPID>
          <email:Flag />
          <email:ContentClass>urn:content-classes:message
          </email:ContentClass>
          <airsyncbase:NativeBodyType>1</airsyncbase:NativeBodyType>
          <email2:ConversationId>...</email2:ConversationId>
          <email2:ConversationIndex>...</email2:ConversationIndex>
        </Properties>
      </Result>
      <Range>0-0</Range>
      <Total>1</Total>
    </Store>
  </Response>
</Search>

```

#### 4.10.3.3 ItemOperations Request

The following example shows the **ItemOperations** command request (section [2.2.1.10](#)) sent from the client to the server to retrieve the item found by the **Search** command (section [2.2.1.16](#)). The **itemoperations:Fetch** element (section [2.2.3.67.1](#)) includes the **search:LongId** element (section [2.2.3.98.3](#)) that was returned in the **Search** command response.

```

<?xml version="1.0" encoding="utf-8"?>
<ItemOperations xmlns:airsync="AirSync"
xmlns:airsyncbase="AirSyncBase" xmlns:search="Search"
xmlns="ItemOperations">
  <Fetch>
    <Store>Mailbox</Store>
    <search:LongId>RgAAAAACYWCHnyBZ%2fTq8bujFmR1EPBwBzyWfENpc
    EQ7zUNyaWwM4BAAAA8FxEAABzyWfENpcEQ7zUNyaWwM4BAAAA8HA
    CAAAJ</search:LongId>
    <Options>
      <airsyncbase:BodyPreference>
        <airsyncbase:Type>1</airsyncbase:Type>
      </airsyncbase:BodyPreference>
    </Options>
  </Fetch>
</ItemOperations>

```

```

    </Fetch>
  </ItemOperations>

```

#### 4.10.3.4 ItemOperations Response

The following example shows the **ItemOperations** command response (section [2.2.1.10](#)) sent from the server to the client. The response includes the **itemoperations:Fetch** element (section [2.2.3.67.1](#)), which contains the complete email for the message.

```

<?xml version="1.0" encoding="utf-8"?><ItemOperations
  xmlns:airsync="AirSync" xmlns:email="Email" xmlns:email2="Email2"
  xmlns="ItemOperations">
  <Status>1</Status>
  <Response>
    <Fetch>
      <Status>1</Status>
      <search:LongId>RgAAAACYWCHnyBZ%2ftq8bujFmR1EPBwBzyWfENpcEQ7zU
        NyaWwM4BAAA8FxEAABzyWfENpcEQ7zUNyaWwM4BAAA8HACAAAJ</search:LongId>
      <airsync:Class>Email</airsync:Class>
      <Properties>
        <email:To>"deviceuser" &lt;anat@contoso.com&gt;</email:To>
        <email:From>"deviceuser2" &lt;chris@contoso.com&gt;
        </email:From>
        <email:Subject>Sales Totals for April</email:Subject>
        <email:DateReceived>2007-05-08T17:29:07.890Z
        </email:DateReceived>
        <email:DisplayTo>DeviceUserDisplayName</email:DisplayTo>
        <email:ThreadTopic>Subject</email:ThreadTopic>
        <email:Importance>1</email:Importance>
        <email:Read>1</email:Read>
        <airsyncbase:Body>
          <airsyncbase:Type>1</airsyncbase:Type>
          <airsyncbase:EstimatedDataSize>20
          </airsyncbase:EstimatedDataSize>
          <airsyncbase:Data>Income generated by the sales department
            in April can be attributed to the following...
          </airsyncbase:Data>
        </airsyncbase:Body>
        <email:MessageClass>IPM.Note</email:MessageClass>
        <email:InternetCPID>28591</email:InternetCPID>
        <email:Flag />
        <email:ContentClass>urn:content-classes:message
        </email:ContentClass>
        <airsyncbase:NativeBodyType>1</airsyncbase:NativeBodyType>
        <email2:ConversationId>...</email2:ConversationId>
        <email2:ConversationIndex>...</email2:ConversationIndex>
      </Properties>
    </Fetch>
  </Response>
</ItemOperations>

```

#### 4.10.4 Fetching an Attachment

The following sections show how the client retrieves a new message with an attachment. The client uses the **Sync** command (section [2.2.1.21](#)) to synchronize a new message with an attachment to the client and then uses the **ItemOperations** command (section [2.2.1.10](#)) to retrieve the attachment.

In the XML schema code, HTML strings are escaped by using "&lt;" and "&gt;". However, as these values are passed over the wire, they are passed in their original **HTML** format, as "<" and ">".

#### 4.10.4.1 Sync Request

The following example shows the **Sync** command request (section [2.2.1.21](#)) sent from the client to the server to synchronize a new message with an attachment to the client.

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns:airsyncbase="AirSyncBase" xmlns="AirSync">
  <Collections>
    <Collection>
      <SyncKey>1</SyncKey>
      <CollectionId>7</CollectionId>
      <DeletesAsMoves />
      <GetChanges />
    </Collection>
  </Collections>
</Sync>
```

#### 4.10.4.2 Sync Response

The following example shows the **Sync** command response (section [2.2.1.21](#)) sent from the server to the client.

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns:email="Email"
xmlns:airsyncbase="AirSyncBase" xmlns="AirSync">
  <Collections>
    <Collection>
      <SyncKey>2</SyncKey>
      <CollectionId>7</CollectionId>
      <Status>1</Status>
      <Commands>
        <Add>
          <ServerId>7:1</ServerId>
          <ApplicationData>
            <email:To>"deviceuser" &lt;anat@contoso.com&gt;
            </email:To>
            <email:From>"deviceuser2" &lt;chris@contoso.com&gt;
            </email:From>
            <email:Subject>Email with Attachment</email:Subject>
            <email:DateReceived>2007-05-08T17:57:22.890Z
            </email:DateReceived>
            <email:DisplayTo>deviceuser</email:DisplayTo>
            <email:ThreadTopic>Email with Attachment
            </email:ThreadTopic>
            <email:Importance>1</email:Importance>
            <email:Read>0</email:Read>
            <airsyncbase:Attachments>
              <airsyncbase:Attachment>
                <airsyncbase:DisplayName>ActiveSyncClient
                AcceptingMeetingRequest.JPG</airsyncbase:DisplayName>
                <airsyncbase:FileReference>7%3a1%3a0
                </airsyncbase:FileReference>
                <airsyncbase:Method>1</airsyncbase:Method>
                <airsyncbase:EstimatedDataSize>18790
                </airsyncbase:EstimatedDataSize>
              </airsyncbase:Attachment>
            </airsyncbase:Attachments>
            <airsyncbase:Body>
              <airsyncbase:Type>2</airsyncbase:Type>
              <airsyncbase:EstimatedDataSize>58
              </airsyncbase:EstimatedDataSize>
              <airsyncbase:Truncated>1</airsyncbase:Truncated>
              <airsyncbase:Data>&lt;html&gt;</airsyncbase:Data>
            </airsyncbase:Body>
          </Add>
        </Commands>
      </Collection>
    </Collections>
  </Sync>
```



```

Jvc29mdCBDdb25maWRlbnRpYWwgDQpMYXN0IHVwZGF0ZWQgMy8xO
S8yMDA0IA==</Data>
</Properties>
</Fetch>
</Response>
</ItemOperations>

```

#### 4.10.5 Fetching an Email Item With a Multipart Response

The following sections show how the client requests a multipart response (as described in section [2.2.1.10.1](#)) to the **ItemOperations** command (as described in section [2.2.1.10](#)).

##### 4.10.5.1 Request

The following example shows the **ItemOperations** command request (as described in section [2.2.1.10](#)) sent from the client to the server to retrieve an email message. The request contains the MS-ASAcceptMultiPart header, described in [\[MS-ASHTTP\]](#) section 2.2.1.1.2.5, set to "T", indicating that the client will accept a multipart response.

```

POST /Microsoft-Server-ActiveSync?Cmd=ItemOperations
    &User=deviceuser&DeviceId=v140Device&DeviceType=PocketPC
Content-Type: application/vnd.ms-sync
MS-ASProtocolVersion: 14.1
MS-ASAcceptMultiPart: T

<?xml version="1.0" encoding="utf-8"?>
<ItemOperations xmlns:airsync="AirSync"
xmlns:airsyncbase="AirSyncBase" xmlns="ItemOperations">
  <Fetch>
    <Store>Mailbox</Store>
    <airsync:CollectionId>5</airsync:CollectionId>
    <airsync:ServerId>5:1</airsync:ServerId>
    <Options>
      <airsyncbase:BodyPreference>
        <airsyncbase:Type>1</airsyncbase:Type>
        <airsyncbase:TruncationSize>5120</airsyncbase:TruncationSize>
        <airsyncbase:AllOrNone>0</airsyncbase:AllOrNone>
      </airsyncbase:BodyPreference>
    </Options>
  </Fetch>
</ItemOperations>

```

##### 4.10.5.2 Response

The following example shows the multipart **ItemOperations** command response (as described in section [2.2.1.10.1](#)) sent from the server to the client.

```

HTTP/1.1 200 OK
Content-Type: application/vnd.ms-sync.multipart

0200000014000000F4010000080200001300000003016A000014454D033100014E464D03310001000052033500014
D03353A3100015003456D61696C000100144B0002560322446576696365205573657222203C646576696365757365
7240636F6E746F736F2E636F6D3E0001580322446576696365205573657222203C6465766963657573657240636F6
E746F736F2E636F6D3E0001540354657374204D756C74697061727420526573706F6E736500014F03323031322D30
352D30385432303A31353A34352E3231315A0001510344657669636520557365720001750354657374204D756C746
97061727420526573706F6E736500015203310001550330000100114E4F5003746573742E74787400015103526741
41414143333064496F6B2532624A6854616962504766417173414B427744326C516E4B25326662624151495264557
74230396B253262484141414141414141414141414141414141414141414141414141414141414141414141414141
46347141253262534141414A25336130000152033100014C033733000101014A46033100014C03313900010014510
3310001010002530349504D2E4E6F746500017903323835393100013A7C0375726E3A636F6E74656E742D636C6173

```

7365733A6D657373616765000100115603320001001649C310ADA57BDA90934B4CAE83B1A1AFDDEAD5014AC305CD2  
D5758360101010101546869732069732074686520626F64792E0D0A

Interpreting the binary body of the response as a **MultiPartResponse** structure (as described in section [2.2.1.10.1.1](#)) results in the following:

**PartCount** (4 bytes): 02000000 = 2

**PartsMetaData**[0] (8 bytes): 14000000F4010000 = **Offset**: 14000000 = 20, **Length**: F4010000 = 500

**PartsMetaData**[1] (8 bytes): 0802000013000000 = **Offset**: 08020000 = 520, **Length**: 13000000 = 19

The rest of the body makes up the **Parts** field of the **MultiPartResponse** structure.

The first part, described by the first **PartMetaData** structure (as described in section [2.2.1.10.1.1.1](#)) in the **PartsMetaData** field, contains the **WBXML** response. The data starts at 20 bytes from the start of the body, and is 500 bytes long.

```
03016A000014454D033100014E464D03310001000052033500014D03353A3100015003456D61696C000100144B000
2560322446576696365205573657222203C6465766963657573657240636F6E746F736F2E636F6D3E000158032244
6576696365205573657222203C6465766963657573657240636F6E746F736F2E636F6D3E0001540354657374204D7
56C74697061727420526573706F6E736500014F03323031322D30352D30385432303A31353A34352E3231315A0001
510344657669636520557365720001750354657374204D756C74697061727420526573706F6E73650001520331000
1550330000100114E4F5003746573742E7478740001510352674141414143333064496F6B2532624A685461696250
4766417173414B427744326C516E4B2532666262415149526455774230396B253262484141414141414141414141414143
26C516E4B2532666262415149526455774230396B25326248414146347141253262534141414A2533613000015203
3100014C033733000101014A46033100014C033139000100145103310001010002530349504D2E4E6F74650001790
3323835393100013A7C0375726E3A636F6E74656E742D636C61737365733A6D657373616765000100115603320001
001649C310ADA57BDA90934B4CAE83B1A1AFDDEAD5014AC305CD2D5758360101010101
```

This decodes into the following XML:

```
<?xml version="1.0" encoding="utf-8"?>
<ItemOperations xmlns="ItemOperations" xmlns:airsync="AirSync" xmlns:email="Email"
  xmlns:airsyncbase="AirSyncBase" xmlns:email2="Email2">
  <Status>1</Status>
  <Response>
    <Fetch>
      <Status>1</Status>
      <airsync:CollectionId>5</airsync:CollectionId>
      <airsync:ServerId>5:1</airsync:ServerId>
      <airsync:Class>Email</airsync:Class>
      <Properties>
        <email:To>"Device User" &lt;deviceuser@contoso.com&gt;</email:To>
        <email:From>"Device User" &lt;deviceuser@contoso.com&gt;</email:From>
        <email:Subject>Test Multipart Response</email:Subject>
        <email:DateReceived>2012-05-08T20:15:45.211Z</email:DateReceived>
        <email:DisplayTo>Device User</email:DisplayTo>
        <email:ThreadTopic>Test Multipart Response</email:ThreadTopic>
        <email:Importance>1</email:Importance>
        <email:Read>0</email:Read>
        <airsyncbase:Attachments>
          <airsyncbase:Attachment>
            <airsyncbase:DisplayName>test.txt</airsyncbase:DisplayName>
            <airsyncbase:FileReference>RgAAAC30dIok%2bJhTaibPGfAqsAKBwD2lQnK
              %2fbbAQIRdUwB09k%2bHAAAAAAVAAD2lQnK%2fbbAQIRdUwB09k%2bHAAF4qa
              %2bSAAAJ%3a0</airsyncbase:FileReference>
            <airsyncbase:Method>1</airsyncbase:Method>
            <airsyncbase:EstimatedDataSize>73</airsyncbase:EstimatedDataSize>
          </airsyncbase:Attachment>
        </airsyncbase:Attachments>
      </Fetch>
    </Response>
  </ItemOperations>
```

```

<airsyncbase:Body>
  <airsyncbase:Type>1</airsyncbase:Type>
  <airsyncbase:EstimatedDataSize>19</airsyncbase:EstimatedDataSize>
  <Part>1</Part>
</airsyncbase:Body>
<email:MessageClass>IPM.Note</email:MessageClass>
<email:InternetCPID>28591</email:InternetCPID>
<email:Flag />
<email:ContentClass>urn:content-classes:message</email:ContentClass>
<airsyncbase:NativeBodyType>2</airsyncbase:NativeBodyType>
<email2:ConversationId>
  <![CDATA[ADA57BDA90934B4CAE83B1A1AFDDEAD5]]>
</email2:ConversationId>
<email2:ConversationIndex><![CDATA[CD2D575836]]></email2:ConversationIndex>
</Properties>
</Fetch>
</Response>
</ItemOperations>

```

The **itemoperations:Part** element (described in section [2.2.3.130](#)) is present as a child of the **airsyncbase:Body** element (described in [\[MS-ASAIRS\]](#) section 2.2.2.9). This indicates that the part described by the second **PartMetaData** structure in the **PartsMetaData** field contains the data for the body of the email item. The **airsyncbase:Body** element has an **airsyncbase:Type** child element (described in [\[MS-ASAIRS\]](#) section 2.2.2.41.1) with a value of 1, which indicates that the body is plain text.

The data starts at 520 bytes from the start of the body, and is 19 bytes long.

```
546869732069732074686520626F64792E0D0A
```

Interpreting this data as plain text results in the following value:

```
This is the body.CRLF
```

## 4.11 Searching for an Item by Using the Find Command

The following section shows how the client performs searches with the Keyword Query Language (KQL) by using the **Find** command (section [2.2.1.2](#)).

### 4.11.1 Keyword Search using a Property Restriction

In the following example, the client searches all folders in the mailbox by using the "subject" property restriction and the keyword "mobile". The client requests the first six results.

#### 4.11.1.1 Request

The following example shows the **Find** command request (section [2.2.1.2](#)) sent from the client to the server to search all folders by using the "subject" property restriction and the keyword "mobile". This is specified in the **FreeText** element (section [2.2.3.80.1](#)).

```

<Find xmlns:A0="AirSync:" xmlns:A2="Email:" xmlns="Find:">
  <SearchId>7dc6ffa0-2aa5-43f6-b441-bdda13785428</SearchId>
  <ExecuteSearch>
    <MailBoxSearchCriterion>
      <Query>
        <A0:Class>Email</A0:Class>
        <FreeText>subject: mobile</FreeText>
      </Query>
    </MailBoxSearchCriterion>
  </ExecuteSearch>
</Find>

```



```

    </Query>
  <Options>
    <Range>0-5</Range>
  </Options>
</MailBoxSearchCriterion>
</ExecuteSearch>
</Find>

```

#### 4.11.1.2 Response

The following example shows the **Find** command response (section [2.2.1.2](#)) sent from the server to the client.

```

<Find xmlns="Find:">
  <Status>1</Status>
  <Response>
    <Store xmlns="ItemOperations:">Mailbox</Store>
    <Status>1</Status>
    <Result>
      <Class xmlns="AirSync:">Email</Class>
      <ServerId
xmlns="AirSync:">mCqOgC0G+ki3yxt8DlPYDgAAAAABDJgqjoAtBvpIt8sbfA5T2A4AAChJfyI=</ServerId>
      <CollectionId xmlns="AirSync:">5</CollectionId>
      <Properties>
        <Subject xmlns="Email:">Problem with your new mobile device partnership</Subject>
        <DateReceived xmlns="Email:">2016-05-03T18:17:33.000Z</DateReceived>
        <DisplayTo xmlns="Email:">Mike Contoso</DisplayTo>
        <DisplayCc xmlns="Email:">Mary Contoso; Susan Contoso</DisplayCc>
        <DisplayBcc xmlns="Email:">Steve Contoso; Anthony Contoso; Bill Contoso</DisplayBcc>
        <Importance xmlns="Email:">2</Importance>
        <Read xmlns="Email:">0</Read>
        <IsDraft xmlns="Email2:">0</IsDraft>
        <Preview>You have 100 device partnerships out of the maximum allowed 100
partnerships. After you reach the maximum, you can't create additional partnerships until you
delete existing ones from your account. To do this, sign in to Outlook Web App, click Options
&gt; P</Preview>
        <HasAttachments>1</HasAttachments>
        <From xmlns="Email:">"Microsoft Outlook" &lt;MicrosoftExchange@contoso.com</From>
      </Properties>
    </Result>
    <Range>0-1</Range>
    <Total>1</Total>
  </Response>
</Find>

```

### 4.12 Searching for an Item in the Mailbox by Using the Search Command

The following sections show how the client performs keyword searches by using the **Search** command (section [2.2.1.16](#)) and forwards search results for items in the mailbox by using the **SmartForward** command (section [2.2.1.19](#)).

#### 4.12.1 Keyword Search

In the following example, the client searches the **Inbox folder** in the mailbox by using the keyword "Presentation". The client requests the first five results and requests that text bodies be returned for the results. Note that the content of the **search:FreeText** element (section [2.2.3.80.2](#)) is not case-sensitive.

### 4.12.1.1 Request

The following example shows the **Search** command request (section [2.2.1.16](#)) sent from the client to the server to search the Inbox folder by using the keyword "Presentation".

```
<?xml version="1.0" encoding="utf-8"?>
<Search xmlns="Search" xmlns:airsync="AirSync">
  <Store>
    <Name>Mailbox</Name>
    <Query>
      <And>
        <airsync:CollectionId>7</airsync:CollectionId>
        <FreeText>Presentation</FreeText>
      </And>
    </Query>
    <Options>
      <RebuildResults />
      <Range>0-4</Range>
      <DeepTraversal/>
    </Options>
  </Store>
</Search>
```

### 4.12.1.2 Response

The following example shows the **Search** command response (section [2.2.1.16](#)) sent from the server to the client.

```
<?xml version="1.0" encoding="utf-8"?><Search xmlns:airsync="AirSync"
xmlns:email="Email" xmlns:airsyncbase="AirSyncBase"
xmlns:email2="Email2" xmlns="Search">
  <Status>1</Status>
  <Response>
    <Store>
      <Status>1</Status>
      <Result>
        <airsync:Class>Email</airsync:Class>
        <LongId>RgAAAACYWCHnyBZ%2fTq8bujFmR1EPBwBzyWfENpcEQ7
zUNyaWwM4BAAAA8FxEABzyWfENpcEQ7zUNyaWwM4BAAAA8HACAAAJ</LongId>
        <airsync:CollectionId>7</airsync:CollectionId>
        <Properties>
          <email:To>"deviceuser" &lt;anat@contoso.com&gt;
          </email:To>
          <email:From>"deviceuser2"&lt;chris@contoso.com&gt;
          </email:From>
          <email:Subject>Presentation</email:Subject>
          <email:DateReceived>2007-05-08T17:41:58.000Z
          </email:DateReceived>
          <email:DisplayTo>DeviceUserDisplayName</email:DisplayTo>
          <email:ThreadTopic>Presentation</email:ThreadTopic>
          <email:Importance>1</email:Importance>
          <email:Read>1</email:Read>
          <airsyncbase:Body>
            <airsyncbase:Type>1</airsyncbase:Type>
            <airsyncbase:EstimatedDataSize>6
            </airsyncbase:EstimatedDataSize>
            <airsyncbase:Truncated>1</airsyncbase:Truncated>
          </airsyncbase:Body>
          <email:MessageClass>IPM.Note</email:MessageClass>
          <email:InternetCPID>28591</email:InternetCPID>
          <email:Flag />
          <email:ContentClass>urn:content-classes:message
          </email:ContentClass>
          <airsyncbase:NativeBodyType>1</airsyncbase:NativeBodyType>
          <email2:ConversationId>f+Z0□7D'4□1t (iD</email2:ConversationId>
```

```

        <email2:ConversationIndex>Ë&#x1E;Ô~%</email2:ConversationIndex>
        <email2:LastVerbExecuted>3</email2:LastVerbExecuted>
        <email2:LastVerbExecutionTime>2010-07-
12T19:15:25.446Z</email2:LastVerbExecutionTime>
        <email:Categories/>
    </Properties>
</Result>
<Range>0-0</Range>
<Total>1</Total>
</Store>
</Response>
</Search>

```

#### 4.12.2 Forward a Search Result

In the following example, the client forwards an item in the search results by using the **composemail:LongId** value (section [2.2.3.98.4](#)) of the item.

##### 4.12.2.1 Request

The following example shows the **SmartForward** command request (section [2.2.1.19](#)) sent from the client to the server to forward an item in the search results. The **composemail:LongId** element value (section [2.2.3.98.4](#)) identifies the item being forwarded.

```

<?xml version="1.0" encoding="utf-8"?>
<SmartForward xmlns="ComposeMail">
  <ClientId>634145285982398784</ClientId>
  <Source>

<LongId>RgAAAAA%2fygDboRrKQ6odHngUY8KtBwCwZCmLZp1DQJqLAuQKTJwjAAAAjGzeAACwZCmLZp1DQJqLAuQKTJw
jAAAAjmbvAAAAJ</LongId>
  </Source>
  <Mime>From: anat@contoso.com
To: chris@contoso.com
Cc:
Bcc:
Subject: Presentation
MIME-Version: 1.0
Content-Type: text/plain; charset="iso-8859-1"
Content-Transfer-Encoding: 7bit
X-MimeOLE: Produced By Microsoft MimeOLE V6.00.2900.3350
This is the content of the forwarded message.</Mime>
</SmartForward>

```

##### 4.12.2.2 Response

The following example shows the **SmartForward** command response (section [2.2.1.19](#)) sent from the server to the client. The response indicates that the **SmartForward** command request was successful.

```

HTTP/1.1 200 OK
Date: Mon, 12 Jul 2010 19:15:26 GMT
Content-Length: 0

```

#### 4.12.3 Keyword Search with MIMESupport

In the following example, the client searches the **Inbox folder** in the mailbox by using the keyword "text". The client requests **MIME** data for all results.

### 4.12.3.1 Request

The following example shows the **Search** command request (section [2.2.1.16](#)) sent from the client to the server to search the **Inbox folder** by using the keyword "text".

```
<?xml version="1.0" encoding="utf-8"?>
<Search xmlns="Search" xmlns:airsyncbase="AirSyncBase" xmlns:airsync="AirSync">
  <Store>
    <Name>Mailbox</Name>
    <Query>
      <And>
        <airsync:Class>Email</airsync:Class>
        <FreeText>text</FreeText>
      </And>
    </Query>
    <Options>
      <RebuildResults/>
      <DeepTraversal/>
      <Range>0-999</Range>
      <airsyncbase:BodyPreference>
        <airsyncbase:Type>4</airsyncbase:Type>
        <airsyncbase:TruncationSize>1024</airsyncbase:TruncationSize>
        <airsyncbase:Preview>120</airsyncbase:Preview>
      </airsyncbase:BodyPreference>
      <airsync:MIMESupport>2</airsync:MIMESupport>
    </Options>
  </Store>
</Search>
```

### 4.12.3.2 Response

The following example shows the **Search** command response (section [2.2.1.16](#)) sent from the server to the client.

```
<?xml version="1.0" encoding="utf-8"?>
<Search xmlns:airsync="AirSync" xmlns:email="Email" xmlns:airsyncbase="AirSyncBase"
xmlns="Search">
  <Status>1</Status>
  <Response>
    <Store>
      <Status>1</Status>
      <Result>
        <airsync:Class>Email</airsync:Class>

        <LongId>RgAAAAAaty%2f%2b4QxHTJOZnIR0P9qkBwA6pk60fqkEQbWH4Wm%2bnjh7AJKAUQo6AAA6pk60fqkEQbWH4Wm%2bnjh7AJKAURrEAAAJ</LongId>
        <airsync:CollectionId>6</airsync:CollectionId>
        <Properties>
          <email:To>"Chris Gray" <mailto:chris@contoso.com></email:To>
          <email:From>"Jan Kotas" <mailto:jan@contoso.com></email:From>
          <email:Subject>Subject</email:Subject>
          <email>DateReceived>2007-04-02T19:20:32.000Z</email>DateReceived>
          <email:DisplayTo>Chris Gray</email:DisplayTo>
          <email:Read>1</email:Read>
          <airsyncbase:Body>
            <airsyncbase:Type>4</airsyncbase:Type>
            <airsyncbase:Preview>The beginning of this message</airsyncbase:Preview>
            <airsyncbase:EstimatedDataSize>2288</airsyncbase:EstimatedDataSize>
            <airsyncbase:Truncated>1</airsyncbase:Truncated>
            <airsyncbase:Data>Received: from 157.55.97.120 ([157.55.97.120]) by
contoso.com ([157.55.97.121]) with Microsoft Exchange Server HTTP-DAV ; Mon, 2 Apr 2007
19:20:32 +0000 From: Jan Kotas <mailto:jan@contoso.com> To: Chris Gray <mailto:chris@contoso.com>
Content-Class: urn:content-classes:message Date: Mon, 27 Apr 1998 13:05:29 -0700 Subject:
Subject Thread-Topic: Topic Message-ID:
<mailto:3AA64EB47EA90441B587E169BE9E387B9280511AC4@contoso.com> Accept-Language: en-US X-MS-Has-
```

```

Attach: X-MS-TNEF-Correlator: Content-Type: text/plain; charset="iso-8859-1" Content-
Transfer-Encoding: quoted-printable MIME-Version: 1.0
Body1234567890123456789012345678901234567890123456789012345678901=
23456789012345678901234567890123456789012345678901234567890123456=
78901234567890123456789012345678901234567890123456789012345678901=
2345678901234567890123456789012345678901234567890123456789</airsynbase:Data>
    </airsynbase:Body>
    <email:MessageClass>IPM.Note</email:MessageClass>
    <email:InternetCPID>28591</email:InternetCPID>
    <email:Flag/>
    <email:ContentClass>urn:content-classes:message</email:ContentClass>
    <airsynbase:NativeBodyType>1</airsynbase:NativeBodyType>
  </Properties>
</Result>
<Range>0-0</Range>
<Total>1</Total>
</Store>
</Response>
</Search>

```

#### 4.13 Searching the Global Address List by Using the Search Command

The following sections show how to search the **GAL** by using the **Search** command (section [2.2.1.16](#)).

### 4.13.1 Request

The following example shows a **Search** command request (section [2.2.1.16](#)) sent from the client to the server. The **search:Name** element (section [2.2.3.120.2](#)) identifies the **GAL** as the store to search, and the **search:Query** element (section [2.2.3.142.2](#)) identifies the search string as "Anat". Within the **search:Options** element (section [2.2.3.125.5](#)), the **search:Range** element (section [2.2.3.143.3](#)) indicates that a maximum of two results can be returned in the response, the **search:RebuildResults** element (section [2.2.3.144](#)) indicates that the server will rebuild the **search folder**, and the **search:DeepTraversal** element (section [2.2.3.41.2](#)) indicates that all subfolders are searched.

```
<?xml version="1.0" encoding="utf-8"?>
<Search xmlns="Search">
  <Store>
    <Name>GAL</Name>
    <Query>Anat</Query>
    <Options>
      <Range>0-1</Range>
      <RebuildResults/>
      <DeepTraversal/>
    </Options>
  </Store>
</Search>
```

### 4.13.2 Response

The following example shows the **Search** command response (section [2.2.1.16](#)) sent from the server to the client. A **search:Status** element (section [2.2.3.177.13](#)) value of 1 is returned to indicate that the search was successful. The **search:Result** elements (section [2.2.3.155.3](#)) contain the **GAL** entries for the first two results that met the search criteria.

```
<?xml version="1.0" encoding="utf-8"?>
<Search xmlns:gal="Gal" xmlns="Search">
  <Status>1</Status>
  <Response>
    <Store>
      <Status>1</Status>
    </Store>
  </Response>
</Search>
```

```

<Result>
  <Properties>
    <gal:DisplayName>Anat Kerry</gal:DisplayName>
    <gal:Phone>+1 (301) 5550156 X8376</gal:Phone>
    <gal:Office>Bldg36/6163</gal:Office>
    <gal:Title>SDE</gal:Title>
    <gal:Company>Contoso</gal:Company>
    <gal:Alias>anatk</gal:Alias>
    <gal:FirstName>Anat</gal:FirstName>
    <gal:LastName>Kerry</gal:LastName>
    <gal:EmailAddress>anatk@contoso.com</gal:EmailAddress>
  </Properties>
</Result>
<Result>
  <Properties>
    <gal:DisplayName>Anat Gray</gal:DisplayName>
    <gal:Phone>+1 (953) 5550195 </gal:Phone>
    <gal:Office>Bldg2/2710</gal:Office>
    <gal:Title>SDET</gal:Title>
    <gal:Company>Contoso</gal:Company>
    <gal:Alias>anatg</gal:Alias>
    <gal:FirstName>Anat</gal:FirstName>
    <gal:LastName>Gray</gal:LastName>
    <gal:MobilePhone>+1 (953) 5550167</gal:MobilePhone>
    <gal:EmailAddress>anatg@contoso.com</gal:EmailAddress>
  </Properties>
</Result>
<Range>0-1</Range>
<Total>11</Total>
</Store>
</Response>
</Search>

```

## 4.14 Working with Folders

The following sections show how to create folders by using the **FolderCreate** command (section [2.2.1.3](#)), delete folders by using the **FolderDelete** command (section [2.2.1.4](#)), update folders by using the **FolderUpdate** command (section [2.2.1.6](#)), and empty folder contents by using the **ItemOperations** command (section [2.2.1.10](#)).

### 4.14.1 Creating Folders by Using the FolderCreate Command

The following sections show how to create a folder by using the **FolderCreate** command (section [2.2.1.3](#)).

#### 4.14.1.1 Request

The following example shows a **FolderCreate** command request (section [2.2.1.3](#)) sent from the client to the server. The **folderhierarchy:SyncKey** element (section [2.2.3.181.1](#)) in the request is set to 1, which is the **folderhierarchy:SyncKey** value returned in the last **FolderSync** response (section [4.4.2](#)). The **folderhierarchy:ParentId** element (section [2.2.3.129.1](#)) indicates that this is a child folder of the **Inbox folder**, the **folderhierarchy:Type** element (section [2.2.3.186.2](#)) indicates that this is an email folder, and the **folderhierarchy:DisplayName** element (section [2.2.3.49.3](#)) identifies the display name of the folder as "NewFolder".

```

<?xml version="1.0" encoding="utf-8"?>
<FolderCreate xmlns="FolderHierarchy">
  <SyncKey>1</SyncKey>
  <ParentId>5</ParentId>
  <DisplayName>NewFolder</DisplayName>
  <Type>12</Type>

```

```
</FolderCreate>
```

#### 4.14.1.2 Response

The following example shows the **FolderCreate** command response (section [2.2.1.3](#)) sent from the server to the client. A **folderhierarchy:Status** element (section [2.2.3.177.3](#)) value of 1 is returned to indicate that the new folder creation was successful. The **folderhierarchy:SyncKey** element (section [2.2.3.181.1](#)) value has been incremented in the response, and this value is to be used in the next **FolderSync** request (section [2.2.1.21](#)), **FolderCreate** request (section [2.2.1.3](#)), **FolderDelete** request (section [2.2.1.4](#)), or **FolderUpdate** request (section [2.2.1.6](#)). The **folderhierarchy:ServerId** element (section [2.2.3.166.2](#)) value indicates the ID of the new folder.

```
<?xml version="1.0" encoding="utf-8"?>
<FolderCreate xmlns="FolderHierarchy">
  <Status>1</Status>
  <SyncKey>2</SyncKey>
  <ServerId>13</ServerId>
</FolderCreate>
```

#### 4.14.2 Deleting Folders by Using the FolderDelete Command

The following sections show how to delete a folder by using the **FolderDelete** command (section [2.2.1.4](#)).

##### 4.14.2.1 Request

The following example shows a **FolderDelete** command request (section [2.2.1.4](#)) that is sent from the client to the server to delete a folder. The **folderhierarchy:SyncKey** element (section [2.2.3.181.1](#)) value in the request is set to 2, which is the **folderhierarchy:SyncKey** element value returned in the last **FolderCreate** response (section [4.14.1.2](#)). The **folderhierarchy:ServerId** element (section [2.2.3.166.3](#)) value identifies which folder to delete.

```
<?xml version="1.0" encoding="utf-8"?>
<FolderDelete xmlns="FolderHierarchy">
  <SyncKey>2</SyncKey>
  <ServerId>13</ServerId>
</FolderDelete>
```

##### 4.14.2.2 Response

The following example shows the **FolderDelete** command response (section [2.2.1.4](#)) sent from the server to the client. A **folderhierarchy:Status** element (section [2.2.3.177.4](#)) value of 1 is returned to indicate that the folder deletion was successful. The **folderhierarchy:SyncKey** element (section [2.2.3.181.1](#)) value has been incremented in the response, and this value is to be used in the next **FolderSync** request (section [2.2.1.21](#)), **FolderCreate** request (section [2.2.1.3](#)), **FolderDelete** request, or **FolderUpdate** request (section [2.2.1.6](#)).

```
<?xml version="1.0" encoding="utf-8"?>
<FolderDelete xmlns="FolderHierarchy">
  <Status>1</Status>
  <SyncKey>3</SyncKey>
</FolderDelete>
```

### 4.14.3 Updating Folders by Using the FolderUpdate Command

The following sections show how to update a folder by using the **FolderUpdate** command (section [2.2.1.6](#)).

#### 4.14.3.1 Request

The following example shows a **FolderUpdate** command request (section [2.2.1.6](#)) sent from the client to the server to update a folder. This request is changing the display name of the folder to "NewName". The **folderhierarchy:SyncKey** element (section [2.2.3.181.1](#)) value in the request is set to 3, which is the **folderhierarchy:SyncKey** element value returned in the last **FolderSync** response (section [4.14.2.2](#)). The **folderhierarchy:ServerId** element (section [2.2.3.166.5](#)) indicates the ID of the folder whose name is being updated, and the **folderhierarchy:ParentID** element (section [2.2.3.129.3](#)) indicates the ID of the parent folder.

```
<?xml version="1.0" encoding="utf-8"?>
<FolderUpdate xmlns="FolderHierarchy">
  <SyncKey>3</SyncKey>
  <ServerId>14</ServerId>
  <ParentId>5</ParentId>
  <DisplayName>NewName</DisplayName>
</FolderUpdate>
```

#### 4.14.3.2 Response

The following example shows the **FolderUpdate** command response (section [2.2.1.6](#)) sent from the server to the client. A **folderhierarchy:Status** element (section [2.2.3.177.6](#)) element value of 1 is returned to indicate that the folder update was successful. The **folderhierarchy:SyncKey** element (section [2.2.3.181.1](#)) value has been incremented in the response, and this value is to be used in the next **FolderSync** request (section [2.2.1.5](#)), **FolderCreate** request (section [2.2.1.3](#)), **FolderDelete** request (section [2.2.1.4](#)), or **FolderUpdate** request.

```
<?xml version="1.0" encoding="utf-8"?>
<FolderUpdate xmlns="FolderHierarchy">
  <Status>1</Status>
  <SyncKey>4</SyncKey>
</FolderUpdate>
```

### 4.14.4 Emptying Folder Contents by Using the ItemOperations Command

The following sections show how to empty the contents of a folder by using the **ItemOperations** command (section [2.2.1.10](#)).

#### 4.14.4.1 Request

The following example shows an **ItemOperations** command request (section [2.2.1.10](#)) sent from the client to the server to delete the contents of a folder. The **itemoperations:EmptyFolderContents** element (section [2.2.3.58](#)) contains the **airsync:CollectionId** element (section [2.2.3.30.3](#)) value that identifies the folder whose contents are deleted.

```
<?xml version="1.0" encoding="utf-8"?>
<ItemOperations xmlns:airsync="AirSync" xmlns="ItemOperations">
  <EmptyFolderContents>
    <airsync:CollectionId>15</airsync:CollectionId>
  </EmptyFolderContents>
</ItemOperations>
```



#### 4.14.4.2 Response

The following example shows the **ItemOperations** command response (section [2.2.1.10](#)) sent from the server to the client. An **itemoperations:Status** element (section [2.2.3.177.8](#)) value of 1 is returned to indicate that the folder deletion was successful. The **itemoperations:EmptyFolderContents** element (section [2.2.3.58](#)) and **airsync:CollectionId** element (section [2.2.3.30.3](#)) provide confirmation of the folder whose contents were deleted.

```
<?xml version="1.0" encoding="utf-8"?>
<ItemOperations xmlns:airsync="AirSync" xmlns="ItemOperations">
  <Status>1</Status>
  <Response>
    <EmptyFolderContents>
      <Status>1</Status>
      <airsync:CollectionId>15</airsync:CollectionId>
    </EmptyFolderContents>
  </Response>
</ItemOperations>
```

#### 4.15 Moving Items to Another Folder by Using the MoveItems Command

The following sections show how to move items to another folder by using the **MoveItems** command (section [2.2.1.12](#)).

##### 4.15.1 Request

The following example shows a **MoveItems** command request (section [2.2.1.12](#)) sent from the client to the server to move an item from one folder to another. The **move:SrcMsgId** element (section [2.2.3.175](#)) identifies the item to move. The **move:SrcFldId** element (section [2.2.3.174](#)) identifies the folder ID of the folder that currently contains the item, and the **move:DstFldId** element (section [2.2.3.51.2](#)) identifies the destination folder.

```
<?xml version="1.0" encoding="utf-8"?>
<MoveItems xmlns="Move">
  <Move>
    <SrcMsgId>5:1</SrcMsgId>
    <SrcFldId>5</SrcFldId>
    <DstFldId>14</DstFldId>
  </Move>
</MoveItems>
```

##### 4.15.2 Response

The following example shows the **MoveItems** command response (section [2.2.1.12](#)) sent from the server to the client. A **move:Status** element (section [2.2.3.177.10](#)) value of 3 is returned to indicate that the move operation was successful. The **move:SrcMsgId** element (section [2.2.3.175](#)) identifies the original ID of the item to move, and the **move:DstMsgId** element (section [2.2.3.52](#)) identifies the new ID of the item that was moved.

```
<?xml version="1.0" encoding="utf-8"?>
<MoveItems xmlns="Move">
  <Response>
    <SrcMsgId>5:1</SrcMsgId>
    <Status>3</Status>
    <DstMsgId>14:1</DstMsgId>
  </Response>
</MoveItems>
```

## 4.16 Creating Meetings

The following sections contain examples that show how a new meeting is uploaded to the server, how the client sends the meeting request, how the new meeting request is added to the attendee's **Inbox folder**, and how the new meeting is added to the attendee's **Calendar folder**.

### 4.16.1 Uploading a Meeting to the Server

The following sections show how to upload a meeting to the server by using the **Sync** command (section [2.2.1.21](#)).

#### 4.16.1.1 Request

The following example shows a **Sync** command request (section [2.2.1.21](#)) sent from the client to the server to upload a meeting to the **Calendar folder** on the server. The **Sync** request contains a new meeting that has one attendee.

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns:calendar="Calendar" xmlns="AirSync">
  <Collections>
    <Collection>
      <SyncKey>509910681</SyncKey>
      <CollectionId>1</CollectionId>
      <GetChanges>1</GetChanges>
      <Commands>
        <Add>
          <ClientId>1</ClientId>
          <ApplicationData>

            <calendar:TimeZone>4AEAACgARwBNAFQALQAwADgAOgAwADAAKQAgAFAAYQBjAGkAZgBpAGMAIABUAGkAbQBlACAACA
            BVAFMAIAAmACAAQwAAAAaAAAAIAAAAAAAAAAAAAACgARwBNAFQALQAwADgAOgAwADAAKQAgAFAAYQBjAGkAZgBpAGM
            AIABUAGkAbQBlACAABVAFMAIAAmACAAQwAAAAaAAAAIAAAAAAAAAAAxP//w==</calendar:TimeZone>
              <calendar:DtStamp>20100406T170219Z</calendar:DtStamp>
              <calendar:StartTime>20100503T090000Z</calendar:StartTime>
              <calendar:Subject>TestMeeting</calendar:Subject>

            <calendar:UID>040000008200E00074C5B7101A82E0080000000036BD76EAAAD5CA010000000000000001000000
            0C45185F686A5D542B20BF2CE2F477D55</calendar:UID>
              <calendar:Attendees>
                <calendar:Attendee>
                  <calendar:Email>testuser2@contoso.com</calendar:Email>
                  <calendar:Name>Test User 2</calendar:Name>
                  <calendar:AttendeeStatus>0</calendar:AttendeeStatus>
                  <calendar:AttendeeType>1</calendar:AttendeeType>
                </calendar:Attendee>
              </calendar:Attendees>
              <calendar:Location>My Office</calendar:Location>
              <calendar:EndTime>20100503T100000Z</calendar:EndTime>
              <calendar:Sensitivity>0</calendar:Sensitivity>
              <calendar:BusyStatus>1</calendar:BusyStatus>
              <calendar:AllDayEvent>0</calendar:AllDayEvent>
            </ApplicationData>
          </Add>
        </Commands>
      </Collection>
    </Collections>
  </Sync>
```

#### 4.16.1.2 Response

The following example shows a **Sync** command response (section [2.2.1.21](#)) sent from the server to the client for the **Calendar folder**. The **airsync:SyncKey** element (section [2.2.3.181.4](#)) value is

incremented and a **airsync:Status** element (section [2.2.3.177.17](#)) value of 1 is returned to indicate that the **Sync** command was successful. The **airsync:ServerId** element (section [2.2.3.166.8](#)) value is the ID for the new meeting.

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync">
  <Collections>
    <Collection>
      <SyncKey>993351228</SyncKey>
      <CollectionId>1</CollectionId>
      <Status>1</Status>
      <Responses>
        <Add>
          <ClientId>1</ClientId>
          <ServerId>1:3</ServerId>
          <Status>1</Status>
        </Add>
      </Responses>
    </Collection>
  </Collections>
</Sync>
```

## 4.16.2 Sending Meeting Requests

The following sections show how to send a meeting request to an attendee's **Inbox folder** by using the **SendMail** command (section [2.2.1.17](#)).

### 4.16.2.1 Request

The following example shows a **SendMail** command request (section [2.2.1.17](#)) sent from the meeting organizer's client to the server. The **SendMail** command request contains the meeting request for the new calendar item uploaded to the server in section [4.16.1.1](#).

As described in [\[RFC2447\]](#) section 3.4, meeting requests have a content type of "text/calendar" with the *method* parameter set to "REQUEST". The details of the meeting request are sent in iCalendar format, as described in [\[MS-OXCICAL\]](#).

```
<?xml version="1.0" encoding="utf-8"?>
<SendMail xmlns="ComposeMail">
  <ClientId>3</ClientId>
  <SaveInSentItems/>
  <Mime>X-MimeOLE: Produced By Microsoft Exchange V6.5.7226.0
Received: by contoso.com
      id <1C4F431.619431CA@contoso.com>; Tue, 6 Apr 2010 14:52:31 -0800
MIME-Version: 1.0
Content-Type: multipart/alternative;
      boundary="---- = NextPart 001 01C4F431.619431CA"
Content-class: urn:content-classes:calendarmessage
Subject: TestMeeting
Date: Tue, 6 Apr 2010 17:02:19 -0800
Message-ID: <1E1FC9DA1767ED44872F4E17AC17E8F7011CF265@contoso.com>;
X-MS-Has-Attach:
X-MS-TNEF-Correlator:
Thread-Topic: dD)g <X`WS
Thread-Index: Act0MWkdH8lvfizmRrysZICO2nAkVQAAAFg
From: chris@contoso.com
To: kim@contoso.com

This is a multi-part message in MIME format.

----- _NextPart_001_01C4F431.619431CA
Content-Type: text/html;
      charset="iso-8859-1"
```

Content-Transfer-Encoding: quoted-printable

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 3.2//EN">
<HTML>
<HEAD>
<META HTTP-EQUIV=3D"Content-Type" CONTENT=3D"text/html; =
charset=3Diso-8859-1">
<META NAME=3D"Generator" CONTENT=3D"MS Exchange Server version =
6.5.7232.36">
<TITLE>TestMeeting</TITLE>
</HEAD>
<BODY>
<!-- Converted from text/rtf format -->

<P><B><FONT SIZE=3D2 FACE=3D"System">This is a meeting
request.</FONT><B>
</P>
```

```
</BODY>
</HTML>
-----_NextPart_001_01C4F431.619431CA
Content-class: urn:content-classes:calendarmessage
Content-Type: text/calendar;
    method=REQUEST;
    name="meeting.ics"
Content-Transfer-Encoding: 8bit
```

```
BEGIN:VCALENDAR
METHOD:REQUEST
PRODID:Microsoft CDO for Microsoft Exchange
VERSION:14.1
BEGIN:VTIMEZONE
TZID:(GMT-08.00) Pacific Time (US & Canada)/Tijuana
X-MICROSOFT-CDO-TZID:13
BEGIN:STANDARD
DTSTART:16010101T020000
TZOFFSETFROM:-0700
TZOFFSETTO:-0800
RRULE:FREQ=YEARLY;WKST=MO;INTERVAL=1;BYMONTH=11;BYDAY=1SU
END:STANDARD
BEGIN:DAYLIGHT
DTSTART:16010101T020000
TZOFFSETFROM:-0800
TZOFFSETTO:-0700
RRULE:FREQ=YEARLY;WKST=MO;INTERVAL=1;BYMONTH=3;BYDAY=2SU
END:DAYLIGHT
END:VTIMEZONE
BEGIN:VEVENT
DTSTAMP:20100406T170219
DTSTART;TZID="(GMT-08.00) Pacific Time (US & Canada)/Tijuana":20100503T090000
SUMMARY:TestMeeting
UID:140000008200E00074C5B7101A82E00800000000E03FFF5AEEF3C401000000000000000
010000000972B1A80D193D54E8DD185652818A128
ATTENDEE;ROLE=REQ-PARTICIPANT;PARTSTAT=NEEDS-
ACTION;RSVP=TRUE;CN="testuser2":MAILTO:testuser2@contoso.com
ORGANIZER;CN="testuser1":MAILTO:testuser1@contoso.com
LOCATION:My Office\N
DTEND;TZID="(GMT-08.00) Pacific Time (US & Canada)/Tijuana":20100503T100000
DESCRIPTION:Test meeting\N
SEQUENCE:0
PRIORITY:5
CLASS:
CREATED:20100406T170219
LAST-MODIFIED:20100406T170219Z
STATUS:CONFIRMED
TRANSP:OPAQUE
X-MICROSOFT-CDO-BUSYSTATUS:BUSY
X-MICROSOFT-CDO-INSTTYPE:0
X-MICROSOFT-CDO-INTENDEDSTATUS:BUSY
```

```

X-MICROSOFT-CDO-ALLDAYEVENT:FALSE
X-MICROSOFT-CDO-IMPORTANCE:1
X-MICROSOFT-CDO-OWNERAPPTID:-2673127979
BEGIN:VALARM
ACTION:DISPLAY
DESCRIPTION:REMINDER
TRIGGER;RELATED=START:-PT00H15M00S
END:VALARM
END:VEVENT
END:VCALENDAR

-----=_NextPart_001_01C4F431.619431CA--</Mime>
</SendMail>

```

#### 4.16.2.2 Response

The following example shows a successful **SendMail** command response (section [2.2.1.17](#)) sent from the server to the client. The **SendMail** command response has no **XML** body (Content-Length: 0) when the **SendMail** command completes successfully.

```

HTTP/1.1 200 OK
Date: Tue, 06 Apr 2010 19:11:25 GMT
Content-Length: 0

```

#### 4.16.3 Adding a Meeting Request to the Attendee's Inbox Folder

The following sections show how to add a meeting request to an attendee's **Inbox folder** by using the **Sync** command (section [2.2.1.21](#)).

##### 4.16.3.1 Request

The following example shows a **Sync** command request (section [2.2.1.21](#)) for the **Inbox folder** of the attendee.

```

<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns:rm="RightsManagement" xmlns="AirSync">
  <Collections>
    <Collection>
      <SyncKey>52305585</SyncKey>
      <CollectionId>5</CollectionId>
      <DeletesAsMoves>1</DeletesAsMoves>
      <GetChanges>1</GetChanges>
      <WindowSize>512</WindowSize>
      <Options>
        <rm:RightsManagementSupport>0</rm:RightsManagementSupport>
      </Options>
    </Collection>
  </Collections>
</Sync>

```

##### 4.16.3.2 Response

The following example shows a **Sync** command response (section [2.2.1.21](#)) sent from the server to the client for the **Inbox folder** of the attendee. The **airsync:SyncKey** element (section [2.2.3.181.4](#)) value is incremented and a **airsync:Status** element (section [2.2.3.177.17](#)) value of 1 is returned to indicate that the **Sync** command was successful. The meeting request is added to the attendee's Inbox folder using the contents of the **airsync:ApplicationData** element (section [2.2.3.11](#)).

```

<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns:email="Email" xmlns:email2="Email2" xmlns:airsyncbase="AirSyncBase"
xmlns="AirSync">
  <Collections>
    <Collection>
      <SyncKey>1744744472</SyncKey>
      <CollectionId>5</CollectionId>
      <Status>1</Status>
      <Commands>
        <Add>
          <ServerId>5:1</ServerId>
          <ApplicationData>
            <email:To>"Anat Kerry" &lt;anat@contoso.com&gt;</email:To>
            <email:From>"Chris Gray" &lt;chris@contoso.com&gt;</email:From>
            <email:Subject>TestMeeting</email:Subject>
            <email>DateReceived>2010-04-06T17:02:26.332Z</email>DateReceived>
            <email:DisplayTo>Anat Kerry</email:DisplayTo>
            <email:ThreadTopic>TestMeeting</email:ThreadTopic>
            <email:Importance>1</email:Importance>
            <email:Read>0</email:Read>
            <airsyncbase:Body>
              <airsyncbase:Type>3</airsyncbase:Type>
              <airsyncbase:EstimatedDataSize>432</airsyncbase:EstimatedDataSize>
              <airsyncbase:Truncated>1</airsyncbase:Truncated>
            </airsyncbase:Body>
            <email:MessageClass>IPM.Schedule.Meeting.Request</email:MessageClass>
            <email:MeetingRequest>
              <email:AllDayEvent>0</email:AllDayEvent>
              <email:StartTime>2010-05-03T16:00:00.000Z</email:StartTime>
              <email:DtStamp>2010-04-06T17:02:19.499Z</email:DtStamp>
              <email:EndTime>2010-05-03T17:00:00.000Z</email:EndTime>
              <email:InstanceType>0</email:InstanceType>
              <email:Location>My Office</email:Location>
              <email:Organizer>"Chris Gray" &lt;chris@contoso.com&gt;</email:Organizer>
              <email:Reminder>900</email:Reminder>
              <email:ResponseRequested>1</email:ResponseRequested>
              <email:Sensitivity>0</email:Sensitivity>
              <email:BusyStatus>2</email:BusyStatus>

            <email:TimeZone>4AEAACgARwBNAFQALQAwADgAOgAwADAAKQAgAFAAYQBjAGkAZgBpAGMAIABUAGkAbQBlACAAKABVA
            FMAIAAmCAAQwAAAAAABAAIAAAAAAAAAAAAAACgARwBNAFQALQAwADgAOgAwADAAKQAgAFAAYQBjAGkAZgBpAGMAIA
            BUAGkAbQBlACAAKABVAFMAIAAmCAAQwAAAAAABAAIAAAAAAAAAAAxP//w==</email:TimeZone>

            <email:GlobalObjId>BAAAAIIA4AB0xbCQGOLgCAAAAAAASLNxRHbfKAQAAAAAAAAAAAAEAAAAMqTtDRC5TFKivAtfhM9F+
            8=</email:GlobalObjId>
              <email2:MeetingMessageType>1</email2:MeetingMessageType>
            </email:MeetingRequest>
            <email:InternetCPID>28591</email:InternetCPID>
            <email:Flag />
            <email:ContentClass>urn:content-classes:calendarmessage</email:ContentClass>
            <airsyncbase:NativeBodyType>3</airsyncbase:NativeBodyType>
            <email2:ConversationId>...</email2:ConversationId>
            <email2:ConversationIndex>...</email2:ConversationIndex>
            <email:Categories />
          </ApplicationData>
        </Add>
      </Commands>
    </Collection>
  </Collections>
</Sync>

```

#### 4.16.4 Adding a Meeting to the Attendee's Calendar Folder

The following sections show how to add a meeting to an attendee's **Calendar folder** by using the **Sync** command (section [2.2.1.21](#)).

#### 4.16.4.1 Request

The following example shows a **Sync** command request (section [2.2.1.21](#)) sent from the client to the server for the **Calendar folder** of the attendee.

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns:rm="RightsManagement" xmlns="AirSync">
  <Collections>
    <Collection>
      <SyncKey>151676483</SyncKey>
      <CollectionId>1</CollectionId>
      <DeletesAsMoves>1</DeletesAsMoves>
      <GetChanges>1</GetChanges>
      <WindowSize>512</WindowSize>
      <Options>
        <rm:RightsManagementSupport>0</rm:RightsManagementSupport>
      </Options>
    </Collection>
  </Collections>
</Sync>
```

#### 4.16.4.2 Response

The following example shows a **Sync** command response (section [2.2.1.21](#)) sent from the server to the client for the **Calendar folder** of the attendee. The **airsync:SyncKey** element (section [2.2.3.181.4](#)) value is incremented and a **airsync:Status** element (section [2.2.3.177.17](#)) value of 1 is returned to indicate that the **Sync** command was successful. The meeting is added to the attendee's Calendar folder using the contents of the **airsync:ApplicationData** element (section [2.2.3.11](#)). Because the attendee has not responded to the **meeting request** yet, the **calendar:ResponseType** element (as described in [\[MS-ASCAL\]](#) section 2.2.2.40) value is 5, indicating that the meeting request has not been responded to. When the user accepts the meeting request and then synchronizes the Calendar folder again, the **calendar:ResponseType** value will be changed to 3, to indicate that the meeting was accepted.

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns:calendar="Calendar" xmlns:airsyncbase="AirSyncBase" xmlns="AirSync">
  <Collections>
    <Collection>
      <SyncKey>1761460822</SyncKey>
      <CollectionId>1</CollectionId>
      <Status>1</Status>
      <Commands>
        <Add>
          <ServerId>1:1</ServerId>
          <ApplicationData>

<calendar:TimeZone>4AEAACgARwBNAFQALQAwADgAOGAwADAQAgAFAAYQBjAGkAZgBpAGMAIABUAGkAbQBlACAACA
BVAFMIAAmACAAQwAAAAAAsAAAAABAAIAAAAAAAAAAAAAACgARwBNAFQALQAwADgAOGAwADAQAgAFAAYQBjAGkAZgBpAGM
AIABUAGkAbQBlACAABVAFMAIAAmACAAQwAAAAAAMAAACAAIAAAAAAAAAAAxP///w==</calendar:TimeZone>
          <calendar:DtStamp>20100406T170219Z</calendar:DtStamp>
          <calendar:StartTime>20100503T090000Z</calendar:StartTime>
          <calendar:Subject>TestMeeting</calendar:Subject>

<calendar:UID>040000008200E00074C5B7101A82E00800000000122CD5EB1DB7CA0100000000000000001000000
0CA93B43442E5314A8AF02D7E133D17EF</calendar:UID>
          <calendar:OrganizerName>Chris Gray</calendar:OrganizerName>
          <calendar:OrganizerEmail>chris@contoso.com</calendar:OrganizerEmail>
          <calendar:Attendees>
            <calendar:Attendee>
              <calendar:Email>anat@contoso.com</calendar:Email>
              <calendar:Name>Anat Kerry</calendar:Name>
              <calendar:AttendeeType>1</calendar:AttendeeType>
            </calendar:Attendee>
          </calendar:Attendees>
        </Add>
      </Commands>
    </Collection>
  </Collections>
</Sync>
```

```

    </calendar:Attendees>
    <calendar:Location>My Office</calendar:Location>
    <calendar:EndTime>20100503T100000Z</calendar:EndTime>
    <airsynbase:Body>
      <airsynbase:Type>3</airsynbase:Type>
      <airsynbase:EstimatedDataSize>275</airsynbase:EstimatedDataSize>
      <airsynbase:Truncated>1</airsynbase:Truncated>
    </airsynbase:Body>
    <calendar:Sensitivity>0</calendar:Sensitivity>
    <calendar:BusyStatus>1</calendar:BusyStatus>
    <calendar:AllDayEvent>0</calendar:AllDayEvent>
    <calendar:Reminder>15</calendar:Reminder>
    <calendar:MeetingStatus>3</calendar:MeetingStatus>
    <airsynbase:NativeBodyType>3</airsynbase:NativeBodyType>
    <calendar:ResponseRequested>1</calendar:ResponseRequested>
    <calendar:ResponseType>5</calendar:ResponseType>
  </ApplicationData>
</Add>
</Commands>
</Collection>
</Collections>
</Sync>

```

## 4.17 Responding to Meeting Requests by Using the MeetingResponse Command

The following sections show how to respond to an exception or single instance of a recurring meeting by using the **MeetingResponse** command (section [2.2.1.11](#)) and the **meetingresponse:InstanceId** element (section [2.2.3.92.1](#)).

### 4.17.1 Request

The following example shows a **MeetingResponse** command request (section [2.2.1.11](#)) sent from the client to the server to respond to two instances of recurring meetings. The first meeting is identified by using the **meetingresponse:CollectionId** element (section [2.2.3.30.4](#)), **meetingresponse:RequestId** element (section [2.2.3.151](#)), and the **meetingresponse:InstanceId** element (section [2.2.3.92.1](#)), while the second meeting is identified by using the **search:LongId** element (section [2.2.3.98](#)) and **meetingresponse:InstanceId** element.

```

<?xml version="1.0" encoding="utf-8"?>
<MeetingResponse xmlns:search="Search" xmlns="MeetingResponse">
  <Request>
    <UserResponse>2</UserResponse>
    <CollectionId>19</CollectionId>
    <RequestId>19:39</RequestId>
    <InstanceId>20090907T07:00:00.000Z</InstanceId>
  </Request>
  <Request>
    <UserResponse>1</UserResponse>
    <search:LongId>RgAAju...ALS8pQAARL</search:LongId>
    <InstanceId>20091210T17:30:00.000Z</InstanceId>
  </Request>
</MeetingResponse>

```

### 4.17.2 Response

The following example shows the **MeetingResponse** command response (section [2.2.1.11](#)) sent from the server to the client. The response includes the **meetingresponse:RequestId** element (section [2.2.3.151](#)) that was included in the request message, as well as the **meetingresponse:CalendarId**



element (section [2.2.3.18](#)). The response message is the same whether or not the **meetingresponse:InstanceId** element (section [2.2.3.92.1](#)) is included in the request.

```
<?xml version="1.0" encoding="utf-8"?>
<MeetingResponse xmlns:search="Search" xmlns="MeetingResponse">
  <Result>
    <RequestId>19:39</RequestId>
    <Status>1</Status>
    <CalendarId>19:43</CalendarId>
  </Result>
  <Result>
    <search:LongId>RgAAAju... ..ALS8pQAARL</search:LongId>
    <Status>1</Status>
    <CalendarId>19:47</CalendarId>
  </Result>
</MeetingResponse>
```

## 4.18 Resolving Recipients and Retrieving Free/Busy Data by Using the ResolveRecipients Command

The following sections show how to resolve recipients and retrieve free/busy data by using the **ResolveRecipients** command (section [2.2.1.15](#)).

### 4.18.1 Request

The following example shows a **ResolveRecipients** command request (section [2.2.1.15](#)) sent from the client to the server to retrieve **GAL** and contact information by using **ANR**. In this example, the client sends a request to retrieve recipient information for recipients containing the word "Testers".

```
<?xml version="1.0" encoding="utf-8"?>
<ResolveRecipients xmlns="ResolveRecipients">
  <To>Testers</To>
  <Options>
    <CertificateRetrieval>3</CertificateRetrieval>
    <MaxCertificates>99</MaxCertificates>
    <MaxAmbiguousRecipients>99</MaxAmbiguousRecipients>
    <Picture>
      <MaxSize>1024</MaxSize>
      <MaxPictures>10</MaxPictures>
    </Picture>
  </Options>
</ResolveRecipients>
```

### 4.18.2 Response for a GAL Entry

The following example shows a **ResolveRecipients** command response (section [2.2.1.15](#)) that contains two recipients that are being returned to the client. In the "Testers" distribution list, there are three recipients but only two have valid certificates. The value of the **resolverecipients:Type** element (section [2.2.3.186.5](#)) indicates that the recipient is a **GAL** entry.

```
<?xml version="1.0" encoding="utf-8"?>
<ResolveRecipients xmlns="ResolveRecipients">
  <Status>1</Status>
  <Response>
    <To>Testers</To>
    <Status>1</Status>
    <RecipientCount>2</RecipientCount>
    <Recipient>
```

```

    <Type>1</Type>
    <DisplayName>Testers</DisplayName>
    <EmailAddress>testers@example.com</EmailAddress>
    <Certificates>
      <Status>1</Status>
      <CertificateCount>2</CertificateCount>
      <RecipientCount>3</RecipientCount>
      <MiniCertificate>AAAAAEfXfBA=</MiniCertificate>
    </Certificates>
    <Picture>
      <Status>173</Status>
    </Picture>
  </Recipient>
</Recipient>
...
</Recipient>
</Response>
</ResolveRecipients>

```

### 4.18.3 Response for a Contact Entry

The following example shows a **ResolveRecipients** command response (section [2.2.1.15](#)) for a contact entry. The value of the **resolovereipients:Type** element (section [2.2.3.186.5](#)) indicates that the recipient is a contact entry.

```

<?xml version="1.0" encoding="utf-8"?>
<ResolveRecipients xmlns="ResolveRecipients">
  <Status>1</Status>
  <Response>
    <To>Contact</To>
    <Status>1</Status>
    <RecipientCount>1</RecipientCount>
    <Recipient>
      <Type>2</Type>
      <DisplayName>Chris Gray</DisplayName>
      <EmailAddress>chris@contoso.com</EmailAddress>
    </Recipient>
  </Response>
</ResolveRecipients>

```

### 4.18.4 Retrieving Free/Busy Data By Using the ResolveRecipients Command

The following sections show how to retrieve the free/busy data for two users and two distribution lists by using the **ResolveRecipients** command (section [2.2.1.15](#)).

#### 4.18.4.1 Request to Retrieve Free/Busy Data

The following example shows a **ResolveRecipients** command request (section [2.2.1.15](#)) sent from the client to the server to resolve two recipients and two distribution lists and retrieve their free/busy information for a two day period.

```

<?xml version="1.0" encoding="utf-8"?>
<ResolveRecipients xmlns="ResolveRecipients">
  <To>all@contoso.com</To>
  <To>chris@contoso.com</To>
  <To>Anat</To>
  <To>myPersonalDistributionList</To>
  <Options>
    <MaxAmbiguousRecipients>2</MaxAmbiguousRecipients>
    <Availability>
      <StartTime>2008-12-01T08:00:00.000Z</StartTime>

```



```

<Status>1</Status>
<RecipientCount>4</RecipientCount>
<Recipient>
  <Type>2</Type>
  <DisplayName>chris@fourthcoffee.com</DisplayName>
  <EmailAddress>chris@fourthcoffee.com</EmailAddress>
  <Availability>
    <Status>162</Status>
  </Availability>
</Recipient>
<Recipient>
  <Type>1</Type>
  <DisplayName>Anet Reding</DisplayName>
  <EmailAddress>anetr@contoso.com</EmailAddress>
  <Availability>
    <Status>161</Status>
  </Availability>
</Recipient>
<Recipient>
  <Type>2</Type>
  <DisplayName>Dag Rovik</DisplayName>
  <EmailAddress>dag@contoso.com</EmailAddress>
  <Availability>
    <Status>1</Status>
    <MergedFreeBusy>3333333333333333333333330000001002002200000010000000</MergedFreeBusy>
  </Availability>
</Recipient>
<Recipient>
  <Type>2</Type>
  <DisplayName>fabrice@fourthcoffee.com</DisplayName>
  <EmailAddress>fabrice@fourthcoffee.com</EmailAddress>
  <Availability>
    <Status>162</Status>
  </Availability>
</Recipient>
</Response>
</ResolveRecipients>

```

## 4.19 Retrieving and Changing OOF Settings by Using the Settings Command

The following sections show how to retrieve and change **OOF** settings by using the **Settings** command (section [2.2.1.18](#)).

### 4.19.1 Retrieving OOF Settings

The following sections show how the client requests the user's OOF settings by using the **settings:Get** element (section [2.2.3.83](#)) and indicates the body type to use for the **OOF message** format.

#### 4.19.1.1 Request

The following example shows a **Settings** command request (section [2.2.1.18](#)) sent from the client to the server to retrieve **OOF** settings. The client requests that the messages be returned in **plain text** format, so all OOF messages will be formatted as such.

```

<?xml version="1.0" encoding="utf-8"?>
<Settings xmlns="Settings">
  <Oof>
    <Get>
      <BodyType>Text</BodyType>
    </Get>
  </Oof>

```

```
</Settings>
```

### 4.19.1.2 Response

The following example shows the **Settings** command response (section [2.2.1.18](#)) sent from the server to the client.

```
<?xml version="1.0" encoding="utf-8"?>
<Settings xmlns="Settings">
  <Status>1</Status>
  <Oof>
    <Status>1</Status>
    <Get>
      <OofState>2</OofState>
      <StartTime>2007-05-08T10:45:51.250Z</StartTime>
      <EndTime>2007-05-11T10:45:51.250Z</EndTime>
      <OofMessage>
        <AppliesToInternal />
        <Enabled>1</Enabled>
        <ReplyMessage>Internal OOF Message</ReplyMessage>
        <BodyType>Text</BodyType>
      </OofMessage>
      <OofMessage>
        <AppliesToExternalKnown />
        <Enabled>1</Enabled>
        <ReplyMessage>External OOF Message</ReplyMessage>
        <BodyType>Text</BodyType>
      </OofMessage>
      <OofMessage>
        <AppliesToExternalUnknown /><Enabled>0</Enabled>
        <ReplyMessage>External OOF Message</ReplyMessage>
        <BodyType>Text</BodyType>
      </OofMessage>
    </Get>
  </Oof>
</Settings>
```

## 4.19.2 Turning On the OOF Message

The following sections show how the client enables the **OOF** message. The client updates the OOF status by using the **settings:Set** element (section [2.2.3.167](#)).

### 4.19.2.1 Request

The following example shows a **Settings** command request (section [2.2.1.18](#)) sent from the client to the server to enable the **OOF** message.

```
<?xml version="1.0" encoding="utf-8"?>
<Settings xmlns="Settings">
  <Oof>
    <Set>
      <OofState>2</OofState>
      <OofMessage>
        <AppliesToInternal/>
        <Enabled>1</Enabled>
        <ReplyMessage> <html><head><meta
http-equiv="Content-Type" content="text/html;
charset=utf-8"><style>@font-face
{font-family:Verdana}p.MsoNormal, li.MsoNormal,
div.MsoNormal {margin:0in; margin-bottom:.0001pt;
font-size:10.0pt; font-family:Verdana} a:link,
```

```

span.MsoHyperlink {color:blue; text-decoration:underline}a:visited,
span.MsoHyperlinkFollowed {color:purple; text-decoration:underline} span.EmailStyle17
{font-family:Arial; color:windowtext} @page Section1
{margin:1.0in 1.25in 1.0in 1.25in} div.Section1 {}
</style> </head> <body lang="EN-US"
link="blue" vlink="purple"> <div class="Section1">
<p class="MsoNormal"><font size="2"
face="Arial"><span style="font-size:10.0pt;
font-family:Arial">I'll be out of the office
today.</span></font></p> </div>
</body></html></ReplyMessage>
<BodyType>HTML</BodyType>
</OofMessage>
<OofMessage>
  <AppliesToExternalKnown/>
  <Enabled>0</Enabled>
</OofMessage>
<OofMessage>
  <AppliesToExternalUnknown/>
  <Enabled>0</Enabled>
</OofMessage>
</Set>
</Oof>
</Settings>

```

#### 4.19.2.2 Response

The following example shows the **Settings** command response (section [2.2.1.18](#)) sent from the server to the client. The response contains a **settings:Status** element (section [2.2.3.177.15](#)) value of 1, to indicate that **OOF** functionality was successfully enabled.

```

<?xml version="1.0" encoding="utf-8"?>
<Settings xmlns="Settings">
  <Status>1</Status>
  <Oof>
    <Status>1</Status>
  </Oof>
</Settings>

```

#### 4.19.3 Turning Off the OOF Message

The following sections show how the client disables the **OOF** message. The client updates the OOF status by using the **settings:Set** element (section [2.2.3.167](#)).

##### 4.19.3.1 Request

The following example shows a **Settings** command request (section [2.2.1.18](#)) sent from the client to the server to disable the **OOF** message.

```

<?xml version="1.0" encoding="utf-8"?>
<Settings xmlns="Settings">
  <Oof>
    <Set>
      <OofState>0</OofState>
    </Set>
  </Oof>
</Settings>

```

### 4.19.3.2 Response

The following example shows the **Settings** command response (section [2.2.1.18](#)) sent from the server to the client. The response contains a **settings:Status** element (section [2.2.3.177.15](#)) value of 1, to indicate that **OOF** functionality was successfully disabled.

```
<?xml version="1.0" encoding="utf-8"?>
<Settings xmlns="Settings">
  <Status>1</Status>
  <Oof>
    <Status>1</Status>
  </Oof>
</Settings>
```

## 4.20 Validating Certificates by Using the ValidateCert Command

The following sections show how to validate certificates by using the **ValidateCert** command (section [2.2.1.22](#)).

### 4.20.1 Request

The following example shows a **ValidateCert** command request (section [2.2.1.22](#)) sent from the client to the server to validate certificates. The **validatecert:CertificateChain** element (section [2.2.3.20](#)) contains all of the certificates in a certificate chain, and the **validatecert:Certificate** elements (section [2.2.3.23.2](#)) contain the individual certificate values. The **validatecert:CheckCrl** element (section [2.2.3.26](#)) is set to 1 (**TRUE**), indicating that the server cannot ignore an unverifiable revocation status.

```
<?xml version="1.0" encoding="utf-8"?>
<ValidateCert xmlns="ValidateCert">
  <CertificateChain>
    <!--Certificate values have been truncated for example purposes -->
    <Certificate>MIICYjCCAcugAwIBAgIUyGs8jZbX0Vxj/0C1rh8...</Certificate>
    <Certificate>MIIB8zCCAVygAwIBAgIUdhWamYEKM9eaFVFSylR...</Certificate>
    <Certificate>MIIB8zCCAVygAwIBAgIU9uwT6UARSuw1KdJmYN6...</Certificate>
    <Certificate>MIIB8zCCAVygAwIBAgIUB0959dCBM5WSLg7NuM4...</Certificate>
    <Certificate>MIIB8zCCAVygAwIBAgIUGFjVCBrvrguSaNxziWN...</Certificate>
  </CertificateChain>
  <Certificates>
    <Certificate>MIICYjCCAcugAwIBAgIUyGs8jZbX0VxjObu4nw0...</Certificate>
  </Certificates>
  <CheckCRL>1</CheckCRL>
</ValidateCert>
```

### 4.20.2 Response

The following example shows the **ValidateCert** command response (section [2.2.1.22](#)) sent from the server to the client. A **validatecert:Status** element (section [2.2.3.177.18](#)) value of 1 is returned to indicate that the certificate validation was successful.

```
<?xml version="1.0" encoding="utf-8"?>
<ValidateCert xmlns="ValidateCert">
  <Status>1</Status>
  <Certificate>
    <Status>1</Status>
  </Certificate>
</ValidateCert>
```

## 4.21 Retrieving User Information by Using the Settings Command

The following sections show how to retrieve user information by using the **Settings** command (section [2.2.1.18](#)).

### 4.21.1 Request

The following example shows a **Settings** command request (section [2.2.1.18](#)) sent from the client to the server to retrieve user information.

```
<?xml version="1.0" encoding="utf-8"?>
<Settings>
  <UserInformation>
    <Get/>
  </UserInformation>
</Settings>
```

### 4.21.2 Response

The following example shows the **Settings** command response (section [2.2.1.18](#)) sent from the server to the client.

```
<?xml version="1.0" encoding="utf-8"?>
<Settings>
  <Status>1</Status>
  <UserInformation>
    <Status>1</Status>
    <Get>
      <EmailAddresses>
        <SMTPAddress>chris@contoso.com</SMTPAddress>
      </EmailAddresses>
    </Get>
  </UserInformation>
</Settings>
```

## 4.22 Setting a Device Password by Using the Settings Command

The following sections show how to set a device password by using the **Settings** command (section [2.2.1.18](#)).

### 4.22.1 Request

The following example shows a **Settings** command request (section [2.2.1.18](#)) sent from the client to the server to set the device password.

```
<?xml version="1.0" encoding="utf-8"?>
<Settings>
  <DevicePassword>
    <Set>
      <Password>bar</Password>
    </Set>
  </DevicePassword>
</Settings>
```



## 4.22.2 Response

The following example shows the **Settings** command response (section [2.2.1.18](#)) sent from the server to the client. A **settings:Status** element (section [2.2.3.177.15](#)) value of 1 indicates that the password was set successfully.

```
<?xml version="1.0" encoding="utf-8"?>
<Settings>
  <Status>1</Status>
  <DevicePassword>
    <Set>
      <Status>...</Status>
    </Set>
  </DevicePassword>
</Settings>
```

## 4.23 Accessing Documents on File Shares and URIs by Using the Search and ItemOperations Commands

The following sections show how to retrieve an item from a Windows SharePoint Services or UNC site.

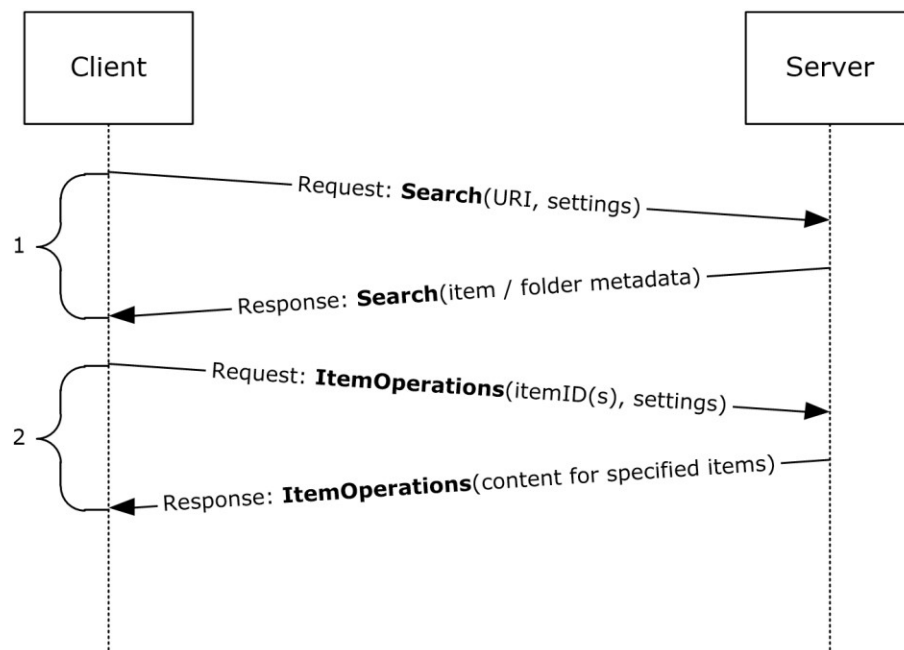
First, the client issues a **Search** command request (section [2.2.1.16](#)), indicating the link to the folder. The server will return folder/item metadata, indicating the ID, file name, size, creation date, last modified date, whether the item is a folder, and whether the item is hidden. For instructions on completing this task, see section [4.23.1](#).

Next, the client issues an **ItemOperations** command request (section [2.2.1.10](#)), including the ID from the item metadata. For instructions on completing this task, see section [4.23.2](#).

In issuing the **ItemOperations** command request, the following are considerations for the client pertaining to the size of the file to be retrieved:

- Does the client want to have the item content returned inline in the **WBXML**, or as separate body parts in the **HTTP** response? Using WBXML might be easier to implement, but might consume more memory on the device, depending on how the response parser on the device is implemented.
- What is the maximum number of bytes of item content that the client wants to have returned in one response? (Successive requests can be used to obtain the remaining content.)

The following figure shows the request and response pattern that is used to find and retrieve an item located on a Windows SharePoint Services or UNC site.



**Figure 7: Finding and retrieving an item from a file share or UNC site**

#### 4.23.1 Issuing a Search for Item Metadata

As illustrated by the figure in section 4.23, the client first issues a **Search** request (section 2.2.1.16) to the server to retrieve metadata about the item (if the **URI** points to an item) or the items (if the **URI** points to a folder). The client then does the following:

- Indicates that the client is searching a document library store by using the **search:Name** element (section 2.2.3.120.2).
- Provides the URI as the **search:Value** element (section 2.2.3.196) in an **search:EqualTo** query (section 2.2.3.62).
- Indicates the range of results that the client wants to have returned in the response.

In this example, the client is attempting to retrieve metadata for the files in a UNC share.

##### 4.23.1.1 Request

The following example shows the **Search** command request (section 2.2.1.16) sent from the client to the server to search for item metadata.

```

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

```

    </Store>
</Search>

```

### 4.23.1.2 Response

The following example shows the **Search** command response (section [2.2.1.16](#)) sent from the server to the client. The response contains the metadata for the folder and items. The very first node in the response is the top-level node, followed by its child nodes (if any).

```

<?xml version="1.0" encoding="utf-8"?>
<Search xmlns:documentlibrary="DocumentLibrary" xmlns="Search">
  <Status>1</Status>
  <Response>
    <Store>
      <Status>1</Status>
      <Result>
        <Properties>
          <documentlibrary:LinkId>\\somehost\directory
          </documentlibrary:LinkId>
          <documentlibrary:DisplayName>directory
          </documentlibrary:DisplayName>
          <documentlibrary:IsFolder>1
          </documentlibrary:IsFolder>
          <documentlibrary:CreationDate>2007-05-08T17:28:15.375Z
          </documentlibrary:CreationDate>
          <documentlibrary:LastModifiedDate>2007-05-08T17:28:15.406Z
          </documentlibrary:LastModifiedDate>
          <documentlibrary:IsHidden>0</documentlibrary:IsHidden>
        </Properties>
      </Result>
      <Result>
        <Properties>
          <documentlibrary:LinkId>\\somehost\directory\resource
          </documentlibrary:LinkId>
          <documentlibrary:DisplayName>resource
          </documentlibrary:DisplayName>
          <documentlibrary:IsFolder>1</documentlibrary:IsFolder>
          <documentlibrary:CreationDate>2004-03-02T12:34:56.123Z
          </documentlibrary:CreationDate>
          <documentlibrary:LastModifiedDate>2005-04-03T12:34:56.345Z
          </documentlibrary:LastModifiedDate>
          <documentlibrary:IsHidden>0</documentlibrary:IsHidden>
        </Properties>
      </Result>
      <Result>
        <Properties>
          <documentlibrary:LinkId>\\somehost\directory\TestFile.txt
          </documentlibrary:LinkId>
          <documentlibrary:DisplayName>TestFile.txt
          </documentlibrary:DisplayName>
          <documentlibrary:IsFolder>0</documentlibrary:IsFolder>
          <documentlibrary:CreationDate>2004-03-02T12:34:56.123Z
          </documentlibrary:CreationDate>
          <documentlibrary:LastModifiedDate>2005-04-03T12:34:56.345Z
          </documentlibrary:LastModifiedDate>
          <documentlibrary:IsHidden>0</documentlibrary:IsHidden>
          <documentlibrary:ContentLength>88
          </documentlibrary:ContentLength>
          <documentlibrary:ContentType>text/plain
          </documentlibrary:ContentType>
        </Properties>
      </Result>
      <Range>0-2</Range>
      <Total>3</Total>
    </Store>
  </Response>

```

```
</Search>
```

### 4.23.2 Fetching an Item Based on Metadata

When a document library is used to provide item or folder metadata, the client can retrieve a file within a document library by using the **ItemOperations** command (section [2.2.1.10](#)) and indicating the **documentlibrary:LinkId** value (section [2.2.3.50](#)) corresponding to the item.

#### 4.23.2.1 Request

The following example shows an **ItemOperations** command request (section [2.2.1.10](#)) sent from the client to the server to retrieve a file within a document library. The **itemoperations:Range** element (section [2.2.3.143.2](#)) indicates that the client only requests bytes from 10 through 19 of the item returned in the response.

```
<?xml version="1.0" encoding="utf-8"?>
<ItemOperations xmlns:documentlibrary="DocumentLibrary"
  xmlns="ItemOperations">
  <Fetch>
    <Store>DocumentLibrary</Store>
    <documentlibrary:LinkId>\\somehost\directory\
      ActiveSyncDocumentFetch.txt</documentlibrary:LinkId>
    <Options>
      <Range>10-19</Range>
    </Options>
  </Fetch>
</ItemOperations>
```

#### 4.23.2.2 Response

The following example shows the **ItemOperations** command response (section [2.2.1.10](#)) that contains the requested item. The binary content of the file is encoded with **base64 encoding** and is included in the **itemoperations:Data** element (section [2.2.3.39.2](#)).

```
<?xml version="1.0" encoding="utf-8"?>
<ItemOperations xmlns:documentlibrary="DocumentLibrary"
  xmlns="ItemOperations">
  <Status>1</Status>
  <Response>
    <Fetch>
      <Status>1</Status>
      <documentlibrary:LinkId>\\somehost\directory\
        ActiveSyncDocumentFetch.txt</documentlibrary:LinkId>
      <Properties>
        <Range>10-19</Range>
        <Total>26</Total>
        <Data>S0xNTk9QUVJTVA==</Data>
        <Version>2005-04-03T12:34:56.345Z</Version>
      </Properties>
    </Fetch>
  </Response>
</ItemOperations>
```

### 4.24 Using the Supported Element and Ghosted Elements in the Sync Command

The following sections show how to use **ghosted** contact elements and the **airsync:Supported** element (section [2.2.3.179](#)) in the **Sync** command (section [2.2.1.21](#)). To demonstrate the effect of using the **airsync:Supported** element, the same contact is modified with the same **Sync** command

request in two separate scenarios: once without using the **airsync:Supported** element in the initial **Sync** command request, and once with using the **airsync:Supported** element in the initial **Sync** command request.

For both scenarios, there is a single contact that initially has the following field values.

| Contact field   | Value             |
|-----------------|-------------------|
| First name      | Elvin             |
| Last name       | Sills             |
| Company name    | Contoso, Inc.     |
| Job title       | Assistant Manager |
| Department      | Accounting        |
| Office location | 123               |
| Email address   | elvin@contoso.com |

#### 4.24.1 Modifying a Contact with no Ghosted Elements

In this scenario, the client does not include the **airsync:Supported** element in the initial **Sync** command request for the default **Contacts folder**. This causes all of the elements that can be **ghosted** to not be **ghosted** for all items in that folder, as specified in [section 2.2.3.179](#).

First, the client sends the following initial **Sync** command request.

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync">
  <Collections>
    <Collection>
      <SyncKey>0</SyncKey>
      <CollectionId>2</CollectionId>
    </Collection>
  </Collections>
</Sync>
```

The server sends the following response.

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync">
  <Collections>
    <Collection>
      <SyncKey>1545750018</SyncKey>
      <CollectionId>2</CollectionId>
      <Status>1</Status>
    </Collection>
  </Collections>
</Sync>
```

The client then synchronizes the contents of the default Contacts folder by using the following **Sync** command request.

```
<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync">
```

```

    <Collections>
      <Collection>
        <SyncKey>1545750018</SyncKey>
        <CollectionId>2</CollectionId>
      </Collection>
    </Collections>
  </Sync>

```

The server sends the following response.

```

<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync" xmlns:airsyncbase="AirSyncBase" xmlns:contacts="Contacts">
  <Collections>
    <Collection>
      <SyncKey>1593447001</SyncKey>
      <CollectionId>2</CollectionId>
      <Status>1</Status>
      <Commands>
        <Add>
          <ServerId>2:1</ServerId>
          <ApplicationData>
            <airsyncbase:Body>
              <airsyncbase:Type>1</airsyncbase:Type>
              <airsyncbase:EstimatedDataSize>0</airsyncbase:EstimatedDataSize>
              <airsyncbase:Truncated>1</airsyncbase:Truncated>
            </airsyncbase:Body>
            <contacts:Department>Accounting</contacts:Department>
            <contacts:EmaillAddress>"elvin@contoso.com"
              &lt;elvin@contoso.com&gt;</contacts:EmaillAddress>
            <contacts:FileAs>Sills, Elvin</contacts:FileAs>
            <contacts:FirstName>Elvin</contacts:FirstName>
            <contacts:CompanyName>Contoso, Inc.</contacts:CompanyName>
            <contacts:LastName>Sills</contacts:LastName>
            <contacts:JobTitle>Assistant Manager</contacts:JobTitle>
            <contacts:OfficeLocation>123</contacts:OfficeLocation>
            <airsyncbase:NativeBodyType>1</airsyncbase:NativeBodyType>
          </ApplicationData>
        </Add>
      </Commands>
    </Collection>
  </Collections>
</Sync>

```

The client modifies the **contact (2)** using the **airsync:Change** element (section 2.2.3.24) in a **Sync** command request. The client updates the values of the **contacts:JobTitle** ([MS-ASCNTC] section 2.2.2.44) and **contacts:OfficeLocation** ([MS-ASCNTC] section 2.2.2.51) elements, and does not include the **contacts:CompanyName** element ([MS-ASCNTC] section 2.2.2.24). The client sends the following **Sync** command request.

```

<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync" xmlns:airsyncbase="AirSyncBase" xmlns:contacts="Contacts">
  <Collections>
    <Collection>
      <SyncKey>1593447001</SyncKey>
      <CollectionId>2</CollectionId>
      <Commands>
        <Change>
          <ServerId>2:1</ServerId>
          <ApplicationData>
            <contacts:Department>Accounting</contacts:Department>
            <contacts:EmaillAddress>"elvin@contoso.com"
              &lt;elvin@contoso.com&gt;</contacts:EmaillAddress>
            <contacts:FileAs>Sills, Elvin</contacts:FileAs>
            <contacts:FirstName>Elvin</contacts:FirstName>

```

```

        <contacts:LastName>Sills</contacts:LastName>
        <contacts:JobTitle>Manager</contacts:JobTitle>
        <contacts:OfficeLocation>456</contacts:OfficeLocation>
    </ApplicationData>
</Change>
</Commands>
</Collection>
</Collections>
</Sync>

```

The server sends the following response.

```

<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync">
  <Collections>
    <Collection>
      <SyncKey>1020675135</SyncKey>
      <CollectionId>2</CollectionId>
      <Status>1</Status>
    </Collection>
  </Collections>
</Sync>

```

On the server, the contact (2) now has the following field values.

| Contact field   | Old value         | New value         |
|-----------------|-------------------|-------------------|
| First name      | Elvin             | Elvin             |
| Last name       | Sills             | Sills             |
| Company name    | Contoso, Inc.     |                   |
| Job title       | Assistant Manager | Manager           |
| Department      | Accounting        | Accounting        |
| Office location | 123               | 456               |
| Email address   | elvin@contoso.com | elvin@contoso.com |

Since the **contacts:CompanyName** element was not ghosted, and the element was not included within the **airsync:Change** element, the value for this element was deleted.

#### 4.24.2 Modifying a Contact with Ghosted Elements

In this scenario, the client includes the **airsync:Supported** element in the initial **Sync** command request for the default **Contacts folder**. This causes all of the elements not included as child elements of the **airsync:Supported** element that can be **ghosted** to be ghosted for all items in that folder, as specified in section [2.2.3.179](#).

First, the client sends the following initial **Sync** command request.

```

<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync" xmlns:contacts="Contacts">
  <Collections>
    <Collection>
      <SyncKey>0</SyncKey>
      <CollectionId>2</CollectionId>
      <Supported>

```

```

        <contacts:JobTitle/>
        <contacts:OfficeLocation/>
    </Supported>
</Collection>
</Collections>
</Sync>

```

The server sends the following response.

```

<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync">
  <Collections>
    <Collection>
      <SyncKey>719108528</SyncKey>
      <CollectionId>2</CollectionId>
      <Status>1</Status>
    </Collection>
  </Collections>
</Sync>

```

Since the client included the **contacts:JobTitle** element ([\[MS-ASCNTC\]](#) section 2.2.2.44) and the **contacts:OfficeLocation** element ([MS-ASCNTC] section 2.2.2.51) as child elements of the **airsync:Supported** element, those elements are not ghosted. All other elements in the **Contacts** namespace are ghosted.

The client then synchronizes the contents of the default Contacts folder by using the following **Sync** command request.

```

<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync">
  <Collections>
    <Collection>
      <SyncKey>719108528</SyncKey>
      <CollectionId>2</CollectionId>
    </Collection>
  </Collections>
</Sync>

```

The server sends the following response.

```

<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync" xmlns:airsyncbase="AirSyncBase" xmlns:contacts="Contacts">
  <Collections>
    <Collection>
      <SyncKey>846142473</SyncKey>
      <CollectionId>2</CollectionId>
      <Status>1</Status>
      <Commands>
        <Add>
          <ServerId>2:1</ServerId>
          <ApplicationData>
            <airsyncbase:Body>
              <airsyncbase:Type>1</airsyncbase:Type>
              <airsyncbase:EstimatedDataSize>0</airsyncbase:EstimatedDataSize>
              <airsyncbase:Truncated>1</airsyncbase:Truncated>
            </airsyncbase:Body>
            <contacts:Department>Accounting</contacts:Department>
            <contacts:EmailAddress>"elvin@contoso.com"
              &lt;elvin@contoso.com&gt;</contacts:EmailAddress>
            <contacts:FileAs>Sills, Elvin</contacts:FileAs>
            <contacts:FirstName>Elvin</contacts:FirstName>
          </ApplicationData>
        </Add>
      </Commands>
    </Collection>
  </Collections>
</Sync>

```



```

        <contacts:CompanyName>Contoso, Inc.</contacts:CompanyName>
        <contacts:LastName>Sills</contacts:LastName>
        <contacts:JobTitle>Assistant Manager</contacts:JobTitle>
        <contacts:OfficeLocation>123</contacts:OfficeLocation>
        <airsyncbase:NativeBodyType>1</airsyncbase:NativeBodyType>
    </ApplicationData>
</Add>
</Commands>
</Collection>
</Collections>
</Sync>

```

The client modifies the **contact (2)** using the **airsync:Change** element (section [2.2.3.24](#)) in a **Sync** command request. The client updates the values of the **contacts:JobTitle** and **contacts:OfficeLocation** elements and does not include the **contacts:CompanyName** element ([MS-ASCNTC] section 2.2.2.24). The client sends the following **Sync** command request.

```

<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync" xmlns:airsyncbase="AirSyncBase" xmlns:contacts="Contacts">
  <Collections>
    <Collection>
      <SyncKey>846142473</SyncKey>
      <CollectionId>2</CollectionId>
      <Commands>
        <Change>
          <ServerId>2:1</ServerId>
          <ApplicationData>
            <contacts:Department>Accounting</contacts:Department>
            <contacts:EmailAddress>"elvin@contoso.com"
              &lt;elvin@contoso.com&gt;</contacts:EmailAddress>
            <contacts:FileAs>Sills, Elvin</contacts:FileAs>
            <contacts:FirstName>Elvin</contacts:FirstName>
            <contacts:LastName>Sills</contacts:LastName>
            <contacts:JobTitle>Manager</contacts:JobTitle>
            <contacts:OfficeLocation>456</contacts:OfficeLocation>
          </ApplicationData>
        </Change>
      </Commands>
    </Collection>
  </Collections>
</Sync>

```

The server sends the following response.

```

<?xml version="1.0" encoding="utf-8"?>
<Sync xmlns="AirSync">
  <Collections>
    <Collection>
      <SyncKey>195024309</SyncKey>
      <CollectionId>2</CollectionId>
      <Status>1</Status>
    </Collection>
  </Collections>
</Sync>

```

On the server, the contact (2) now has the following field values.

| Contact field | Old value | New value |
|---------------|-----------|-----------|
| First name    | Elvin     | Elvin     |

| Contact field   | Old value         | New value         |
|-----------------|-------------------|-------------------|
| Last name       | Sills             | Sills             |
| Company name    | Contoso, Inc.     | Contoso, Inc.     |
| Job title       | Assistant Manager | Manager           |
| Department      | Accounting        | Accounting        |
| Office location | 123               | 456               |
| Email address   | elvin@contoso.com | elvin@contoso.com |

Since the **contacts:CompanyName** element was ghosted and the element was not included within the **airsync:Change** element, the value for this element was preserved.

## 4.25 Moving a Conversation by Using the ItemOperations Command

The following sections show how to move a conversation to another folder by using the **ItemOperations** command (section [2.2.1.10](#)).

### 4.25.1 Request

The following example shows an **ItemOperations** command request (section [2.2.1.10](#)) sent from the client to the server to move a conversation from one folder to another. The **itemoperations:ConversationId** element (section [2.2.3.35.1](#)) identifies the conversation to move, the **itemoperations:DstFldId** element (section [2.2.3.51.1](#)) identifies the destination folder, and the **itemoperations:MoveAlways** element (section [2.2.3.118](#)) indicates that all future messages that are part of the conversation are to be moved to the destination folder as well.

```
<?xml version="1.0" encoding="utf-8"?>
<ItemOperations xmlns="ItemOperations">
  <Move>
    <DstFldId>15</DstFldId>
    <ConversationId>...</ConversationId>
    <Options>
      <MoveAlways/>
    </Options>
  </Move>
</ItemOperations>
```

### 4.25.2 Response

The following example shows the **ItemOperations** command response (section [2.2.1.10](#)) sent from the server to the client. An **itemoperations:Status** element (section [2.2.3.177.8](#)) value of 1 indicates that the move operation was successful. The **itemoperations:ConversationId** element (section [2.2.3.35.1](#)) value is returned to confirm the conversation that was moved.

```
<?xml version="1.0" encoding="utf-8"?>
<ItemOperations xmlns="ItemOperations">
  <Status>1</Status>
  <Response>
    <Status>1</Status>
    <Move>
      <Status>1</Status>
      <ConversationId>...</ConversationId>
    </Move>
  </Response>
```

</ItemOperations>

## 5 Security

### 5.1 Security Considerations for Implementers

The client device honors all policies sent down by the server, or sends up the appropriate status codes indicating the non-success.

### 5.2 Index of Security Parameters

| Security parameter          | Section                  |
|-----------------------------|--------------------------|
| <b>Provision</b> Command    | <a href="#">2.2.1.14</a> |
| <b>ValidateCert</b> Command | <a href="#">2.2.1.22</a> |

## 6 Appendix A: Full XML Schema

For ease of implementation, the following sections provide the full **XML schema** for this protocol. Unless otherwise specified, these schemas are valid for protocol versions 2.5, 12.0, 12.1, 14.0, 14.1, 16.0, and 16.1.

| Schema name                              | Prefix            | Section              |
|--|-------------------|----------------------|
| AirSync namespace schema                 | airsync           | <a href="#">6.1</a>  |
| Autodiscover MobileSync namespace schema | Mobilesync        | <a href="#">6.2</a>  |
| Autodiscover request schema              | autodiscover      | <a href="#">6.3</a>  |
| Autodiscover response schema             | autodiscover      | <a href="#">6.4</a>  |
| ComposeMail namespace schema             | composemail       | <a href="#">6.5</a>  |
| FolderCreate request schema              | folderhierarchy   | <a href="#">6.9</a>  |
| FolderCreate response schema             | folderhierarchy   | <a href="#">6.10</a> |
| FolderDelete request schema              | folderhierarchy   | <a href="#">6.11</a> |
| FolderDelete response schema             | folderhierarchy   | <a href="#">6.12</a> |
| FolderHierarchy namespace schema         | folderhierarchy   | <a href="#">6.13</a> |
| FolderSync request schema                | folderhierarchy   | <a href="#">6.14</a> |
| FolderSync response schema               | folderhierarchy   | <a href="#">6.15</a> |
| FolderUpdate request schema              | folderhierarchy   | <a href="#">6.16</a> |
| FolderUpdate response schema             | folderhierarchy   | <a href="#">6.17</a> |
| GAL namespace schema                     | gal               | <a href="#">6.18</a> |
| GetHierarchy response schema             | folderhierarchy   | <a href="#">6.19</a> |
| GetItemEstimate request schema           | getitemestimate   | <a href="#">6.20</a> |
| GetItemEstimate response schema          | getitemestimate   | <a href="#">6.21</a> |
| ItemOperations namespace schema          | itemoperations    | <a href="#">6.22</a> |
| ItemOperations request schema            | itemoperations    | <a href="#">6.23</a> |
| ItemOperations response schema           | itemoperations    | <a href="#">6.24</a> |
| MeetingResponse request schema           | meetingresponse   | <a href="#">6.25</a> |
| MeetingResponse response schema          | meetingresponse   | <a href="#">6.26</a> |
| MoveItems request schema                 | move              | <a href="#">6.27</a> |
| MoveItems response schema                | move              | <a href="#">6.28</a> |
| Ping request schema                      | ping              | <a href="#">6.29</a> |
| Ping response schema                     | ping              | <a href="#">6.30</a> |
| ResolveRecipients request schema         | resolverecipients | <a href="#">6.31</a> |

| Schema name                       | Prefix            | Section              |
|-----------------------------------|-------------------|----------------------|
| ResolveRecipients response schema | resolverecipients | <a href="#">6.32</a> |
| Search namespace schema           | search            | <a href="#">6.33</a> |
| Search request schema             | search            | <a href="#">6.34</a> |
| Search response schema            | search            | <a href="#">6.35</a> |
| SendMail request schema           | composeemail      | <a href="#">6.36</a> |
| SendMail response schema          | composeemail      | <a href="#">6.37</a> |
| Settings namespace schema         | settings          | <a href="#">6.38</a> |
| Settings request schema           | settings          | <a href="#">6.39</a> |
| Settings response schema          | settings          | <a href="#">6.40</a> |
| SmartForward request schema       | composeemail      | <a href="#">6.41</a> |
| SmartForward response schema      | composeemail      | <a href="#">6.42</a> |
| SmartReply request schema         | composeemail      | <a href="#">6.43</a> |
| SmartReply response schema        | composeemail      | <a href="#">6.44</a> |
| Sync request schema               | airsync           | <a href="#">6.45</a> |
| Sync response schema              | airsync           | <a href="#">6.46</a> |
| ValidateCert request schema       | validatecert      | <a href="#">6.47</a> |
| ValidateCert response schema      | validatecert      | <a href="#">6.48</a> |

## 6.1 AirSync Namespace Schema

This section contains the contents of the AirSync.xsd file. The additional files that this schema file requires to operate correctly are listed in the following table.

| File name            | Defining specification                  |
|----------------------|---|
| AirSyncBase.xsd      | <a href="#">[MS-ASAIRS]</a> section 6   |
| Calendar.xsd         | <a href="#">[MS-ASCAL]</a> section 6    |
| Contacts.xsd         | <a href="#">[MS-ASCNTC]</a> section 6.1 |
| Contacts2.xsd        | [MS-ASCNTC] section 6.2                 |
| RightsManagement.xsd | <a href="#">[MS-ASRM]</a> section 6     |

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:airsynibase=
  "AirSyncBase" xmlns:calendar="Calendar" xmlns:contacts="Contacts"
  xmlns:contacts2="Contacts2" xmlns:rm="RightsManagement" xmlns="AirSync"
  targetNamespace="AirSync" elementFormDefault="qualified"
  attributeFormDefault="unqualified">
  <xs:import namespace="AirSyncBase" schemaLocation="AirSyncBase.xsd"/>
  <xs:import namespace="Calendar" schemaLocation="Calendar.xsd"/>
  <xs:import namespace="Contacts" schemaLocation="Contacts.xsd"/>
```

```

<xs:import namespace="Contacts2" schemaLocation="Contacts2.xsd"/>
<xs:import namespace="RightsManagement"
  schemaLocation="RightsManagement.xsd"/>
<xs:element name="SyncKey">
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:maxLength value="64"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
<xs:element name="ClientId">
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:maxLength value="64"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
<xs:element name="ServerId">
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:maxLength value="64"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
<xs:element name="Status" type="xs:integer"/>
<xs:element name="Class" type="xs:string"/>
<xs:element name="CollectionId">
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:maxLength value="64"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
<xs:element name="GetChanges" type="xs:boolean"/>
<xs:element name="MoreAvailable" type="airsynbase:EmptyTag"/>
<xs:element name="WindowSize">
  <xs:simpleType>
    <xs:restriction base="xs:integer">
      <xs:minInclusive value="0"/>
      <xs:maxInclusive value="512"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
<xs:element name="FilterType">
  <xs:simpleType>
    <xs:restriction base="xs:unsignedByte">
      <xs:minInclusive value="0"/>
      <xs:maxInclusive value="8"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
<xs:element name="Conflict">
  <xs:simpleType>
    <xs:restriction base="xs:unsignedByte">
      <xs:minInclusive value="0"/>
      <xs:maxInclusive value="1"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
<xs:element name="DeletesAsMoves" type="xs:boolean"/>
<xs:element name="Supported">
  <xs:complexType mixed="true">
    <xs:sequence minOccurs="0">
      <xs:choice maxOccurs="unbounded">
        <xs:group ref="calendar:GhostingProps"/>
        <xs:group ref="contacts:GhostingProps"/>
        <xs:group ref="contacts2:GhostingProps"/>
      </xs:choice>
    </xs:sequence>
  </xs:complexType>

```

```

    </xs:complexType>
  </xs:element>
  <xs:element name="SoftDelete">
    <xs:complexType>
      <xs:sequence>
        <xs:element ref="ServerId"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="MIMESupport">
    <xs:simpleType>
      <xs:restriction base="xs:unsignedByte">
        <xs:minInclusive value="0"/>
        <xs:maxInclusive value="2"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:element>
  <xs:element name="MIMETruncation">
    <xs:simpleType>
      <xs:restriction base="xs:unsignedByte">
        <xs:minInclusive value="0"/>
        <xs:maxInclusive value="8"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:element>
  <xs:element name="Wait">
    <xs:simpleType>
      <xs:restriction base="xs:integer">
        <xs:minInclusive value="1"/>
        <xs:maxInclusive value="59"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:element>
  <xs:element name="Limit" type="xs:integer"/>
  <xs:element name="Partial" type="airsynibase:EmptyTag"/>
  <xs:element name="ConversationMode" type="xs:boolean"/>
  <xs:element name="Truncation">
    <xs:simpleType>
      <xs:restriction base="xs:unsignedByte">
        <xs:minInclusive value="0"/>
        <xs:maxInclusive value="9"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:element>
  <xs:element name="MaxItems">
    <xs:simpleType>
      <xs:restriction base="xs:integer">
        <xs:minInclusive value="1"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:element>
  <xs:element name="HeartbeatInterval">
    <xs:simpleType>
      <xs:restriction base="xs:integer">
        <xs:minInclusive value="60"/>
        <xs:maxInclusive value="3540"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:element>
  <xs:element name="Options">
    <xs:complexType>
      <xs:choice maxOccurs="unbounded">
        <xs:element ref="FilterType" minOccurs="0"/>
        <xs:element ref="Truncation" minOccurs="0"/>
        <xs:element ref="Class" minOccurs="0"/>
        <xs:element ref="airsynibase:BodyPreference" minOccurs="0"
          maxOccurs="unbounded"/>
        <xs:element ref="airsynibase:BodyPartPreference" minOccurs="0"/>
        <xs:element ref="Conflict" minOccurs="0"/>
      </xs:choice>
    </xs:complexType>
  </xs:element>

```



```

        <xs:element ref="MIMESupport" minOccurs="0"/>
        <xs:element ref="MIMETruncation" minOccurs="0"/>
        <xs:element ref="MaxItems" minOccurs="0"/>
        <xs:element ref="rm:RightsManagementSupport" minOccurs="0"/>
    </xs:choice>
</xs:complexType>
</xs:element>
</xs:schema>

```

## 6.2 Autodiscover MobileSync Namespace Schema

This section contains the contents of the AutodiscoverMobileSync.xsd file.

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns=
    "http://schemas.microsoft.com/exchange/autodiscover/mobilesync/responseschema/2006"
    targetNamespace=
    "http://schemas.microsoft.com/exchange/autodiscover/mobilesync/responseschema/2006"
    elementFormDefault="qualified" attributeFormDefault="unqualified">
    <xs:element name="Response">
        <xs:complexType>
            <xs:sequence>
                <xs:element name="Culture" type="xs:string" minOccurs="0"/>
                <xs:element name="User" minOccurs="0">
                    <xs:complexType>
                        <xs:sequence>
                            <xs:element name="DisplayName" minOccurs="0"/>
                            <xs:element name="EmailAddress" minOccurs="1"/>
                        </xs:sequence>
                    </xs:complexType>
                </xs:element>
                <xs:element name="Action" minOccurs="0">
                    <xs:complexType>
                        <xs:all>
                            <xs:element name="Redirect" type="xs:string"
                                minOccurs="0"/>
                            <xs:element name="Settings" minOccurs="0">
                                <xs:complexType>
                                    <xs:sequence>
                                        <xs:element name="Server" maxOccurs="unbounded">
                                            <xs:complexType>
                                                <xs:sequence>
                                                    <xs:element name="Type" type="xs:string"
                                                        minOccurs="0"/>
                                                    <xs:element name="Url" type="xs:string"
                                                        minOccurs="0"/>
                                                    <xs:element name="Name" type="xs:string"
                                                        minOccurs="0"/>
                                                    <xs:element name="ServerData" type="xs:string"
                                                        minOccurs="0"/>
                                                </xs:sequence>
                                            </xs:complexType>
                                        </xs:element>
                                    </xs:sequence>
                                </xs:complexType>
                            </xs:element>
                        </xs:all>
                    </xs:complexType>
                </xs:element>
                <xs:element name="Error" minOccurs="0">
                    <xs:complexType>
                        <xs:all>
                            <xs:element name="Status" type="xs:integer"
                                minOccurs="0"/>
                            <xs:element name="Message" type="xs:string"
                                minOccurs="0"/>
                            <xs:element name="DebugData" type="xs:string"
                                minOccurs="0"/>
                            <xs:element name="ErrorCode" type="xs:integer"

```

```

        minOccurs="0"/>
      </xs:all>
    </xs:complexType>
  </xs:element>
</xs:all>
</xs:complexType>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:schema>

```

### 6.3 Autodiscover Request Schema

This section contains the contents of the AutodiscoverRequest.xsd file.

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns=
  "http://schemas.microsoft.com/exchange/autodiscover/mobilesync/requestschem/2006"
  targetNamespace=
    "http://schemas.microsoft.com/exchange/autodiscover/mobilesync/requestschem/2006"
  elementFormDefault="qualified" attributeFormDefault="unqualified">
  <xs:element name="Autodiscover">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="Request" type="RequestType"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:complexType name="RequestType">
    <xs:sequence>
      <xs:sequence>
        <xs:element name="EmailAddress" type="xs:string"/>
        <xs:element name="AcceptableResponseSchema" type="xs:string"/>
      </xs:sequence>
    </xs:sequence>
  </xs:complexType>
</xs:schema>

```

### 6.4 Autodiscover Response Schema

This section contains the contents of the AutodiscoverResponse.xsd file. The additional file that this schema file requires to operate correctly is listed in the following table.

| File name                  | Defining section    |
|----------------------------|---------------------|
| AutodiscoverMobileSync.xsd | <a href="#">6.2</a> |

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns=
  "http://schemas.microsoft.com/exchange/autodiscover/responseschem/2006"
  targetNamespace=
    "http://schemas.microsoft.com/exchange/autodiscover/responseschem/2006"
  xmlns:mobilesync=
    "http://schemas.microsoft.com/exchange/autodiscover/mobilesync/responseschem/2006"
  elementFormDefault="qualified" attributeFormDefault="unqualified">
  <xs:import namespace=
    "http://schemas.microsoft.com/exchange/autodiscover/mobilesync/responseschem/2006"
    schemaLocation="AutodiscoverMobileSync.xsd"/>
  <xs:element name="Autodiscover">
    <xs:complexType>
      <xs:sequence>
        <xs:choice>

```

```

<xs:element ref="mobilesync:Response"/>
<xs:element name="Response">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="Error" minOccurs="0">
        <xs:complexType>
          <xs:sequence>
            <xs:element name="ErrorCode" type="xs:integer"
minOccurs="0"/>
            <xs:element name="Message" type="xs:string"
minOccurs="0"/>
            <xs:element name="DebugData" type="xs:string"
minOccurs="0"/>
          </xs:sequence>
          <xs:attribute name="Time" type="xs:string"/>
          <xs:attribute name="Id" type="xs:unsignedInt"/>
        </xs:complexType>
      </xs:element>
    </xs:sequence>
  </xs:complexType>
</xs:element>
</xs:choice>
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:schema>

```

## 6.5 ComposeMail Namespace Schema

This section contains the contents of the ComposeMail.xsd file. The additional file that this schema file requires to operate correctly is listed in the following table.

| File name       | Defining specification                |
|-----------------|---------------------------------------|
| AirSyncBase.xsd | <a href="#">[MS-ASAIRS]</a> section 6 |

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:airsyncbase=
  "AirSyncBase" xmlns="ComposeMail" targetNamespace="ComposeMail"
  elementFormDefault="qualified" attributeFormDefault="unqualified">
  <xs:import namespace="AirSyncBase" schemaLocation="AirSyncBase.xsd"/>
  <xs:element name="ClientId">
    <xs:simpleType>
      <xs:restriction base="xs:string">
        <xs:minLength value="1"/>
        <xs:maxLength value="40"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:element>
  <xs:element name="AccountId" type="xs:string"/>
  <xs:element name="SaveInSentItems" type="airsyncbase:EmptyTag"/>
  <xs:element name="ReplaceMime" type="airsyncbase:EmptyTag"/>
  <xs:element name="Mime" type="xs:string"/>
  <xs:element name="Status" type="xs:integer"/>
  <xs:element name="Source">
    <xs:complexType>
      <xs:all>
        <xs:element name="FolderId" minOccurs="0">
          <xs:simpleType>
            <xs:restriction base="xs:string">
              <xs:minLength value="1"/>
              <xs:maxLength value="64"/>
            </xs:restriction>
          </xs:simpleType>
        </xs:element>
        <xs:element name="ItemId" minOccurs="0">

```

```

        <xs:simpleType>
          <xs:restriction base="xs:string">
            <xs:minLength value="1"/>
            <xs:maxLength value="64"/>
          </xs:restriction>
        </xs:simpleType>
      </xs:element>
      <xs:element name="LongId" minOccurs="0">
        <xs:simpleType>
          <xs:restriction base="xs:string">
            <xs:minLength value="1"/>
            <xs:maxLength value="256"/>
          </xs:restriction>
        </xs:simpleType>
      </xs:element>
      <xs:element name="InstanceId" type="xs:string" minOccurs="0"/>
    </xs:all>
  </xs:complexType>
</xs:element>
<xs:element name="Forwardees">
  <xs:complexType>
    <xs:sequence minOccurs="0">
      <xs:element name="Forwardee" minOccurs="1" maxOccurs="unbounded">
        <xs:complexType>
          <xs:all>
            <xs:element name="Email">
              <xs:simpleType>
                <xs:restriction base="xs:string">
                  <xs:minLength value="1"/>
                </xs:restriction>
              </xs:simpleType>
            </xs:element>
            <xs:element name="Name" minOccurs="0" type="xs:string" />
          </xs:all>
        </xs:complexType>
      </xs:element>
    </xs:sequence>
  </xs:complexType>
</xs:element>
</xs:schema>

```

## 6.6 Find Namespace Schema

This section contains the contents of the Find.xsd file. The additional files that this schema file requires to operate correctly are listed in the following table.

| File name       | Defining section/specification           |
|-----------------|--|
| AirSync.xsd     | <a href="#">6.1</a>                      |
| AirSyncBase.xsd | <a href="#">[MS-ASAIRS]</a> section 6    |
| Email.xsd       | <a href="#">[MS-ASEMAIL]</a> section 6.1 |
| Email2.xsd      | <a href="#">[MS-ASEMAIL]</a> section 6.2 |

```

<?xml version="1.0" encoding="utf-8"?>
<xs:schema
  id="Find"
  targetNamespace="Find:"
  xmlns:email="Email:"
  xmlns:email2="Email2:"

```

```

    xmlns:mstns="Find:"
    xmlns="Find:"
    xmlns:airSync="AirSync:"
    xmlns:airsyncbase="AirSyncBase:"
    xmlns:xs="http://www.w3.org/2001/XMLSchema"
    attributeFormDefault="qualified"
    elementFormDefault="qualified">
<xs:import namespace="AirSync:" />
<xs:import namespace="AirSyncBase:" />
<xs:import namespace="Email:" />
<xs:import namespace="Email2:" />
<xs:complexType name="EmptyTag" />

<xs:complexType name="queryType">
  <xs:sequence>
    <xs:choice maxOccurs="unbounded">
      <xs:element name="FreeText" type="xs:string" />
      <xs:element ref="airSync:Class" />
      <xs:element ref="airSync:CollectionId" minOccurs="0" maxOccurs="1"/>
    </xs:choice>
  </xs:sequence>
</xs:complexType>
<xs:element name="Range" minOccurs="0" maxOccurs="1">
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:pattern value="[0-9]{1,3}-[0-9]{1,3}" />
    </xs:restriction>
  </xs:simpleType>
</xs:element>
<xs:element name="Status" type="xs:integer"/>
</xs:schema>

```

## 6.7 Find Request Schema

This section contains the contents of the FindRequest.xsd file. The additional files that this schema file requires to operate correctly are listed in the following table.

| File name | Defining section    |
|-----------|---------------------|
| Find.xsd  | <a href="#">6.6</a> |

```

<?xml version="1.0" encoding="utf-8"?>
<xs:schema
  id="Find"
  targetNamespace="Find:"
  xmlns:mstns="Find:"
  xmlns="Find:"
  xmlns:xs="http://www.w3.org/2001/XMLSchema"
  attributeFormDefault="qualified"
  elementFormDefault="qualified">
  <xs:include schemaLocation="Find.xsd"/>
  <xs:element name="Find">
    <xs:complexType>
      <xs:sequence>

        <xs:element name="SearchId">
          <xs:simpleType>
            <xs:restriction base="xs:string">
              <xs:pattern value="[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}" />
            </xs:restriction>
          </xs:simpleType>
        </xs:element>

```

```

<xs:element name="ExecuteSearch" minOccurs="1" maxOccurs="1">
  <xs:complexType>
    <xs:element name="MailBoxSearchCriterion" minOccurs="1" maxOccurs="1">
      <xs:complexType>
        <xs:all>
          <xs:element name="Query" minOccurs="1" type="queryType" />
          <xs:element name="Options" minOccurs="0" maxOccurs="1">
            <xs:complexType>
              <xs:sequence>
                <xs:element ref="Range"/>
                <xs:element name="DeepTraversal" type="EmptyTag" minOccurs="0"
maxOccurs="1"/>
                <xs:element name="Picture" minOccurs="0">
                  <xs:complexType>
                    <xs:all>
                      <xs:element name="MaxSize" type="xs:unsignedInt"
minOccurs="0"/>
                      <xs:element name="MaxPictures" type="xs:unsignedInt"
minOccurs="0"/>
                    </xs:all>
                  </xs:complexType>
                </xs:element>
              </xs:sequence>
            </xs:complexType>
          </xs:element>
        </xs:all>
      </xs:complexType>
    </xs:element>
  </xs:complexType>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:schema>

```

## 6.8 Find Response Schema

This section contains the contents of the FindResponse.xsd file. The additional files that this schema file requires to operate correctly are listed in the following table.

| File name   | Defining section                         |
|-------------|--|
| Find.xsd    | <a href="#">6.6</a>                      |
| Email.xsd   | <a href="#">[MS-ASEMAIL]</a> section 6.1 |
| Email2.xsd  | <a href="#">[MS-ASEMAIL]</a> section 6.2 |
| AirSync.xsd | <a href="#">6.1</a>                      |

```

<?xml version="1.0" encoding="utf-8"?>
<xs:schema
  id="Find"
  targetNamespace="Find:"
  xmlns:mstns="Find:"
  xmlns="Find:" xmlns:email="Email" xmlns:email2="Email2" xmlns:airsync="AirSync"
  xmlns:xs="http://www.w3.org/2001/XMLSchema"
  attributeFormDefault="qualified"
  elementFormDefault="qualified">
  <xs:include schemaLocation="Find.xsd"/>
  <xs:import namespace="Email" schemaLocation="Email.xsd"/>
  <xs:import namespace="Email2" schemaLocation="Email2.xsd"/>
  <xs:import namespace="AirSync" schemaLocation="AirSync.xsd"/>
  <xs:element name="Find">

```

```

<xs:complexType>
  <xs:sequence>
    <xs:element ref="Status" />
    <xs:element name="Response" minOccurs="0">
      <xs:complexType>
        <xs:all>
          <xs:element ref="itemoperations:Store"/>
          <xs:element ref="Status"/>
          <xs:element name="Result" minOccurs="0" maxOccurs="unbounded">
            <xs:complexType>
              <xs:sequence>
                <xs:element ref="airsync:Class"/>
                <xs:element ref="airsync:ServerId"/>
                <xs:element ref="airsync:CollectionId"/>
                <xs:element name="Properties">
                  <xs:complexType>
                    <xs:group ref="FindProperties"/>
                  </xs:complexType>
                </xs:element>
              </xs:sequence>
            </xs:complexType>
          </xs:element>
          <xs:element ref="Range" minOccurs="0"/>
          <xs:element name="Total" type="xs:integer"/>
        </xs:all>
      </xs:complexType>
    </xs:element>
  </xs:sequence>
</xs:complexType>
</xs:element>
<xs:group name="FindProperties">
  <xs:sequence>
    <xs:choice maxOccurs="unbounded">
      <xs:element ref="email:Subject"/>
      <xs:element ref="email:DateReceived"/>
      <xs:element ref="email:DisplayTo"/>
      <xs:element name="DisplayCc" type="xs:string"/>
      <xs:element name="DisplayBcc" type="xs:string"/>
      <xs:element ref="email:Importance"/>
      <xs:element ref="email:Read"/>
      <xs:element ref="email2:IsDraft"/>
      <xs:element name="Preview" type="xs:string"/>
      <xs:element name="HasAttachments" type="xs:boolean"/>
      <xs:element ref="email:From"/>
    </xs:choice>
  </xs:sequence>
</xs:group>
</xs:schema>

```

## 6.9 FolderCreate Request Schema

This section contains the contents of the FolderCreateRequest.xsd file. The additional file that this schema file requires to operate correctly is listed in the following table.

| File name           | Defining section     |
|---------------------|----------------------|
| FolderHierarchy.xsd | <a href="#">6.13</a> |

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="FolderHierarchy"
  targetNamespace="FolderHierarchy" elementFormDefault="qualified"
  attributeFormDefault="unqualified">
  <xs:include schemaLocation="FolderHierarchy.xsd"/>
  <xs:element name="FolderCreate">
    <xs:complexType>
      <xs:sequence>

```

```

<xs:element ref="SyncKey"/>
<xs:element ref="ParentId"/>
<xs:element name="DisplayName">
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:maxLength value="256"/>
      <xs:minLength value="1"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
<xs:element name="Type" type="xs:unsignedByte"/>
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:schema>

```

## 6.10 FolderCreate Response Schema

This section contains the contents of the FolderCreateResponse.xsd file. The additional file that this schema file requires to operate correctly is listed in the following table.

| File name           | Defining section     |
|---------------------|----------------------|
| FolderHierarchy.xsd | <a href="#">6.13</a> |

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="FolderHierarchy"
  targetNamespace="FolderHierarchy" elementFormDefault="qualified"
  attributeFormDefault="unqualified">
  <xs:include schemaLocation="FolderHierarchy.xsd"/>
  <xs:element name="FolderCreate">
    <xs:complexType>
      <xs:sequence>
        <xs:element ref="Status"/>
        <xs:element ref="SyncKey" minOccurs="0"/>
        <xs:element ref="ServerId" minOccurs="0"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>

```

## 6.11 FolderDelete Request Schema

This section contains the contents of the FolderDeleteRequest.xsd file. The additional file that this schema file requires to operate correctly is listed in the following table.

| File name           | Defining section     |
|---------------------|----------------------|
| FolderHierarchy.xsd | <a href="#">6.13</a> |

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="FolderHierarchy"
  targetNamespace="FolderHierarchy" elementFormDefault="qualified"
  attributeFormDefault="unqualified">
  <xs:include schemaLocation="FolderHierarchy.xsd"/>
  <xs:element name="FolderDelete">
    <xs:complexType>
      <xs:sequence>
        <xs:element ref="SyncKey"/>
        <xs:element ref="ServerId"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>

```



```

    </xs:element>
</xs:schema>

```

## 6.12 FolderDelete Response Schema

This section contains the contents of the FolderDeleteResponse.xsd file. The additional file that this schema file requires to operate correctly is listed in the following table.

| File name           | Defining section     |
|---------------------|----------------------|
| FolderHierarchy.xsd | <a href="#">6.13</a> |

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="FolderHierarchy"
  targetNamespace="FolderHierarchy" elementFormDefault="qualified"
  attributeFormDefault="unqualified">
  <xs:include schemaLocation="FolderHierarchy.xsd"/>
  <xs:element name="FolderDelete">
    <xs:complexType>
      <xs:sequence>
        <xs:element ref="Status"/>
        <xs:element ref="SyncKey" minOccurs="0"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>

```

## 6.13 FolderHierarchy Namespace Schema

This section contains the contents of the FolderHierarchy.xsd file.

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="FolderHierarchy"
  targetNamespace="FolderHierarchy" elementFormDefault="qualified"
  attributeFormDefault="unqualified">
  <xs:element name="ServerId">
    <xs:simpleType>
      <xs:restriction base="xs:string">
        <xs:maxLength value="64"/>
        <xs:minLength value="1"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:element>
  <xs:element name="ParentId">
    <xs:simpleType>
      <xs:restriction base="xs:string">
        <xs:maxLength value="64"/>
        <xs:minLength value="1"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:element>
  <xs:element name="Status" type="xs:integer"/>
  <xs:element name="SyncKey">
    <xs:simpleType>
      <xs:restriction base="xs:string">
        <xs:maxLength value="64"/>
        <xs:minLength value="1"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:element>
</xs:schema>

```

## 6.14 FolderSync Request Schema

This section contains the contents of the FolderSyncRequest.xsd file. The additional file that this schema file requires to operate correctly is listed in the following table.

| File name           | Defining section     |
|---------------------|----------------------|
| FolderHierarchy.xsd | <a href="#">6.13</a> |

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="FolderHierarchy"
  targetNamespace="FolderHierarchy" elementFormDefault="qualified"
  attributeFormDefault="unqualified">
  <xs:include schemaLocation="FolderHierarchy.xsd"/>
  <xs:element name="FolderSync">
    <xs:complexType>
      <xs:sequence>
        <xs:element ref="SyncKey"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

## 6.15 FolderSync Response Schema

This section contains the contents of the FolderSyncResponse.xsd file. The additional file that this schema file requires to operate correctly is listed in the following table.

| File name           | Defining section     |
|---------------------|----------------------|
| FolderHierarchy.xsd | <a href="#">6.13</a> |

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="FolderHierarchy"
  targetNamespace="FolderHierarchy" elementFormDefault="qualified"
  attributeFormDefault="unqualified">
  <xs:include schemaLocation="FolderHierarchy.xsd"/>
  <xs:element name="FolderSync">
    <xs:complexType>
      <xs:sequence>
        <xs:element ref="Status"/>
        <xs:element ref="SyncKey" minOccurs="0"/>
        <xs:element name="Changes" minOccurs="0">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="Count" type="xs:unsignedInt" minOccurs="0"/>
              <xs:element name="Update" minOccurs="0" maxOccurs="unbounded">
                <xs:complexType>
                  <xs:sequence>
                    <xs:element ref="ServerId"/>
                    <xs:element ref="ParentId"/>
                    <xs:element name="DisplayName" type="xs:string"/>
                    <xs:element name="Type" type="xs:integer"/>
                  </xs:sequence>
                </xs:complexType>
              </xs:element>
              <xs:element name="Delete" minOccurs="0" maxOccurs="unbounded">
                <xs:complexType>
                  <xs:sequence>
                    <xs:element ref="ServerId"/>
                  </xs:sequence>
                </xs:complexType>
              </xs:element>
              <xs:element name="Add" minOccurs="0" maxOccurs="unbounded">
                <xs:complexType>
```

```

        <xs:sequence>
          <xs:element ref="ServerId"/>
          <xs:element ref="ParentId"/>
          <xs:element name="DisplayName" type="xs:string"/>
          <xs:element name="Type" type="xs:integer"/>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
  </xs:sequence>
</xs:complexType>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:schema>

```

## 6.16 FolderUpdate Request Schema

This section contains the contents of the FolderUpdateRequest.xsd file. The additional file that this schema file requires to operate correctly is listed in the following table.

| File name           | Defining section     |
|---------------------|----------------------|
| FolderHierarchy.xsd | <a href="#">6.13</a> |

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="FolderHierarchy"
  targetNamespace="FolderHierarchy" elementFormDefault="qualified"
  attributeFormDefault="unqualified">
  <xs:include schemaLocation="FolderHierarchy.xsd"/>
  <xs:element name="FolderUpdate">
    <xs:complexType>
      <xs:sequence>
        <xs:element ref="SyncKey"/>
        <xs:element ref="ServerId"/>
        <xs:element ref="ParentId"/>
        <xs:element name="DisplayName">
          <xs:simpleType>
            <xs:restriction base="xs:string">
              <xs:maxLength value="256"/>
              <xs:minLength value="1"/>
            </xs:restriction>
          </xs:simpleType>
        </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>

```

## 6.17 FolderUpdate Response Schema

This section contains the contents of the FolderUpdateResponse.xsd file. The additional file that this schema file requires to operate correctly is listed in the following table.

| File name           | Defining section     |
|---------------------|----------------------|
| FolderHierarchy.xsd | <a href="#">6.13</a> |

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="FolderHierarchy"
  targetNamespace="FolderHierarchy" elementFormDefault="qualified"
  attributeFormDefault="unqualified">

```

```

<xs:include schemaLocation="FolderHierarchy.xsd"/>
<xs:element name="FolderUpdate">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="Status"/>
      <xs:element ref="SyncKey" minOccurs="0"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
</xs:schema>

```

## 6.18 GAL Namespace Schema

This section contains the contents of the GAL.xsd file.

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:rm=
  "RightsManagement" xmlns="GAL" targetNamespace="GAL" elementFormDefault=
  "qualified" attributeFormDefault="unqualified">
  <xs:group name="TopLevelSchemaProps">
    <xs:sequence>
      <xs:choice maxOccurs="unbounded">
        <xs:element name="DisplayName" type="xs:string"/>
        <xs:element name="Phone" type="xs:string"/>
        <xs:element name="Office" type="xs:string"/>
        <xs:element name="Title" type="xs:string"/>
        <xs:element name="Company" type="xs:string"/>
        <xs:element name="Alias" type="xs:string"/>
        <xs:element name="FirstName" type="xs:string"/>
        <xs:element name="LastName" type="xs:string"/>
        <xs:element name="HomePhone" type="xs:string"/>
        <xs:element name="MobilePhone" type="xs:string"/>
        <xs:element name="EmailAddress" type="xs:string"/>
        <xs:element name="Picture">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="Status" type="xs:integer"/>
              <xs:element name="Data" type="xs:string" minOccurs="0"/>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
      </xs:choice>
    </xs:sequence>
  </xs:group>
</xs:schema>

```

## 6.19 GetHierarchy Response Schema

This section contains the contents of the GetHierarchyResponse.xsd file. This schema is valid only for protocol versions 2.5, 12.0, and 12.1.

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="FolderHierarchy"
  targetNamespace="FolderHierarchy" elementFormDefault="qualified"
  attributeFormDefault="unqualified">
  <xs:element name="Folders">
    <xs:complexType>
      <xs:sequence>
        <xs:element maxOccurs="unbounded" name="Folder">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="DisplayName" type="xs:string"/>
              <xs:element name="ServerId" type="xs:string"/>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>

```

```

        <xs:element name="Type" type="xs:unsignedByte"/>
        <xs:element name="ParentId" type="xs:string"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:schema>

```

## 6.20 GetItemEstimate Request Schema

This section contains the contents of the GetItemEstimate.xsd file. The additional file that this schema file requires to operate correctly is listed in the following table.

| File name   | Defining section            |
|-------------|-----------------------------|
| AirSync.xsd | section <a href="#">6.1</a> |

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:airsync=
  "AirSync" xmlns:GetItemEstimate="targetNamespace=GetItemEstimate"
  elementFormDefault="qualified" attributeFormDefault="unqualified">
  <xs:import namespace="AirSync" schemaLocation="AirSync.xsd"/>
  <xs:element name="GetItemEstimate">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="Collections">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="Collection" maxOccurs="unbounded">
                <xs:complexType>
                  <xs:sequence>
                    <xs:element ref="airsync:SyncKey"/>
                    <xs:element name="CollectionId">
                      <xs:simpleType>
                        <xs:restriction base="xs:string">
                          <xs:maxLength value="64"/>
                        </xs:restriction>
                      </xs:simpleType>
                    </xs:element>
                    <xs:element ref="airsync:FilterType" minOccurs="0"/>
                    <xs:element ref="airsync:ConversationMode" minOccurs="0"/>
                    <xs:element ref="airsync:Options" minOccurs="0"
                      maxOccurs="2"/>
                  </xs:sequence>
                </xs:complexType>
              </xs:element>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>

```

## 6.21 GetItemEstimate Response Schema

This section contains the contents of the GetItemEstimateResponse.xsd file.

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="GetItemEstimate"
  targetNamespace="GetItemEstimate" elementFormDefault="qualified"

```

```

    attributeFormDefault="unqualified">
<xs:element name="GetItemEstimate">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="Status" type="xs:integer" minOccurs="0"/>
      <xs:element name="Response" minOccurs="0" maxOccurs="unbounded">
        <xs:complexType>
          <xs:sequence>
            <xs:element name="Status" type="xs:integer"/>
            <xs:element name="Collection" minOccurs="0" maxOccurs="1">
              <xs:complexType>
                <xs:sequence>
                  <xs:element name="CollectionId">
                    <xs:simpleType>
                      <xs:restriction base="xs:string">
                        <xs:maxLength value="64"/>
                      </xs:restriction>
                    </xs:simpleType>
                  </xs:element>
                  <xs:element name="Estimate" type="xs:integer" minOccurs="0"/>
                </xs:sequence>
              </xs:complexType>
            </xs:element>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
    </xs:sequence>
  </xs:complexType>
</xs:element>
</xs:schema>

```

## 6.22 ItemOperations Namespace Schema

This section contains the contents of the ItemOperations.xsd file. The additional files that this schema file requires to operate correctly are listed in the following table.

| File name            | Defining specification                   |
|----------------------|--|
| AirSyncBase.xsd      | <a href="#">[MS-ASAIRS]</a> section 6    |
| Calendar.xsd         | <a href="#">[MS-ASCAL]</a> section 6     |
| Contacts.xsd         | <a href="#">[MS-ASCNTC]</a> section 6.1  |
| Contacts2.xsd        | [MS-ASCNTC] section 6.2                  |
| DocumentLibrary.xsd  | <a href="#">[MS-ASDOC]</a> section 6     |
| Email.xsd            | <a href="#">[MS-ASEMAIL]</a> section 6.1 |
| Email2.xsd           | [MS-ASEMAIL] section 6.2                 |
| RightsManagement.xsd | <a href="#">[MS-ASRM]</a> section 6      |
| Tasks.xsd            | <a href="#">[MS-ASTASK]</a> section 6    |

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:airsyncbase=
  "AirSyncBase" xmlns:calendar="Calendar" xmlns:contacts="Contacts"
  xmlns:contacts2="Contacts2" xmlns:documentlibrary="DocumentLibrary"
  xmlns:email="Email" xmlns:email2="Email2" xmlns:rm="RightsManagement"
  xmlns:tasks="Tasks" xmlns="ItemOperations" targetNamespace="ItemOperations"
  elementFormDefault="qualified" attributeFormDefault="unqualified">
  <xs:import namespace="AirSyncBase" schemaLocation="AirSyncBase.xsd"/>
  <xs:import namespace="Calendar" schemaLocation="Calendar.xsd"/>

```

```

<xs:import namespace="Contacts" schemaLocation="Contacts.xsd"/>
<xs:import namespace="Contacts2" schemaLocation="Contacts2.xsd"/>
<xs:import namespace="DocumentLibrary" schemaLocation="DocumentLibrary.xsd"/>
<xs:import namespace="Email" schemaLocation="Email.xsd"/>
<xs:import namespace="Email2" schemaLocation="Email2.xsd"/>
<xs:import namespace="RightsManagement" schemaLocation=
  "RightsManagement.xsd"/>
<xs:import namespace="Tasks" schemaLocation="Tasks.xsd"/>
<xs:element name="Store">
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:minLength value="1"/>
      <xs:maxLength value="256"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
<xs:element name="Range">
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:pattern value="[0-9]{1,9}-[0-9]{1,9}"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
<xs:element name="Total" type="xs:integer"/>
<xs:element name="Properties">
  <xs:complexType>
    <xs:choice maxOccurs="unbounded">
      <xs:element ref="Range" minOccurs="0"/>
      <xs:element ref="Total" minOccurs="0"/>
      <xs:element ref="Data" minOccurs="0"/>
      <xs:element ref="Part" minOccurs="0"/>
      <xs:element ref="Version" minOccurs="0"/>
      <xs:element ref="airsyncbase:Body" minOccurs="0"/>
      <xs:element ref="airsyncbase:BodyPart" minOccurs="0"/>
      <xs:element ref="airsyncbase:Attachments" minOccurs="0"/>
      <xs:element ref="airsyncbase:NativeBodyType" minOccurs="0"/>
      <xs:element ref="airsyncbase:ContentType" minOccurs="0"/>
      <xs:element ref="airsyncbase:Location" minOccurs="0"/>
      <xs:group ref="calendar:AllProps"/>
      <xs:group ref="contacts:AllProps"/>
      <xs:group ref="contacts2:AllProps"/>
      <xs:group ref="documentlibrary:AllProps"/>
      <xs:group ref="email:AllProps"/>
      <xs:group ref="email2:AllProps"/>
      <xs:group ref="tasks:AllProps"/>
      <xs:element ref="rm:RightsManagementLicense" minOccurs="0"/>
    </xs:choice>
  </xs:complexType>
</xs:element>
<xs:element name="Data" type="xs:string"/>
<xs:element name="Status" type="xs:integer"/>
<xs:element name="Version" type="xs:dateTime"/>
<xs:element name="Schema">
  <xs:complexType>
    <xs:choice maxOccurs="unbounded">
      <xs:element ref="airsyncbase:Location" minOccurs="0"/>
      <xs:group ref="email:TopLevelSchemaProps"/>
      <xs:group ref="airsyncbase:TopLevelSchemaProps"/>
      <xs:group ref="calendar:TopLevelSchemaProps"/>
      <xs:group ref="contacts:TopLevelSchemaProps"/>
      <xs:group ref="contacts2:TopLevelSchemaProps"/>
    </xs:choice>
  </xs:complexType>
</xs:element>
<xs:element name="Part" type="xs:integer"/>
<xs:element name="DeleteSubFolders" type="airsyncbase:EmptyTag"/>
<xs:element name="UserName">
  <xs:simpleType>
    <xs:restriction base="xs:string">

```

```

        <xs:maxLength value="100"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:element>
  <xs:element name="Password">
    <xs:simpleType>
      <xs:restriction base="xs:string">
        <xs:maxLength value="256"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:element>
  <xs:element name="DstFldId">
    <xs:simpleType>
      <xs:restriction base="xs:string">
        <xs:maxLength value="64"/>
        <xs:minLength value="1"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:element>
  <xs:element name="ConversationId" type="xs:string"/>
  <xs:element name="MoveAlways" type="airsyncbase:EmptyTag"/>
</xs:schema>

```

## 6.23 ItemOperations Request Schema

This section contains the contents of the ItemOperationsRequest.xsd file. The additional files that this schema file requires to operate correctly are listed in the following table.

| File name            | Defining section/specification        |
|----------------------|---------------------------------------|
| AirSync.xsd          | <a href="#">6.1</a>                   |
| AirSyncBase.xsd      | <a href="#">[MS-ASAIRS]</a> section 6 |
| DocumentLibrary.xsd  | <a href="#">[MS-ASDOC]</a> section 6  |
| ItemOperations.xsd   | <a href="#">6.22</a>                  |
| RightsManagement.xsd | <a href="#">[MS-ASRM]</a> section 6   |
| Search.xsd           | <a href="#">6.33</a>                  |

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:airsyncbase=
  "AirSyncBase" xmlns:airsync="AirSync" xmlns:documentlibrary=
  "DocumentLibrary" xmlns:rm="RightsManagement" xmlns:search="Search"
  xmlns="ItemOperations" targetNamespace="ItemOperations"
  elementFormDefault="qualified" attributeFormDefault="unqualified">
  <xs:include schemaLocation="ItemOperations.xsd"/>
  <xs:import namespace="AirSync" schemaLocation="AirSync.xsd"/>
  <xs:import namespace="AirSyncBase" schemaLocation="AirSyncBase.xsd"/>
  <xs:import namespace="DocumentLibrary" schemaLocation="DocumentLibrary.xsd"/>
  <xs:import namespace="RightsManagement" schemaLocation=
    "RightsManagement.xsd"/>
  <xs:import namespace="Search" schemaLocation="Search.xsd"/>
  <xs:element name="ItemOperations">
    <xs:complexType>
      <xs:choice maxOccurs="unbounded">
        <xs:element name="EmptyFolderContents">
          <xs:complexType>
            <xs:all>
              <xs:element ref="airsync:CollectionId"/>
              <xs:element name="Options" minOccurs="0">
                <xs:complexType>
                  <xs:all>

```



```

        <xs:element ref="DeleteSubFolders"/>
      </xs:all>
    </xs:complexType>
  </xs:element>
</xs:all>
</xs:complexType>
</xs:element>
<xs:element name="Fetch" minOccurs="0" maxOccurs="unbounded">
  <xs:complexType>
    <xs:all>
      <xs:element ref="Store"/>
      <xs:element ref="airsync:ServerId" minOccurs="0"/>
      <xs:element ref="airsync:CollectionId" minOccurs="0"/>
      <xs:element ref="documentlibrary:LinkId" minOccurs="0"/>
      <xs:element ref="search:LongId" minOccurs="0"/>
      <xs:element ref="airsyncbase:FileReference" minOccurs="0"/>
      <xs:element name="Options" minOccurs="0">
        <xs:complexType>
          <xs:choice maxOccurs="unbounded">
            <xs:element ref="Schema" minOccurs="0"
              maxOccurs="unbounded"/>
            <xs:element ref="Range" minOccurs="0"/>
            <xs:element ref="UserName" minOccurs="0"/>
            <xs:element ref="Password" minOccurs="0"/>
            <xs:element ref="airsync:MIMESupport" minOccurs="0"/>
            <xs:element ref="airsyncbase:BodyPreference" minOccurs="0"
              maxOccurs="256"/>
            <xs:element ref="airsyncbase:BodyPartPreference"
              minOccurs="0"/>
            <xs:element ref="rm:RightsManagementSupport"
              minOccurs="0"/>
          </xs:choice>
        </xs:complexType>
      </xs:element>
      <xs:element ref="rm:RemoveRightsManagementProtection"
        minOccurs="0"/>
    </xs:all>
  </xs:complexType>
</xs:element>
<xs:element name="Move">
  <xs:complexType>
    <xs:all>
      <xs:element ref="ConversationId"/>
      <xs:element ref="DstFldId"/>
      <xs:element name="Options" minOccurs="0">
        <xs:complexType>
          <xs:all>
            <xs:element ref="MoveAlways" minOccurs="0"/>
          </xs:all>
        </xs:complexType>
      </xs:element>
    </xs:all>
  </xs:complexType>
</xs:element>
</xs:choice>
</xs:complexType>
</xs:element>
</xs:schema>

```

## 6.24 ItemOperations Response Schema

This section contains the contents of the ItemOperationsResponse.xsd file. The additional files that this schema file requires to operate correctly are listed in the following table.

| File name           | Defining section/specification        |
|---------------------|---------------------------------------|
| AirSync.xsd         | <a href="#">6.1</a>                   |
| AirSyncBase.xsd     | <a href="#">[MS-ASAIRS]</a> section 6 |
| DocumentLibrary.xsd | <a href="#">[MS-ASDOC]</a> section 6  |
| ItemOperations.xsd  | <a href="#">6.22</a>                  |
| Search.xsd          | <a href="#">6.33</a>                  |

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:airsyncbase=
  "AirSyncBase" xmlns:airsync="AirSync" xmlns:documentlibrary=
  "DocumentLibrary" xmlns:search="Search" xmlns="ItemOperations"
  targetNamespace="ItemOperations" elementFormDefault="qualified"
  attributeFormDefault="unqualified">
  <xs:include schemaLocation="ItemOperations.xsd"/>
  <xs:import namespace="AirSync" schemaLocation="AirSync.xsd"/>
  <xs:import namespace="AirSyncBase" schemaLocation="AirSyncBase.xsd"/>
  <xs:import namespace="DocumentLibrary" schemaLocation="DocumentLibrary.xsd"/>
  <xs:import namespace="Search" schemaLocation="Search.xsd"/>
  <xs:element name="ItemOperations">
    <xs:complexType>
      <xs:sequence>
        <xs:element ref="Status"/>
        <xs:element name="Response" minOccurs="0">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="Move" minOccurs="0" maxOccurs="unbounded">
                <xs:complexType>
                  <xs:all>
                    <xs:element ref="Status"/>
                    <xs:element ref="ConversationId"/>
                  </xs:all>
                </xs:complexType>
              </xs:element>
              <xs:element name="EmptyFolderContents" minOccurs="0"
                maxOccurs="unbounded">
                <xs:complexType>
                  <xs:sequence>
                    <xs:element ref="Status"/>
                    <xs:element ref="airsync:CollectionId"/>
                  </xs:sequence>
                </xs:complexType>
              </xs:element>
              <xs:element name="Fetch" minOccurs="0" maxOccurs="unbounded">
                <xs:complexType>
                  <xs:sequence>
                    <xs:element ref="Status"/>
                    <xs:element ref="airsync:CollectionId" minOccurs="0"/>
                    <xs:element ref="airsync:ServerId" minOccurs="0"/>
                    <xs:element ref="search:LongId" minOccurs="0"/>
                    <xs:element ref="airsync:Class" minOccurs="0"/>
                    <xs:element ref="documentlibrary:LinkId" minOccurs="0"/>
                    <xs:element ref="airsyncbase:FileReference" minOccurs="0"/>
                    <xs:element ref="Properties" minOccurs="0"/>
                  </xs:sequence>
                </xs:complexType>
              </xs:element>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>

```

</xs:schema>

## 6.25 MeetingResponse Request Schema

This section contains the contents of the MeetingResponseRequest.xsd file. The additional file that this schema file requires to operate correctly is listed in the following table.

| File name       | Defining section                      |
|-----------------|---------------------------------------|
| AirSyncBase.xsd | <a href="#">[MS-ASAIRS]</a> section 6 |
| Search.xsd      | <a href="#">6.33</a>                  |

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:airsyncbase=
  "AirSyncBase" xmlns:search="Search" xmlns="MeetingResponse"
  targetNamespace="MeetingResponse" elementFormDefault="qualified"
  attributeFormDefault="unqualified">
  <xs:import namespace="AirSyncBase" schemaLocation="AirSyncBase.xsd"/>
  <xs:import namespace="Search" schemaLocation="Search.xsd"/>
  <xs:element name="ProposedStartTime">
    <xs:simpleType>
      <xs:restriction base="xs:string">
        <xs:minLength value="16"/>
        <xs:maxLength value="16"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:element>
  <xs:element name="ProposedEndTime">
    <xs:simpleType>
      <xs:restriction base="xs:string">
        <xs:minLength value="16"/>
        <xs:maxLength value="16"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:element>
  <xs:element name="MeetingResponse">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="Request" maxOccurs="unbounded">
          <xs:complexType>
            <xs:all>
              <xs:element name="UserResponse">
                <xs:simpleType>
                  <xs:restriction base="xs:unsignedByte">
                    <xs:enumeration value="3"/>
                    <xs:enumeration value="1"/>
                    <xs:enumeration value="2"/>
                  </xs:restriction>
                </xs:simpleType>
              </xs:element>
              <xs:element name="CollectionId" minOccurs="0">
                <xs:simpleType>
                  <xs:restriction base="xs:string">
                    <xs:maxLength value="64"/>
                  </xs:restriction>
                </xs:simpleType>
              </xs:element>
              <xs:element name="RequestId" minOccurs="0">
                <xs:simpleType>
                  <xs:restriction base="xs:string">
                    <xs:maxLength value="64"/>
                  </xs:restriction>
                </xs:simpleType>
              </xs:element>
            </xs:all>
          </xs:complexType>
        </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>

```

```

<xs:element ref="search:LongId" minOccurs="0"/>
<xs:element name="InstanceId" minOccurs="0">
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:minLength value="24"/>
      <xs:maxLength value="24"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
<xs:element name="SendResponse" minOccurs="0">
  <xs:complexType>
    <xs:all>
      <xs:element ref="airsyncbase:Body" minOccurs="0"/>
      <xs:element ref="ProposedStartTime" minOccurs="0"/>
      <xs:element ref="ProposedEndTime" minOccurs="0"/>
    </xs:all>
  </xs:complexType>
</xs:element>
</xs:all>
</xs:complexType>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:schema>

```

## 6.26 MeetingResponse Response Schema

This section contains the contents of the MeetingResponseResponse.xsd file.

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="MeetingResponse"
  targetNamespace="MeetingResponse" elementFormDefault="qualified"
  attributeFormDefault="unqualified">
  <xs:element name="MeetingResponse">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="Result" maxOccurs="unbounded">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="RequestId" minOccurs="0">
                <xs:simpleType>
                  <xs:restriction base="xs:string">
                    <xs:maxLength value="64"/>
                  </xs:restriction>
                </xs:simpleType>
              </xs:element>
              <xs:element name="Status" type="xs:integer"/>
              <xs:element name="CalendarId" minOccurs="0">
                <xs:simpleType>
                  <xs:restriction base="xs:string">
                    <xs:maxLength value="64"/>
                  </xs:restriction>
                </xs:simpleType>
              </xs:element>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
        <xs:element name="InstanceId" minOccurs="0">
          <xs:simpleType>
            <xs:restriction base="xs:string">
              <xs:minLength value="24"/>
              <xs:maxLength value="24"/>
            </xs:restriction>
          </xs:simpleType>
        </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>

```

```

        </xs:sequence>
      </xs:complexType>
    </xs:element>
  </xs:sequence>
</xs:complexType>
</xs:element>
</xs:schema>

```

## 6.27 MoveItems Request Schema

This section contains the contents of the MoveItemsRequest.xsd file.

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="Move"
  targetNamespace="Move" elementFormDefault="qualified"
  attributeFormDefault="unqualified">
  <xs:element name="MoveItems">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="Move" maxOccurs="unbounded">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="SrcMsgId">
                <xs:simpleType>
                  <xs:restriction base="xs:string">
                    <xs:maxLength value="64"/>
                    <xs:minLength value="1"/>
                  </xs:restriction>
                </xs:simpleType>
              </xs:element>
              <xs:element name="SrcFldId">
                <xs:simpleType>
                  <xs:restriction base="xs:string">
                    <xs:maxLength value="64"/>
                    <xs:minLength value="1"/>
                  </xs:restriction>
                </xs:simpleType>
              </xs:element>
              <xs:element name="DstFldId">
                <xs:simpleType>
                  <xs:restriction base="xs:string">
                    <xs:maxLength value="64"/>
                    <xs:minLength value="1"/>
                  </xs:restriction>
                </xs:simpleType>
              </xs:element>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>

```

## 6.28 MoveItems Response Schema

This section contains the contents of the MoveItemsResponse.xsd file.

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="Move"
  targetNamespace="Move" elementFormDefault="qualified"
  attributeFormDefault="unqualified">
  <xs:element name="MoveItems">

```

```

<xs:complexType>
  <xs:sequence>
    <xs:element name="Status" type="xs:integer" minOccurs="0"/>
    <xs:element name="Response" maxOccurs="unbounded">
      <xs:complexType>
        <xs:sequence>
          <xs:element name="SrcMsgId">
            <xs:simpleType>
              <xs:restriction base="xs:string">
                <xs:maxLength value="64"/>
                <xs:minLength value="1"/>
              </xs:restriction>
            </xs:simpleType>
          </xs:element>
          <xs:element name="Status" type="xs:integer"/>
          <xs:element name="DstMsgId" minOccurs="0">
            <xs:simpleType>
              <xs:restriction base="xs:string">
                <xs:maxLength value="64"/>
                <xs:minLength value="1"/>
              </xs:restriction>
            </xs:simpleType>
          </xs:element>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
  </xs:sequence>
</xs:complexType>
</xs:element>
</xs:schema>

```

## 6.29 Ping Request Schema

This section contains the contents of the PingRequest.xsd file.

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="Ping"
  targetNamespace="Ping" elementFormDefault="qualified"
  attributeFormDefault="unqualified">
  <xs:element name="Ping">
    <xs:complexType>
      <xs:all>
        <xs:element name="HeartbeatInterval" minOccurs="0">
          <xs:simpleType>
            <xs:restriction base="xs:integer"/>
          </xs:simpleType>
        </xs:element>
        <xs:element name="Folders" minOccurs="0">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="Folder" minOccurs="1" maxOccurs="unbounded">
                <xs:complexType>
                  <xs:all>
                    <xs:element name="Id">
                      <xs:simpleType>
                        <xs:restriction base="xs:string">
                          <xs:maxLength value="64"/>
                        </xs:restriction>
                      </xs:simpleType>
                    </xs:element>
                    <xs:element name="Class">
                      <xs:simpleType>
                        <xs:restriction base="xs:string">
                          <xs:enumeration value="Email"/>
                          <xs:enumeration value="Calendar"/>
                          <xs:enumeration value="Contacts"/>
                        </xs:restriction>
                      </xs:simpleType>
                    </xs:element>
                  </xs:all>
                </xs:complexType>
              </xs:element>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
      </xs:all>
    </xs:complexType>
  </xs:element>
</xs:schema>

```

```

        <xs:enumeration value="Tasks"/>
        <xs:enumeration value="Notes"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:element>
</xs:all>
</xs:complexType>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:all>
</xs:complexType>
</xs:element>
</xs:schema>

```

## 6.30 Ping Response Schema

This section contains the contents of the PingResponse.xsd file.

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="Ping"
  targetNamespace="Ping" elementFormDefault="qualified"
  attributeFormDefault="unqualified">
  <xs:element name="Ping">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="Status" type="xs:integer"/>
        <xs:element name="Folders" minOccurs="0">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="Folder" type="xs:string"
                maxOccurs="unbounded"/>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
        <xs:element name="MaxFolders" type="xs:integer" minOccurs="0"/>
        <xs:element name="HeartbeatInterval" type="xs:integer" minOccurs="0"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>

```

## 6.31 ResolveRecipients Request Schema

This section contains the contents of the ResolveRecipientsRequest.xsd file.

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="
  ResolveRecipients" targetNamespace="ResolveRecipients"
  elementFormDefault="qualified" attributeFormDefault="unqualified">
  <xs:element name="ResolveRecipients">
    <xs:complexType>
      <xs:choice maxOccurs="unbounded">
        <xs:element name="To" maxOccurs="100">
          <xs:simpleType>
            <xs:restriction base="xs:string">
              <xs:maxLength value="256"/>
            </xs:restriction>
          </xs:simpleType>
        </xs:element>
        <xs:element name="Options" minOccurs="0">
          <xs:complexType>

```

```

<xs:all>
  <xs:element name="CertificateRetrieval" minOccurs="0">
    <xs:simpleType>
      <xs:restriction base="xs:integer">
        <xs:minInclusive value="1"/>
        <xs:maxInclusive value="3"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:element>
  <xs:element name="MaxCertificates" minOccurs="0">
    <xs:simpleType>
      <xs:restriction base="xs:integer">
        <xs:minInclusive value="0"/>
        <xs:maxInclusive value="9999"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:element>
  <xs:element name="MaxAmbiguousRecipients" minOccurs="0">
    <xs:simpleType>
      <xs:restriction base="xs:integer">
        <xs:minInclusive value="0"/>
        <xs:maxInclusive value="9999"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:element>
  <xs:element name="Availability" minOccurs="0">
    <xs:complexType>
      <xs:all>
        <xs:element name="StartTime" type="xs:string"/>
        <xs:element name="EndTime" type="xs:string" minOccurs="0"/>
      </xs:all>
    </xs:complexType>
  </xs:element>
  <xs:element name="Picture" minOccurs="0">
    <xs:complexType>
      <xs:all>
        <xs:element name="MaxSize" type="xs:unsignedInt"
          minOccurs="0"/>
        <xs:element name="MaxPictures" type="xs:unsignedInt"
          minOccurs="0"/>
      </xs:all>
    </xs:complexType>
  </xs:element>
</xs:all>
</xs:complexType>
</xs:element>
</xs:choice>
</xs:complexType>
</xs:element>
</xs:schema>

```

## 6.32 ResolveRecipients Response Schema

This section contains the contents of the ResolveRecipientsResponse.xsd file.

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns=
  "ResolveRecipients" targetNamespace="ResolveRecipients"
  elementFormDefault="qualified" attributeFormDefault="unqualified">
  <xs:element name="ResolveRecipients">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="Status" type="xs:integer"/>
        <xs:element name="Response" minOccurs="0" maxOccurs="unbounded">
          <xs:complexType>
            <xs:sequence>

```





| File name            | Defining section/specification           |
|----------------------|--|
| AirSync.xsd          | <a href="#">6.1</a>                      |
| AirSyncBase.xsd      | <a href="#">[MS-ASAIRS]</a> section 6    |
| DocumentLibrary.xsd  | <a href="#">[MS-ASDOC]</a> section 6     |
| Email.xsd            | <a href="#">[MS-ASEMAIL]</a> section 6.1 |
| RightsManagement.xsd | <a href="#">[MS-ASRM]</a> section 6      |

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:airsyncbase=
  "AirSyncBase" xmlns:airsync="AirSync" xmlns:documentlibrary=
  "DocumentLibrary" xmlns:email="Email" xmlns:rm="RightsManagement"
  xmlns="Search" targetNamespace="Search" elementFormDefault="qualified"
  attributeFormDefault="unqualified">
  <xs:import namespace="AirSync" schemaLocation="AirSync.xsd"/>
  <xs:import namespace="AirSyncBase" schemaLocation="AirSyncBase.xsd"/>
  <xs:import namespace="DocumentLibrary" schemaLocation="DocumentLibrary.xsd"/>
  <xs:import namespace="Email" schemaLocation="Email.xsd"/>
  <xs:import namespace="RightsManagement"
    schemaLocation="RightsManagement.xsd"/>
  <xs:complexType name="queryType" mixed="true">
    <xs:sequence>
      <xs:choice maxOccurs="unbounded">
        <xs:element name="And" type="queryType" minOccurs="0"/>
        <xs:element name="Or" type="queryType" minOccurs="0"/>
        <xs:element name="FreeText" type="xs:string" minOccurs="0"/>
        <xs:element ref="airsync:Class" minOccurs="0" maxOccurs="unbounded"/>
        <xs:element ref="airsync:CollectionId" minOccurs="0"
          maxOccurs="unbounded"/>
        <xs:element name="ConversationId" type="xs:string" minOccurs="0"/>
        <xs:element name="EqualTo" minOccurs="0">
          <xs:complexType>
            <xs:sequence>
              <xs:element ref="documentlibrary:LinkId"/>
              <xs:element ref="Value"/>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
        <xs:element name="GreaterThan" minOccurs="0">
          <xs:complexType>
            <xs:sequence>
              <xs:group ref="email:ComparisonProps"/>
              <xs:element ref="Value"/>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
        <xs:element name="LessThan" minOccurs="0">
          <xs:complexType>
            <xs:sequence>
              <xs:group ref="email:ComparisonProps"/>
              <xs:element ref="Value"/>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
      </xs:choice>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="Name">
    <xs:simpleType>
      <xs:restriction base="xs:string">
        <xs:minLength value="1"/>
        <xs:maxLength value="256"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:element>

```

```

</xs:element>
<xs:element name="Query" type="queryType"/>
<xs:element name="Options">
  <xs:complexType>
    <xs:choice maxOccurs="unbounded">
      <xs:element ref="airsync:MIMESupport" minOccurs="0"/>
      <xs:element ref="airsyncbase:BodyPreference" minOccurs="0"
        maxOccurs="unbounded"/>
      <xs:element ref="airsyncbase:BodyPartPreference" minOccurs="0"/>
      <xs:element ref="rm:RightsManagementSupport" minOccurs="0"/>
      <xs:element ref="Range"/>
      <xs:element name="UserName">
        <xs:simpleType>
          <xs:restriction base="xs:string">
            <xs:maxLength value="100"/>
          </xs:restriction>
        </xs:simpleType>
      </xs:element>
      <xs:element name="Password">
        <xs:simpleType>
          <xs:restriction base="xs:string">
            <xs:maxLength value="100"/>
          </xs:restriction>
        </xs:simpleType>
      </xs:element>
      <xs:element name="DeepTraversal" type="airsyncbase:EmptyTag"/>
      <xs:element name="RebuildResults" type="airsyncbase:EmptyTag"/>
      <xs:element name="Picture" minOccurs="0">
        <xs:complexType>
          <xs:all>
            <xs:element name="MaxSize" type="xs:unsignedInt" minOccurs="0"/>
            <xs:element name="MaxPictures" type="xs:unsignedInt"
              minOccurs="0"/>
          </xs:all>
        </xs:complexType>
      </xs:element>
    </xs:choice>
  </xs:complexType>
</xs:element>
<xs:element name="Status" type="xs:integer"/>
<xs:element name="Total" type="xs:integer"/>
<xs:element name="Value">
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:maxLength value="1024"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
<xs:element name="LongId">
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:minLength value="1"/>
      <xs:maxLength value="256"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
<xs:element name="Range">
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:pattern value="[0-9]{1,3}-[0-9]{1,3}"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
</xs:schema>

```

## 6.34 Search Request Schema

This section contains the contents of the SearchRequest.xsd file. The additional file that this schema file requires to operate correctly is listed in the following table.

| File name  | Defining section     |
|------------|----------------------|
| Search.xsd | <a href="#">6.33</a> |

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="Search"
  targetNamespace="Search" elementFormDefault="qualified"
  attributeFormDefault="unqualified">
  <xs:include schemaLocation="Search.xsd"/>
  <xs:element name="Search">
    <xs:complexType>
      <xs:choice maxOccurs="unbounded">
        <xs:element name="Store">
          <xs:complexType>
            <xs:all>
              <xs:element ref="Name"/>
              <xs:element name="Query" type="queryType"/>
              <xs:element ref="Options" minOccurs="0"/>
            </xs:all>
          </xs:complexType>
        </xs:element>
      </xs:choice>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

## 6.35 Search Response Schema

This section contains the contents of the SearchResponse.xsd file. The additional files that this schema file requires to operate correctly are listed in the following table.

| File name            | Defining section/specification           |
|----------------------|--|
| AirSync.xsd          | <a href="#">6.1</a>                      |
| AirSyncBase.xsd      | <a href="#">[MS-ASAIRS]</a> section 6    |
| Calendar.xsd         | <a href="#">[MS-ASCAL]</a> section 6     |
| Contacts.xsd         | <a href="#">[MS-ASCNTC]</a> section 6.1  |
| Contacts2.xsd        | <a href="#">[MS-ASCNTC]</a> section 6.2  |
| DocumentLibrary.xsd  | <a href="#">[MS-ASDOC]</a> section 6     |
| Email.xsd            | <a href="#">[MS-ASEMAIL]</a> section 6.1 |
| Email2.xsd           | <a href="#">[MS-ASEMAIL]</a> section 6.2 |
| GAL.xsd              | <a href="#">6.18</a>                     |
| Notes.xsd            | <a href="#">[MS-ASNOTE]</a> section 6    |
| Search.xsd           | <a href="#">6.33</a>                     |
| Tasks.xsd            | <a href="#">[MS-ASTASK]</a> section 6    |
| RightsManagement.xsd | <a href="#">[MS-ASRM]</a> section 6      |

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:airsyncbase=
  "AirSyncBase" xmlns:airsync="AirSync" xmlns:calendar="Calendar"
  xmlns:contacts="Contacts" xmlns:contacts2="Contacts2"
  xmlns:documentlibrary="DocumentLibrary" xmlns:email="Email"
  xmlns:email2="Email2" xmlns:gal="GAL" xmlns:notes="Notes"
  xmlns:tasks="Tasks" xmlns:rm="RightsManagement" xmlns="Search" targetNamespace="Search"
  elementFormDefault="qualified" attributeFormDefault="unqualified">
  <xs:include schemaLocation="Search.xsd"/>
  <xs:import namespace="AirSync" schemaLocation="AirSync.xsd"/>
  <xs:import namespace="AirSyncBase" schemaLocation="AirSyncBase.xsd"/>
  <xs:import namespace="Calendar" schemaLocation="Calendar.xsd"/>
  <xs:import namespace="Contacts" schemaLocation="Contacts.xsd"/>
  <xs:import namespace="Contacts2" schemaLocation="Contacts2.xsd"/>
  <xs:import namespace="DocumentLibrary" schemaLocation="DocumentLibrary.xsd"/>
  <xs:import namespace="Email" schemaLocation="Email.xsd"/>
  <xs:import namespace="Email2" schemaLocation="Email2.xsd"/>
  <xs:import namespace="GAL" schemaLocation="GAL.xsd"/>
  <xs:import namespace="Notes" schemaLocation="Notes.xsd"/>
  <xs:import namespace="Tasks" schemaLocation="Tasks.xsd"/>
  <xs:import namespace="RightsManagement" schemaLocation="RightsManagement.xsd"/>
  <xs:element name="Search">
    <xs:complexType>
      <xs:sequence>
        <xs:element ref="Status" minOccurs="0"/>
        <xs:element name="Response" minOccurs="0">
          <xs:complexType>
            <xs:all>
              <xs:element name="Store">
                <xs:complexType>
                  <xs:sequence>
                    <xs:element ref="Status"/>
                    <xs:element name="Result" nillable="true" minOccurs="0"
                      maxOccurs="unbounded">
                      <xs:complexType>
                        <xs:sequence>
                          <xs:element ref="airsync:Class" minOccurs="0"/>
                          <xs:element ref="LongId" minOccurs="0"/>
                          <xs:element ref="airsync:CollectionId" minOccurs="0"/>
                          <xs:element name="Properties" minOccurs="0">
                            <xs:complexType>
                              <xs:group ref="SearchProperties"/>
                            </xs:complexType>
                          </xs:element>
                        </xs:sequence>
                      </xs:complexType>
                    </xs:element>
                    <xs:element ref="Range" minOccurs="0"/>
                    <xs:element ref="Total" minOccurs="0"/>
                  </xs:sequence>
                </xs:complexType>
              </xs:element>
            </xs:all>
          </xs:complexType>
        </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:group name="SearchProperties">
    <xs:sequence>
      <xs:choice maxOccurs="unbounded">
        <xs:element ref="airsyncbase:Attachments"/>
        <xs:element ref="airsyncbase:Body"/>
        <xs:element ref="airsyncbase:BodyPart"/>
        <xs:element ref="airsyncbase:Location"/>
        <xs:element ref="airsyncbase:NativeBodyType"/>
        <xs:element ref="calendar:Timezone"/>
        <xs:element ref="calendar:AllDayEvent"/>
        <xs:element ref="calendar:BusyStatus"/>
      </xs:choice>
    </xs:sequence>
  </xs:group>

```

```

<xs:element ref="calendar:OrganizerName"/>
<xs:element ref="calendar:OrganizerEmail"/>
<xs:element ref="calendar:DtStamp"/>
<xs:element ref="calendar:EndTime"/>
<xs:element ref="calendar:Location"/>
<xs:element ref="calendar:Reminder"/>
<xs:element ref="calendar:Sensitivity"/>
<xs:element ref="calendar:Subject"/>
<xs:element ref="calendar:StartTime"/>
<xs:element ref="calendar:UID"/>
<xs:element ref="calendar:MeetingStatus"/>
<xs:element ref="calendar:Attendees"/>
<xs:element ref="calendar:Recurrence"/>
<xs:element ref="calendar:Exceptions"/>
<xs:element ref="calendar:ResponseRequested"/>
<xs:element ref="calendar:AppointmentReplyTime"/>
<xs:element ref="calendar:ResponseType"/>
<xs:element ref="calendar:DisallowNewTimeProposal"/>
<xs:element ref="contacts:Anniversary"/>
<xs:element ref="contacts:AssistantName"/>
<xs:element ref="contacts:AssistantPhoneNumber"/>
<xs:element ref="contacts:Birthday"/>
<xs:element ref="contacts:Business2PhoneNumber"/>
<xs:element ref="contacts:BusinessAddressCity"/>
<xs:element ref="contacts:BusinessPhoneNumber"/>
<xs:element ref="contacts:WebPage"/>
<xs:element ref="contacts:BusinessAddressCountry"/>
<xs:element ref="contacts:Department"/>
<xs:element ref="contacts:Email1Address"/>
<xs:element ref="contacts:Email2Address"/>
<xs:element ref="contacts:Email3Address"/>
<xs:element ref="contacts:BusinessFaxNumber"/>
<xs:element ref="contacts:FileAs"/>
<xs:element ref="contacts:Alias"/>
<xs:element ref="contacts:WeightedRank"/>
<xs:element ref="contacts:FirstName"/>
<xs:element ref="contacts:MiddleName"/>
<xs:element ref="contacts:HomeAddressCity"/>
<xs:element ref="contacts:HomeAddressCountry"/>
<xs:element ref="contacts:HomeFaxNumber"/>
<xs:element ref="contacts:HomePhoneNumber"/>
<xs:element ref="contacts:Home2PhoneNumber"/>
<xs:element ref="contacts:HomeAddressPostalCode"/>
<xs:element ref="contacts:HomeAddressState"/>
<xs:element ref="contacts:HomeAddressStreet"/>
<xs:element ref="contacts:MobilePhoneNumber"/>
<xs:element ref="contacts:Suffix"/>
<xs:element ref="contacts:CompanyName"/>
<xs:element ref="contacts:OtherAddressCity"/>
<xs:element ref="contacts:OtherAddressCountry"/>
<xs:element ref="contacts:CarPhoneNumber"/>
<xs:element ref="contacts:OtherAddressPostalCode"/>
<xs:element ref="contacts:OtherAddressState"/>
<xs:element ref="contacts:OtherAddressStreet"/>
<xs:element ref="contacts:PagerNumber"/>
<xs:element ref="contacts:Title"/>
<xs:element ref="contacts:BusinessAddressPostalCode"/>
<xs:element ref="contacts:LastName"/>
<xs:element ref="contacts:Spouse"/>
<xs:element ref="contacts:BusinessAddressState"/>
<xs:element ref="contacts:BusinessAddressStreet"/>
<xs:element ref="contacts:JobTitle"/>
<xs:element ref="contacts:YomiFirstName"/>
<xs:element ref="contacts:YomiLastName"/>
<xs:element ref="contacts:YomiCompanyName"/>
<xs:element ref="contacts:OfficeLocation"/>
<xs:element ref="contacts:RadioPhoneNumber"/>
<xs:element ref="contacts:Picture"/>
<xs:element ref="contacts:Categories"/>

```

```

<xs:element ref="contacts:Children"/>
<xs:element ref="contacts2:CustomerId"/>
<xs:element ref="contacts2:GovernmentId"/>
<xs:element ref="contacts2:IMAddress"/>
<xs:element ref="contacts2:IMAddress2"/>
<xs:element ref="contacts2:IMAddress3"/>
<xs:element ref="contacts2:ManagerName"/>
<xs:element ref="contacts2:CompanyMainPhone"/>
<xs:element ref="contacts2:AccountName"/>
<xs:element ref="contacts2:NickName"/>
<xs:element ref="contacts2:MMS"/>
<xs:element ref="documentlibrary:LinkId"/>
<xs:element ref="documentlibrary:DisplayName"/>
<xs:element ref="documentlibrary:IsFolder"/>
<xs:element ref="documentlibrary:CreationDate"/>
<xs:element ref="documentlibrary:LastModifiedDate"/>
<xs:element ref="documentlibrary:IsHidden"/>
<xs:element ref="documentlibrary:ContentLength"/>
<xs:element ref="documentlibrary:ContentType"/>
<xs:element ref="email:To"/>
<xs:element ref="email:Cc"/>
<xs:element ref="email:From"/>
<xs:element ref="email:Subject"/>
<xs:element ref="email:ReplyTo"/>
<xs:element ref="email:DateReceived"/>
<xs:element ref="email:DisplayTo"/>
<xs:element ref="email:ThreadTopic"/>
<xs:element ref="email:Importance"/>
<xs:element ref="email:Read"/>
<xs:element ref="email:MessageClass"/>
<xs:element ref="email:MeetingRequest"/>
<xs:element ref="email:InternetCPID"/>
<xs:element ref="email:Flag"/>
<xs:element ref="email:ContentClass"/>
<xs:element ref="email2:UmCallerID"/>
<xs:element ref="email2:UmUserNotes"/>
<xs:element ref="email2:ConversationId"/>
<xs:element ref="email2:ConversationIndex"/>
<xs:element ref="email2:Sender"/>
<xs:element ref="email2:LastVerbExecuted"/>
<xs:element ref="email2:LastVerbExecutionTime"/>
<xs:element ref="email2:ReceivedAsBcc"/>
<xs:element ref="email:Categories"/>
<xs:element ref="notes:Subject"/>
<xs:element ref="notes:MessageClass"/>
<xs:element ref="notes:LastModifiedDate"/>
<xs:element ref="notes:Categories"/>
<xs:element ref="tasks:Subject"/>
<xs:element ref="tasks:Importance"/>
<xs:element ref="tasks:UtcStartDate"/>
<xs:element ref="tasks:StartDate"/>
<xs:element ref="tasks:UtcDueDate"/>
<xs:element ref="tasks:DueDate"/>
<xs:element ref="tasks:Categories"/>
<xs:element ref="tasks:Recurrence"/>
<xs:element ref="tasks:Complete"/>
<xs:element ref="tasks:DateCompleted"/>
<xs:element ref="tasks:Sensitivity"/>
<xs:element ref="tasks:ReminderTime"/>
<xs:element ref="tasks:ReminderSet"/>
<xs:element ref="rm:RightsManagementLicense"/>
<xs:group ref="gal:TopLevelSchemaProps"/>
</xs:choice>
</xs:sequence>
</xs:group>
</xs:schema>

```

## 6.36 SendMail Request Schema

This section contains the contents of the SendMailRequest.xsd file. The additional files that this schema file requires to operate correctly are listed in the following table.

| File name            | Defining section/specification      |
|----------------------|-------------------------------------|
| ComposeMail.xsd      | <a href="#">6.5</a>                 |
| RightsManagement.xsd | <a href="#">[MS-ASRM]</a> section 6 |

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:rm=
  "RightsManagement" xmlns="ComposeMail" targetNamespace="ComposeMail"
  elementFormDefault="qualified" attributeFormDefault="unqualified">
  <xs:include schemaLocation="ComposeMail.xsd"/>
  <xs:import namespace="RightsManagement" schemaLocation=
    "RightsManagement.xsd"/>
  <xs:element name="SendMail">
    <xs:complexType>
      <xs:all>
        <xs:element ref="ClientId"/>
        <xs:element ref="AccountId" minOccurs="0"/>
        <xs:element ref="SaveInSentItems" minOccurs="0"/>
        <xs:element ref="Mime"/>
        <xs:element ref="rm:TemplateID" minOccurs="0"/>
      </xs:all>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

## 6.37 SendMail Response Schema

This section contains the contents of the SendMailResponse.xsd file. The additional file that this schema file requires to operate correctly is listed in the following table.

| File name       | Defining section    |
|-----------------|---------------------|
| ComposeMail.xsd | <a href="#">6.5</a> |

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="ComposeMail"
  targetNamespace="ComposeMail" elementFormDefault="qualified"
  attributeFormDefault="unqualified">
  <xs:include schemaLocation="ComposeMail.xsd"/>
  <xs:element name="SendMail">
    <xs:complexType>
      <xs:all>
        <xs:element ref="Status" minOccurs="0"/>
      </xs:all>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

## 6.38 Settings Namespace Schema

This section contains the contents of the Settings.xsd file. The additional file that this schema file requires to operate correctly is listed in the following table.



| File name       | Defining specification                |
|-----------------|---------------------------------------|
| AirSyncBase.xsd | <a href="#">[MS-ASAIRS]</a> section 6 |

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:airsyncbase=
  "AirSyncBase" xmlns:Settings="Settings" targetNamespace="Settings"
  elementFormDefault="qualified" attributeFormDefault="unqualified">
  <xs:import namespace="AirSyncBase" schemaLocation="AirSyncBase.xsd"/>
  <xs:simpleType name="DeviceInformationStringType">
    <xs:restriction base="xs:string">
      <xs:maxLength value="1024"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:simpleType name="NonEmptyStringType">
    <xs:restriction base="xs:string">
      <xs:minLength value="1"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:element name="Status" type="xs:integer"/>
  <xs:element name="OofState">
    <xs:simpleType>
      <xs:restriction base="xs:integer">
        <xs:enumeration value="0"/>
        <xs:enumeration value="1"/>
        <xs:enumeration value="2"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:element>
  <xs:element name="StartTime" type="xs:dateTime"/>
  <xs:element name="EndTime" type="xs:dateTime"/>
  <xs:element name="OofMessage">
    <xs:complexType>
      <xs:all>
        <xs:element name="AppliesToInternal" type="airsyncbase:EmptyTag"
          minOccurs="0"/>
        <xs:element name="AppliesToExternalKnown" type="airsyncbase:EmptyTag"
          minOccurs="0"/>
        <xs:element name="AppliesToExternalUnknown" type="airsyncbase:EmptyTag"
          minOccurs="0"/>
        <xs:element name="Enabled" type="NonEmptyStringType" minOccurs="0"/>
        <xs:element name="ReplyMessage" type="xs:string" minOccurs="0"/>
        <xs:element ref="BodyType" minOccurs="0"/>
      </xs:all>
    </xs:complexType>
  </xs:element>
  <xs:element name="BodyType" type="NonEmptyStringType"/>
  <xs:element name="Password">
    <xs:simpleType>
      <xs:restriction base="xs:string">
        <xs:maxLength value="255"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:element>
  <xs:element name="Model" type="DeviceInformationStringType"/>
  <xs:element name="IMEI" type="DeviceInformationStringType"/>
  <xs:element name="FriendlyName" type="DeviceInformationStringType"/>
  <xs:element name="OS" type="DeviceInformationStringType"/>
  <xs:element name="OSLanguage" type="DeviceInformationStringType"/>
  <xs:element name="PhoneNumber" type="DeviceInformationStringType"/>
  <xs:element name="UserAgent" type="DeviceInformationStringType"/>
  <xs:element name="EnableOutboundSMS">
    <xs:simpleType>
      <xs:restriction base="xs:integer">
        <xs:minInclusive value="0"/>
        <xs:maxInclusive value="1"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:element>

```

```

<xs:element name="MobileOperator" type="DeviceInformationStringType"/>
<xs:element name="EmailAddresses">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="SMTPAddress" type="xs:string"
        minOccurs="0" maxOccurs="unbounded"/>
      <xs:element name="PrimarySmtAddress" type="xs:string"
        minOccurs="0"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:element name="Accounts">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="Account" maxOccurs="unbounded">
        <xs:complexType>
          <xs:all>
            <xs:element name="AccountId" type="xs:string" minOccurs="0"/>
            <xs:element name="AccountName" type="xs:string" minOccurs="0"/>
            <xs:element name="UserDisplayName" type="xs:string"
              minOccurs="0"/>
            <xs:element name="SendDisabled" type="xs:boolean" minOccurs="0"/>
            <xs:element ref="EmailAddresses" minOccurs="0"/>
          </xs:all>
        </xs:complexType>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>

```

### 6.39 Settings Request Schema

This section contains the contents of the SettingsRequest.xsd file. The additional files that this schema file requires to operate correctly are listed in the following table.

| File name       | Defining section/specification        |
|-----------------|---------------------------------------|
| AirSyncBase.xsd | <a href="#">[MS-ASAIRS]</a> section 6 |
| Settings.xsd    | <a href="#">6.38</a>                  |

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:airsyncbase=
  "AirSyncBase" xmlns="Settings" targetNamespace="Settings"
  elementFormDefault="qualified" attributeFormDefault="unqualified">
  <xs:include schemaLocation="Settings.xsd"/>
  <xs:import namespace="AirSyncBase" schemaLocation="AirSyncBase.xsd"/>
  <xs:element name="DeviceInformation">
    <xs:complexType>
      <xs:all>
        <xs:element name="Set">
          <xs:complexType>
            <xs:all>
              <xs:element ref="Model" minOccurs="0"/>
              <xs:element ref="IMEI" minOccurs="0"/>
              <xs:element ref="FriendlyName" minOccurs="0"/>
              <xs:element ref="OS" minOccurs="0"/>
              <xs:element ref="OSLanguage" minOccurs="0"/>
              <xs:element ref="PhoneNumber" minOccurs="0"/>
              <xs:element ref="UserAgent" minOccurs="0"/>
              <xs:element ref="EnableOutboundSMS" minOccurs="0"/>
              <xs:element ref="MobileOperator" minOccurs="0"/>
            </xs:all>
          </xs:complexType>
        </xs:element>
      </xs:all>
    </xs:complexType>
  </xs:element>
</xs:schema>

```

```

        </xs:element>
    </xs:all>
</xs:complexType>
</xs:element>
<xs:element name="Settings">
    <xs:complexType>
        <xs:all>
            <xs:element name="RightsManagementInformation" minOccurs="0">
                <xs:complexType>
                    <xs:sequence>
                        <xs:element name="Get" type="airsynbase:EmptyTag"/>
                    </xs:sequence>
                </xs:complexType>
            </xs:element>
            <xs:element name="Oof" minOccurs="0">
                <xs:complexType>
                    <xs:choice>
                        <xs:element name="Get" minOccurs="0">
                            <xs:complexType>
                                <xs:sequence>
                                    <xs:element ref="BodyType"/>
                                </xs:sequence>
                            </xs:complexType>
                        </xs:element>
                        <xs:element name="Set">
                            <xs:complexType>
                                <xs:sequence>
                                    <xs:element ref="OofState" minOccurs="0"/>
                                    <xs:element ref="StartTime" minOccurs="0"/>
                                    <xs:element ref="EndTime" minOccurs="0"/>
                                    <xs:element ref="OofMessage" minOccurs="0" maxOccurs="3"/>
                                </xs:sequence>
                            </xs:complexType>
                        </xs:element>
                    </xs:choice>
                </xs:complexType>
            </xs:element>
            <xs:element name="DevicePassword" minOccurs="0">
                <xs:complexType>
                    <xs:choice>
                        <xs:element name="Set">
                            <xs:complexType>
                                <xs:sequence>
                                    <xs:element ref="Password"/>
                                </xs:sequence>
                            </xs:complexType>
                        </xs:element>
                    </xs:choice>
                </xs:complexType>
            </xs:element>
            <xs:element ref="DeviceInformation" minOccurs="0"/>
            <xs:element name="UserInformation" minOccurs="0">
                <xs:complexType>
                    <xs:choice>
                        <xs:element name="Get" type="airsynbase:EmptyTag"/>
                    </xs:choice>
                </xs:complexType>
            </xs:element>
        </xs:all>
    </xs:complexType>
</xs:element>
</xs:schema>

```

## 6.40 Settings Response Schema

This section contains the contents of the SettingsResponse.xsd file. The additional files that this schema file requires to operate correctly are listed in the following table.

| File name            | Defining section/specification      |
|----------------------|-------------------------------------|
| RightsManagement.xsd | <a href="#">[MS-ASRM]</a> section 6 |
| Settings.xsd         | <a href="#">6.38</a>                |

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:rm=
  "RightsManagement" xmlns="Settings" targetNamespace="Settings"
  elementFormDefault="qualified" attributeFormDefault="unqualified">
  <xs:include schemaLocation="Settings.xsd"/>
  <xs:import namespace="RightsManagement" schemaLocation=
    "RightsManagement.xsd"/>
  <xs:element name="DeviceInformation">
    <xs:complexType>
      <xs:all>
        <xs:element ref="Status" minOccurs="0"/>
      </xs:all>
    </xs:complexType>
  </xs:element>
  <xs:element name="Settings">
    <xs:complexType>
      <xs:all>
        <xs:element ref="Status" minOccurs="0"/>
        <xs:element name="Oof" minOccurs="0">
          <xs:complexType>
            <xs:all>
              <xs:element ref="Status" minOccurs="0"/>
              <xs:element name="Get" minOccurs="0">
                <xs:complexType>
                  <xs:sequence>
                    <xs:element ref="OofState" minOccurs="0"/>
                    <xs:element ref="StartTime" minOccurs="0"/>
                    <xs:element ref="EndTime" minOccurs="0"/>
                    <xs:element ref="OofMessage" minOccurs="0" maxOccurs="3"/>
                  </xs:sequence>
                </xs:complexType>
              </xs:element>
            </xs:all>
          </xs:complexType>
        </xs:element>
      </xs:all>
    </xs:complexType>
  </xs:element>
  <xs:element ref="DeviceInformation" minOccurs="0"/>
  <xs:element name="DevicePassword" minOccurs="0">
    <xs:complexType>
      <xs:all>
        <xs:element ref="Status" minOccurs="0"/>
      </xs:all>
    </xs:complexType>
  </xs:element>
  <xs:element name="UserInformation" minOccurs="0">
    <xs:complexType>
      <xs:all>
        <xs:element ref="Status" minOccurs="0"/>
        <xs:element name="Get" minOccurs="0">
          <xs:complexType>
            <xs:all>
              <xs:element ref="EmailAddresses" minOccurs="0"/>
              <xs:element ref="Accounts" minOccurs="0"/>
            </xs:all>
          </xs:complexType>
        </xs:element>
      </xs:all>
    </xs:complexType>
  </xs:element>
  <xs:element name="RightsManagementInformation" minOccurs="0">
    <xs:complexType>
      <xs:all>
        <xs:element ref="Status" minOccurs="0"/>
        <xs:element name="Get">

```

```

        <xs:complexType>
          <xs:all>
            <xs:element ref="rm:RightsManagementTemplates"/>
          </xs:all>
        </xs:complexType>
      </xs:element>
    </xs:all>
  </xs:complexType>
</xs:element>
</xs:all>
</xs:complexType>
</xs:element>
</xs:schema>

```

## 6.41 SmartForward Request Schema

This section contains the contents of the SmartForwardRequest.xsd file. The additional files that this schema file requires to operate correctly are listed in the following table.

| File name            | Defining section/specification        |
|----------------------|---------------------------------------|
| AirSyncBase.xsd      | <a href="#">[MS-ASAIRS]</a> section 6 |
| ComposeMail.xsd      | <a href="#">6.5</a>                   |
| RightsManagement.xsd | <a href="#">[MS-ASRM]</a> section 6   |

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:airsyncbase=
  "AirSyncBase" xmlns:rm="RightsManagement" xmlns="ComposeMail"
  targetNamespace="ComposeMail" elementFormDefault="qualified"
  attributeFormDefault="unqualified">
  <xs:include schemaLocation="ComposeMail.xsd"/>
  <xs:import namespace="AirSyncBase" schemaLocation="AirSyncBase.xsd"/>
  <xs:import namespace="RightsManagement" schemaLocation=
    "RightsManagement.xsd"/>
  <xs:element name="SmartForward">
    <xs:complexType>
      <xs:all>
        <xs:element ref="ClientId"/>
        <xs:element ref="Source"/>
        <xs:element ref="AccountId" minOccurs="0"/>
        <xs:element ref="SaveInSentItems" minOccurs="0"/>
        <xs:element ref="ReplaceMime" minOccurs="0"/>
        <xs:element ref="Mime"/>
        <xs:element ref="rm:TemplateID" minOccurs="0"/>
        <xs:element ref="airsyncbase:Body" minOccurs="0"/>
        <xs:element ref="Forwardees" minOccurs="0"/>
      </xs:all>
    </xs:complexType>
  </xs:element>
</xs:schema>

```

## 6.42 SmartForward Response Schema

This section contains the contents of the SmartForwardResponse.xsd file. The additional file that this schema file requires to operate correctly is listed in the following table.

| File name       | Defining section    |
|-----------------|---------------------|
| ComposeMail.xsd | <a href="#">6.5</a> |

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="ComposeMail"
  targetNamespace="ComposeMail" elementFormDefault="qualified"
  attributeFormDefault="unqualified">
  <xs:include schemaLocation="ComposeMail.xsd"/>
  <xs:element name="SmartForward">
    <xs:complexType>
      <xs:all>
        <xs:element ref="Status" minOccurs="0"/>
      </xs:all>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

### 6.43 SmartReply Request Schema

This section contains the contents of the SmartReplyRequest.xsd file. The additional files that this schema file requires to operate correctly are listed in the following table.

| File name            | Defining section/specification      |
|----------------------|-------------------------------------|
| ComposeMail.xsd      | <a href="#">6.5</a>                 |
| RightsManagement.xsd | <a href="#">[MS-ASRM]</a> section 6 |

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:rm=
  "RightsManagement" xmlns="ComposeMail" targetNamespace="ComposeMail"
  elementFormDefault="qualified" attributeFormDefault="unqualified">
  <xs:include schemaLocation="ComposeMail.xsd"/>
  <xs:import namespace="RightsManagement" schemaLocation=
    "RightsManagement.xsd"/>
  <xs:element name="SmartReply">
    <xs:complexType>
      <xs:all>
        <xs:element ref="ClientId"/>
        <xs:element ref="Source"/>
        <xs:element ref="AccountId" minOccurs="0"/>
        <xs:element ref="SaveInSentItems" minOccurs="0"/>
        <xs:element ref="ReplaceMime" minOccurs="0"/>
        <xs:element ref="Mime"/>
        <xs:element ref="rm:TemplateID" minOccurs="0"/>
      </xs:all>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

### 6.44 SmartReply Response Schema

This section contains the contents of the SmartReplyResponse.xsd file. The additional file that this schema file requires to operate correctly is listed in the following table.

| File name       | Defining section    |
|-----------------|---------------------|
| ComposeMail.xsd | <a href="#">6.5</a> |

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="ComposeMail"
  targetNamespace="ComposeMail" elementFormDefault="qualified"
  attributeFormDefault="unqualified">
  <xs:include schemaLocation="ComposeMail.xsd"/>
  <xs:element name="SmartReply">
```

```

<xs:complexType>
  <xs:all>
    <xs:element ref="Status" minOccurs="0"/>
  </xs:all>
</xs:complexType>
</xs:element>
</xs:schema>

```

## 6.45 Sync Request Schema

This section contains the contents of the SyncRequest.xsd file. The additional files that this schema file requires to operate correctly are listed in the following table.

| File name       | Defining section/specification                           |
|-----------------|--|
| AirSync.xsd     | <a href="#">6.1</a>                                      |
| AirSyncBase.xsd | <a href="#">[MS-ASAIRS]</a> section 6                    |
| Calendar.xsd    | <a href="#">[MS-ASCAL]</a> section 6                     |
| Contacts.xsd    | <a href="#">[MS-ASCNTC]</a> section 6.1                  |
| Contacts2.xsd   | <a href="#">[MS-ASCNTC]</a> section 6.2                  |
| Email.xsd       | <a href="#">[MS-ASEMAIL]</a> section 6.1                 |
| Email2.xsd      | <a href="#">[MS-ASEMAIL]</a> section <a href="#">6.2</a> |
| Notes.xsd       | <a href="#">[MS-ASNOTE]</a> section 6                    |
| Tasks.xsd       | <a href="#">[MS-ASTASK]</a> section 6                    |

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:airsyncbase=
  "AirSyncBase" xmlns:calendar="Calendar" xmlns:contacts="Contacts"
  xmlns:contacts2="Contacts2" xmlns:email="Email" xmlns:email2="Email2" xmlns:notes="Notes"
  xmlns:tasks="Tasks" xmlns="AirSync" targetNamespace="AirSync"
  elementFormDefault="qualified" attributeFormDefault="unqualified">
  <xs:include schemaLocation="AirSync.xsd"/>
  <xs:import namespace="AirSyncBase" schemaLocation="AirSyncBase.xsd"/>
  <xs:import namespace="Calendar" schemaLocation="Calendar.xsd"/>
  <xs:import namespace="Contacts" schemaLocation="Contacts.xsd"/>
  <xs:import namespace="Contacts2" schemaLocation="Contacts2.xsd"/>
  <xs:import namespace="Email" schemaLocation="Email.xsd"/>
  <xs:import namespace="Email2" schemaLocation="Email2.xsd"/>
  <xs:import namespace="Notes" schemaLocation="Notes.xsd"/>
  <xs:import namespace="Tasks" schemaLocation="Tasks.xsd"/>
  <xs:element name="Sync">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="Collections" minOccurs="0">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="Collection" maxOccurs="unbounded">
                <xs:complexType>
                  <xs:sequence>
                    <xs:element ref="SyncKey"/>
                    <xs:element ref="CollectionId"/>
                    <xs:element ref="Supported" minOccurs="0"/>
                    <xs:element ref="DeletesAsMoves" minOccurs="0"/>
                    <xs:element ref="GetChanges" minOccurs="0"/>
                    <xs:element ref="WindowSize" minOccurs="0"/>
                    <xs:element name="ConversationMode" type="xs:boolean"
                      minOccurs="0"/>

```

```

<xs:element ref="Options" minOccurs="0" maxOccurs="2"/>
<xs:element name="Commands" minOccurs="0">
  <xs:complexType>
    <xs:choice maxOccurs="unbounded">
      <xs:element name="Change" minOccurs="0"
        maxOccurs="unbounded">
        <xs:complexType>
          <xs:sequence>

<xs:element ref="ServerId"/>

      <xs:element ref="airsyncbase:InstanceId" minOccurs="0"/>
      <xs:element name="ApplicationData">
        <xs:complexType>
          <xs:sequence>
            <xs:choice maxOccurs="unbounded">
              <xs:group ref="ItemProperties"/>
              <xs:element ref="email:To"/>
              <xs:element ref="email:CC"/>
              <xs:element ref="email2:Bcc"/>
              <xs:element ref="email:Subject"/>
              <xs:element ref="email:Importance"/>
              <xs:element ref="email:ReplyTo"/>
              <xs:element ref="email:Categories"/>
            </xs:choice>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
      <xs:element ref="email2:Send" minOccurs="0"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:element name="Delete" minOccurs="0"
  maxOccurs="unbounded">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="ServerId"/>
      <xs:element ref="airsyncbase:InstanceId" minOccurs="0"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:element name="Add" minOccurs="0"
  maxOccurs="unbounded">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="Class" minOccurs="0"/>
      <xs:element ref="ClientId"/>
      <xs:element name="ApplicationData">
        <xs:complexType>
          <xs:sequence>
            <xs:choice maxOccurs="unbounded">
              <xs:group ref="ItemProperties"/>
              <xs:element ref="email:To"/>
              <xs:element ref="email:From"/>
              <xs:element ref="email:DateReceived"/>
              <xs:element ref="email:InternetCPID"/>
              <xs:element ref="email:Importance"/>
            </xs:choice>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
      <xs:element ref="email2:Send" minOccurs="0"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

```



```

        </xs:sequence>
      </xs:complexType>
    </xs:element>
    <xs:element name="Fetch" minOccurs="0"
      maxOccurs="unbounded">
      <xs:complexType>
        <xs:sequence>
          <xs:element ref="ServerId"/>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
  </xs:choice>
</xs:complexType>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
<xs:element ref="Wait" minOccurs="0"/>
<xs:element ref="HeartbeatInterval" minOccurs="0"/>
<xs:element ref="WindowSize" minOccurs="0"/>
<xs:element ref="Partial" minOccurs="0"/>
</xs:sequence>
</xs:complexType>
</xs:element>
<xs:group name="ItemProperties">
  <xs:sequence>
    <xs:choice maxOccurs="unbounded">
      <xs:element ref="airsynbase:NativeBodyType"/>
      <xs:element ref="airsynbase:Body"/>
      <xs:element ref="calendar:OrganizerName"/>
      <xs:element ref="calendar:OrganizerEmail"/>
      <xs:element ref="calendar:Exceptions"/>
      <xs:element ref="calendar:Attendees"/>
      <xs:element ref="calendar:DisallowNewTimeProposal"/>
      <xs:element ref="calendar:ResponseRequested"/>
      <xs:element ref="calendar:Timezone"/>
      <xs:element ref="calendar:AllDayEvent"/>
      <xs:element ref="calendar:BusyStatus"/>
      <xs:element ref="calendar:Categories"/>
      <xs:element ref="calendar:DtStamp"/>
      <xs:element ref="calendar:EndTime"/>
      <xs:element ref="calendar:Location"/>
      <xs:element ref="calendar:MeetingStatus"/>
      <xs:element ref="calendar:Reminder"/>
      <xs:element ref="calendar:Sensitivity"/>
      <xs:element ref="calendar:Subject"/>
      <xs:element ref="calendar:StartTime"/>
      <xs:element ref="calendar:UID"/>
      <xs:element ref="calendar:Recurrence"/>
      <xs:element ref="contacts:Anniversary"/>
      <xs:element ref="contacts:AssistantName"/>
      <xs:element ref="contacts:AssistantPhoneNumber"/>
      <xs:element ref="contacts:Birthday"/>
      <xs:element ref="contacts:Business2PhoneNumber"/>
      <xs:element ref="contacts:BusinessAddressCity"/>
      <xs:element ref="contacts:BusinessAddressCountry"/>
      <xs:element ref="contacts:BusinessAddressPostalCode"/>
      <xs:element ref="contacts:BusinessAddressState"/>
      <xs:element ref="contacts:BusinessAddressStreet"/>
      <xs:element ref="contacts:BusinessFaxNumber"/>
      <xs:element ref="contacts:BusinessPhoneNumber"/>
      <xs:element ref="contacts:CarPhoneNumber"/>
      <xs:element ref="contacts:Categories"/>
      <xs:element ref="contacts:Children"/>
      <xs:element ref="contacts:CompanyName"/>
      <xs:element ref="contacts:Department"/>
    </xs:choice>
  </xs:sequence>
</xs:group>

```

```

<xs:element ref="contacts:Email1Address"/>
<xs:element ref="contacts:Email2Address"/>
<xs:element ref="contacts:Email3Address"/>
<xs:element ref="contacts:FileAs"/>
<xs:element ref="contacts:FirstName"/>
<xs:element ref="contacts:MiddleName"/>
<xs:element ref="contacts:Home2PhoneNumber"/>
<xs:element ref="contacts:HomeAddressCity"/>
<xs:element ref="contacts:HomeAddressCountry"/>
<xs:element ref="contacts:HomeAddressPostalCode"/>
<xs:element ref="contacts:HomeAddressState"/>
<xs:element ref="contacts:HomeAddressStreet"/>
<xs:element ref="contacts:HomeFaxNumber"/>
<xs:element ref="contacts:HomePhoneNumber"/>
<xs:element ref="contacts:JobTitle"/>
<xs:element ref="contacts:LastName"/>
<xs:element ref="contacts:MobilePhoneNumber"/>
<xs:element ref="contacts:OfficeLocation"/>
<xs:element ref="contacts:OtherAddressCity"/>
<xs:element ref="contacts:OtherAddressCountry"/>
<xs:element ref="contacts:OtherAddressPostalCode"/>
<xs:element ref="contacts:OtherAddressState"/>
<xs:element ref="contacts:OtherAddressStreet"/>
<xs:element ref="contacts:PagerNumber"/>
<xs:element ref="contacts:RadioPhoneNumber"/>
<xs:element ref="contacts:Spouse"/>
<xs:element ref="contacts:Suffix"/>
<xs:element ref="contacts:Title"/>
<xs:element ref="contacts:WebPage"/>
<xs:element ref="contacts:YomiCompanyName"/>
<xs:element ref="contacts:YomiFirstName"/>
<xs:element ref="contacts:YomiLastName"/>
<xs:element ref="contacts:Picture"/>
<xs:element ref="contacts2:CustomerId"/>
<xs:element ref="contacts2:GovernmentId"/>
<xs:element ref="contacts2:IMAddress"/>
<xs:element ref="contacts2:IMAddress2"/>
<xs:element ref="contacts2:IMAddress3"/>
<xs:element ref="contacts2:ManagerName"/>
<xs:element ref="contacts2:CompanyMainPhone"/>
<xs:element ref="contacts2:AccountName"/>
<xs:element ref="contacts2:NickName"/>
<xs:element ref="contacts2:MMS"/>
<xs:element ref="email:Flag"/>
<xs:element ref="email:Read"/>
<xs:element ref="notes:Subject"/>
<xs:element ref="notes:MessageClass"/>
<xs:element ref="notes:LastModifiedDate"/>
<xs:element ref="notes:Categories"/>
<xs:element ref="tasks:Complete"/>
<xs:element ref="tasks:Subject"/>
<xs:element ref="tasks:Categories"/>
<xs:element ref="tasks:DateCompleted"/>
<xs:element ref="tasks:DueDate"/>
<xs:element ref="tasks:UtcDueDate"/>
<xs:element ref="tasks:Importance"/>
<xs:element ref="tasks:Recurrence"/>
<xs:element ref="tasks:ReminderSet"/>
<xs:element ref="tasks:ReminderTime"/>
<xs:element ref="tasks:Sensitivity"/>
<xs:element ref="tasks:StartDate"/>
<xs:element ref="tasks:UtcStartDate"/>
</xs:choice>
</xs:sequence>
</xs:group>
</xs:schema>

```

## 6.46 Sync Response Schema

This section contains the contents of the SyncResponse.xsd file. The additional files that this schema file requires to operate correctly are listed in the following table.

| File name            | Defining section/specification           |
|----------------------|--|
| AirSync.xsd          | <a href="#">6.1</a>                      |
| AirSyncBase.xsd      | <a href="#">[MS-ASAIRS]</a> section 6    |
| Calendar.xsd         | <a href="#">[MS-ASCAL]</a> section 6     |
| Contacts.xsd         | <a href="#">[MS-ASCNTC]</a> section 6.1  |
| Contacts2.xsd        | <a href="#">[MS-ASCNTC]</a> section 6.2  |
| DocumentLibrary.xsd  | <a href="#">[MS-ASDOC]</a> section 6     |
| Email.xsd            | <a href="#">[MS-ASEMAIL]</a> section 6.1 |
| Email2.xsd           | <a href="#">[MS-ASEMAIL]</a> section 6.2 |
| Notes.xsd            | <a href="#">[MS-ASNOTE]</a> section 6    |
| RightsManagement.xsd | <a href="#">[MS-ASRM]</a> section 6      |
| Tasks.xsd            | <a href="#">[MS-ASTASK]</a> section 6    |

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:airsynibase=
  "AirSyncBase" xmlns:calendar="Calendar" xmlns:contacts="Contacts"
  xmlns:contacts2="Contacts2" xmlns:documentlibrary="DocumentLibrary"
  xmlns:email="Email" xmlns:email2="Email2" xmlns:notes="Notes" xmlns:rm="RightsManagement"
  xmlns:tasks="Tasks" xmlns="AirSync" targetNamespace="AirSync"
  elementFormDefault="qualified" attributeFormDefault="unqualified">
  <xs:include schemaLocation="AirSync.xsd"/>
  <xs:import namespace="AirSyncBase" schemaLocation="AirSyncBase.xsd"/>
  <xs:import namespace="Calendar" schemaLocation="Calendar.xsd"/>
  <xs:import namespace="Contacts" schemaLocation="Contacts.xsd"/>
  <xs:import namespace="Contacts2" schemaLocation="Contacts2.xsd"/>
  <xs:import namespace="DocumentLibrary" schemaLocation="DocumentLibrary.xsd"/>
  <xs:import namespace="Email" schemaLocation="Email.xsd"/>
  <xs:import namespace="Email2" schemaLocation="Email2.xsd"/>
  <xs:import namespace="Notes" schemaLocation="Notes.xsd"/>
  <xs:import namespace="RightsManagement" schemaLocation=
    "RightsManagement.xsd"/>
  <xs:import namespace="Tasks" schemaLocation="Tasks.xsd"/>
  <xs:element name="Sync">
    <xs:complexType>
      <xs:sequence>
        <xs:element ref="Status" minOccurs="0"/>
        <xs:choice>
          <xs:element ref="Limit" minOccurs="0"/>
          <xs:element name="Collections" minOccurs="0">
            <xs:complexType>
              <xs:sequence>
                <xs:element name="Collection" minOccurs="0"
                  maxOccurs="unbounded">
                  <xs:complexType>
                    <xs:sequence>
                      <xs:choice maxOccurs="unbounded">
                        <xs:element ref="SyncKey"/>
                        <xs:element ref="CollectionId"/>
                        <xs:element ref="Status"/>
                        <xs:element name="Commands" minOccurs="0">
                          <xs:complexType>
```

```

<xs:sequence>
  <xs:choice maxOccurs="unbounded">
    <xs:element name="Delete" minOccurs="0"
      maxOccurs="unbounded">
      <xs:complexType>
        <xs:sequence>
          <xs:element ref="Class" minOccurs="0"/>
          <xs:element ref="ServerId"/>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
    <xs:element name="SoftDelete" minOccurs="0"
      maxOccurs="unbounded">
      <xs:complexType>
        <xs:sequence>
          <xs:element ref="ServerId"/>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
    <xs:element name="Change" minOccurs="0"
      maxOccurs="unbounded">
      <xs:complexType>
        <xs:sequence>
          <xs:element ref="Class" minOccurs="0"/>
          <xs:element ref="ServerId"/>
          <xs:element name="ApplicationData">
            <xs:complexType>
              <xs:choice maxOccurs="unbounded">
                <xs:element ref="airsynbase:Body"/>
                <xs:element
                  ref="airsynbase:BodyPart"/>
                <xs:element
                  ref="airsynbase:NativeBodyType"/>
                <xs:element
                  ref="airsynbase:InstanceId"/>
                <xs:element
                  ref="airsynbase:Location"/>
                <xs:group ref="calendar:AllProps"/>
                <xs:group ref="contacts:AllProps"/>
                <xs:group ref="contacts2:AllProps"/>
                <xs:group
                  ref="documentlibrary:AllProps"/>
                <xs:group ref="email:AllProps"/>
                <xs:group ref="email2:AllProps"/>
                <xs:element ref="notes:Subject"/>
                <xs:element ref="notes:MessageClass"/>
                <xs:element ref="notes:LastModifiedDate"/>
                <xs:element ref="notes:Categories"/>
                <xs:group ref="tasks:AllProps"/>
                <xs:element
                  ref="rm:RightsManagementLicense"/>
              </xs:choice>
            </xs:complexType>
          </xs:element>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
    <xs:element name="Add" minOccurs="0"
      maxOccurs="unbounded">
      <xs:complexType>
        <xs:sequence>
          <xs:element ref="ServerId"/>
          <xs:element name="ApplicationData">
            <xs:complexType>
              <xs:sequence>
                <xs:choice maxOccurs="unbounded">
                  <xs:element
                    ref="airsynbase:Body"/>
                  <xs:element

```

```

        ref="airsynibase:BodyPart"/>
      <xs:element
        ref="airsynibase:NativeBodyType"/>
      <xs:element
        ref="airsynibase:InstanceId"/>
      <xs:element
        ref="airsynibase:Location"/>
      <xs:group ref="calendar:AllProps"/>
      <xs:group ref="contacts:AllProps"/>
      <xs:group
        ref="contacts2:AllProps"/>
      <xs:group
        ref="documentlibrary:AllProps"/>
      <xs:group ref="email:AllProps"/>
      <xs:group ref="email2:AllProps"/>
      <xs:element ref="notes:Subject"/>
      <xs:element ref="notes:MessageClass"/>
      <xs:element ref="notes:LastModifiedDate"/>
      <xs:element ref="notes:Categories"/>
      <xs:group ref="tasks:AllProps"/>
      <xs:element
        ref="xm:RightsManagementLicense"/>
    </xs:choice>
  </xs:sequence>
</xs:complexType>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:choice>
</xs:sequence>
</xs:complexType>
</xs:element>
<xs:element name="Responses" minOccurs="0">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="Change" minOccurs="0"
        maxOccurs="unbounded">
        <xs:complexType>
          <xs:sequence>
            <xs:element ref="Class" minOccurs="0"/>
            <xs:element ref="ServerId"/>
            <xs:element ref="airsynibase:InstanceId" minOccurs="0"/>
            <xs:element ref="Status"/>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
      <xs:element name="Add" minOccurs="0"
        maxOccurs="unbounded">
        <xs:complexType>
          <xs:sequence>
            <xs:element ref="Class" minOccurs="0"/>
            <xs:element ref="ClientId"/>
            <xs:element ref="ServerId" minOccurs="0"/>
            <xs:element ref="Status"/>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
      <xs:element name="Delete" minOccurs="0" >
        <xs:complexType>
          <xs:sequence>
            <xs:element ref="ServerId"/>
            <xs:element ref="airsynibase:InstanceId" minOccurs="0"/>
            <xs:element ref="Status"/>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
      <xs:element name="Fetch" minOccurs="0">
        <xs:complexType>

```

```

<xs:sequence>
  <xs:element ref="ServerId" minOccurs="0"/>
  <xs:element ref="Status"/>
  <xs:element name="ApplicationData">
    <xs:complexType>
      <xs:sequence>
        <xs:choice maxOccurs="unbounded">
          <xs:element
            ref="airsyncbase:Attachments"/>
          <xs:element
            ref="airsyncbase:Body"/>
          <xs:element
            ref="airsyncbase:NativeBodyType"/>
          <xs:element
            ref="airsyncbase:Location"/>
          <xs:group ref="calendar:AllProps"/>
          <xs:group ref="contacts:AllProps"/>
          <xs:group
            ref="contacts2:AllProps"/>
          <xs:group
            ref="documentlibrary:AllProps"/>
          <xs:group ref="email:AllProps"/>
          <xs:group ref="email2:AllProps"/>
          <xs:group ref="tasks:AllProps"/>
          <xs:element
            ref="rm:RightsManagementLicense"/>
        </xs:choice>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
<xs:element ref="MoreAvailable" minOccurs="0"/>
</xs:choice>
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:choice>
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:schema>

```

## 6.47 ValidateCert Request Schema

This section contains the contents of the ValidateCertRequest.xsd file.

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="ValidateCert"
  targetNamespace="ValidateCert" elementFormDefault="qualified"
  attributeFormDefault="unqualified">
  <xs:element name="ValidateCert">
    <xs:complexType>
      <xs:all minOccurs="0">
        <xs:element name="CertificateChain" minOccurs="0">
          <xs:complexType>
            <xs:choice maxOccurs="unbounded">
              <xs:element name="Certificate" maxOccurs="unbounded">
                <xs:simpleType>

```

```

        <xs:restriction base="xs:base64Binary">
            <xs:minLength value="4"/>
        </xs:restriction>
    </xs:simpleType>
</xs:element>
</xs:choice>
</xs:complexType>
</xs:element>
<xs:element name="Certificates">
    <xs:complexType>
        <xs:choice maxOccurs="unbounded">
            <xs:element name="Certificate" maxOccurs="unbounded">
                <xs:simpleType>
                    <xs:restriction base="xs:base64Binary">
                        <xs:minLength value="4"/>
                    </xs:restriction>
                </xs:simpleType>
            </xs:element>
        </xs:choice>
    </xs:complexType>
</xs:element>
<xs:element name="CheckCrl" minOccurs="0">
    <xs:simpleType>
        <xs:restriction base="xs:integer">
            <xs:minInclusive value="0"/>
            <xs:maxInclusive value="1"/>
        </xs:restriction>
    </xs:simpleType>
</xs:element>
</xs:all>
</xs:complexType>
</xs:element>
</xs:schema>

```

## 6.48 ValidateCert Response Schema

This section contains the contents of the ValidateCertResponse.xsd file.

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="ValidateCert"
    targetNamespace="ValidateCert" elementFormDefault="qualified"
    attributeFormDefault="unqualified">
    <xs:element name="ValidateCert">
        <xs:complexType>
            <xs:sequence>
                <xs:element name="Status" type="xs:integer"/>
                <xs:element name="Certificate" minOccurs="0" maxOccurs="unbounded">
                    <xs:complexType>
                        <xs:sequence>
                            <xs:element name="Status" type="xs:integer" minOccurs="0"
                                maxOccurs="unbounded"/>
                        </xs:sequence>
                    </xs:complexType>
                </xs:element>
            </xs:sequence>
        </xs:complexType>
    </xs:element>
</xs:schema>

```

## 7 Appendix B: 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 operating system
- 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.

[<1> Section 2.1](#): Exchange 2010, Exchange 2013, and Exchange 2016 use both HTTP and HTTPS as the transport for **Autodiscover** command. Exchange 2007 SP1 uses only HTTPS as the transport for **Autodiscover** command.

[<2> Section 2.2.1.1](#): When sending an **Autodiscover** command request to Exchange 2007 SP1, the Content-Type header accepts the following values: "text/html" or "text/xml".

[<3> Section 2.2.1.11](#): In Exchange 2007 SP1, the **MeetingResponse** command is used to accept, tentatively accept, or decline a meeting request only in the user's **Inbox folder**.

[<4> Section 2.2.1.18](#): Sending the **DeviceInformation** parameters immediately after the client has been provisioned, and before the **FolderSync** command is not recommended for Exchange 2007 SP1.

[<5> Section 2.2.3.38](#): In Exchange 2007 SP1, the **Culture** element always returns "en:en", regardless of the culture that is sent by the client.

[<6> Section 2.2.3.61.1](#): Exchange 2010, Exchange 2013, and Exchange 2016 use 42 days; Exchange 2007 SP1 uses 62 days.

[<7> Section 2.2.3.88.1](#): In Microsoft products, the valid values for the **HeartbeatInterval** element are 60 through 3540 seconds (59 minutes) by default. The configurable minimum value is 1 second and the configurable maximum value is 3540 seconds (59 minutes).

[<8> Section 2.2.3.88.2](#): In Microsoft products, the valid values for the **HeartbeatInterval** element are 60 through 3540 seconds (59 minutes) by default. The configurable minimum value is 1 second and the configurable maximum value is 3540 seconds (59 minutes).

[<9> Section 2.2.3.92.1](#): Exchange 2007 SP1 and Windows 8.1 do not return **Status** element value of 2 if the request includes the **InstanceId** element when a non-supporting protocol version is used.

[<10> Section 2.2.3.116](#): In Exchange 2007 SP1, the server sends **Sync** response messages containing the **MoreAvailable** element and between zero (0) and **WindowSize** schema changes when it encounters elements external to the protocol.



<11> [Section 2.2.3.123](#): Exchange 2007 SP1, Exchange 2010, Exchange 2013, and Exchange 2016 require that the reply message for unknown external and known external audiences be the same.

<12> [Section 2.2.3.127](#): Windows 8.1 uses the value "WINDOWS" for the **OS** element.

<13> [Section 2.2.3.134](#): The initial release version of Exchange 2010 requires the **PhoneNumber** element to have a value when the **EnableOutboundSMS** element, as specified in section [2.2.3.60](#), is set to 1. Under these conditions, if the **PhoneNumber** element does not have a value, the server returns a value of 5 in the **Status** element, as specified in section [2.2.3.177.15](#). Microsoft Exchange Server 2010 Service Pack 1 (SP1), Exchange 2013, and Exchange 2016 do not require the **PhoneNumber** element to have a value when the **EnableOutboundSMS** element is set to 1.

<14> [Section 2.2.3.167](#): Sending the **DeviceInformation** parameters immediately after the client has been provisioned, and before the **FolderSync** command is not recommended for Exchange 2007 SP1.

<15> [Section 2.2.3.177.8](#): Exchange 2007 SP1, Exchange 2010 SP1, Exchange 2013, and Exchange 2016 do not return a value of 155 in the **Status** element.

<16> [Section 2.2.3.177.12](#): The default value of the maximum number is 100 in Exchange 2010, Exchange 2013, and Exchange 2016.

<17> [Section 2.2.3.183](#): Exchange 2007 SP1 and Exchange 2010 do not limit the number of **To** elements in command requests. Update Rollup 6 for Exchange Server 2010 Service Pack 2 (SP2), Exchange 2013, and Exchange 2016 do limit the number of **To** elements in command requests.

<18> [Section 2.2.3.183](#): Some fields that are indexed by using **ANR** in **Active Directory** by default in Exchange 2007 SP1 are as follows: Name, Alias, Email, Office. The ANR property set that can be indexed is definable by the administrator and can be extended to include other fields.

<19> [Section 2.2.3.183](#): The default value of the maximum number is 100 in Exchange 2010, Exchange 2013, and Exchange 2016.

<20> [Section 3.1.5.1](#): Windows 8.1 does not issue a **Provision** command as the first command.

<21> [Section 3.1.5.2](#): Windows 8.1 sends the **settings:DeviceInformation** element after the **FolderSync** command.

<22> [Section 3.1.5.2](#): Sending the **settings:DeviceInformation** parameters immediately after the client has been provisioned and before the **FolderSync** command is not recommended for Exchange 2007 SP1.

<23> [Section 3.1.5.3](#): Windows 8.1 does not restart the synchronization process with a synchronization key of 0 when the **FolderSync** response contains a **Status** element value of 9.

<24> [Section 3.1.5.6](#): Exchange 2007 SP1 and Exchange 2010 do not return substitute meeting invitation email messages.

<25> [Section 3.1.5.6](#): Exchange 2010 returns the meeting request with the **email2:MeetingMessageType** element ([\[MS-ASEMAIL\]](#) section 2.2.2.47) set to 6.

<26> [Section 3.1.5.7](#): When the user accepts, declines, or tentatively accepts the meeting request prior to forwarding the meeting request to another user, Exchange 2007 SP1 changes the meeting organizer to the user who forwarded the meeting request. When the user simply forwards the meeting request to another user without accepting, declining, or tentatively accepting the meeting request, Exchange 2007 SP1 does not change the meeting organizer.

<27> [Section 3.1.5.10](#): Exchange 2007 SP1 and Exchange 2010 do not limit the number of elements in command requests. Update Rollup 6 for Exchange 2010 SP2, Exchange 2013, and Exchange 2016 do limit the number of elements in command requests.

[<28> Section 3.1.5.10](#): Exchange 2007 SP1 and Exchange 2010 do not limit the number of elements in command requests. Update Rollup 6 for Exchange 2010 SP2, Exchange 2013, and Exchange 2016 use the specified limit values by default but can be configured to use different values.

## 8 Change Tracking

This section identifies changes that were made to this document since the last release. Changes are classified as Major, Minor, or None.

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.
- A document revision that captures changes to protocol functionality.

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 **None** means that no new technical changes were introduced. Minor editorial and formatting changes may have been made, but the relevant technical content is identical to the last released version.

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                                   | Description   | Revision class |
|---|---|----------------|
| <a href="#">2</a> Messages                | Changed "Exchange 2007" to "Exchange 2007 SP1" in all product behavior notes.   | minor          |
| <a href="#">2.2.1</a> Commands            | Updated the protocol versions table to include version 16.1 for several commands.   | minor          |
| <a href="#">2.2.1.2</a> Find              | Added new section for this command.   | major          |
| <a href="#">2.2.1.11</a> MeetingResponse  | Added details about the use of the SendMail command and the MeetingResponse command in the ActiveSync protocol versions.        | major          |
| <a href="#">2.2.1.16</a> Search           | Updated table to include all elements in GAL namespace used by Search command.  | minor          |
| <a href="#">2.2.1.21</a> Sync             | Added airsynchronbase:InstanceId and email2:Send to the table of elements that are used in Sync command requests and responses. | minor          |
| <a href="#">2.2.2</a> Common Status Codes | Revised descriptions of status codes 150 and 183. Added status codes 178, 179, and 184. Removed status codes 180, 181, and 182. | major          |
| 2.2.2 Common Status Codes                 | Clarified the description for error code 160.   | minor          |
| 2.2.2 Common Status Codes                 | Clarified the description for error code 160.   | minor          |
| <a href="#">2.2.3</a> Elements            | Added information about the Sync command.   | major          |
| 2.2.3 Elements                            | Updated the protocol versions table to include version 16.1 for several elements.   | minor          |
| <a href="#">2.2.3.6</a> Action            | Updated defining namespace from mobilesynchron/resquestschema to mobilesynchron/responseschema.                                 | minor          |
| <a href="#">2.2.3.7.2</a> Add (Sync)      | Specified that the Add element cannot be used to add any non-draft email items and that Draft email items are not supported     | major          |

| Section   | Description   | Revision class |
|---|---|----------------|
|   | in protocol versions 2.5, 12.0, 12.1, 14.0, and 14.1.   |                |
| 2.2.3.7.2 Add (Sync)                                  | Clarified details about when the client receives a response from the server.  | minor          |
| 2.2.3.7.2 Add (Sync)                                  | Updated the table to specify ApplicationData as a child of Add when Add is a child of Responses.  | major          |
| <a href="#">2.2.3.10</a> And                          | Added Or element as child element in the table for And element.   | minor          |
| <a href="#">2.2.3.11</a> ApplicationData              | Updated the table to specify airsynbase:InstanceId and airsynbase:Location elements as child elements of ApplicationData.   | major          |
| <a href="#">2.2.3.15</a> Autodiscover                 | Removed the description for the defining namespace.   | minor          |
| <a href="#">2.2.3.16</a> Availability                 | Removed constraint that EndTime must be included in Availability element.   | minor          |
| <a href="#">2.2.3.24</a> Change                       | Added a paragraph to provide details about when the client receives a response from the server.   | minor          |
| 2.2.3.24 Change                                       | Added to the list of bulleted items to specify cases in which in-schema properties remain unchanged in ActiveSync protocol version 16.0.  | major          |
| 2.2.3.24 Change                                       | Updated the table to specify ApplicationData as a child of Change when Change is a child of Responses.  | major          |
| 2.2.3.24 Change                                       | Updated the table to include the airsynbase:InstanceId element as a child element when Responses is the parent element of Change.   | major          |
| <a href="#">2.2.3.29.2</a> Collection (Sync)          | Specified that only one collection can be specified when protocol version 2.5 or 12.0 is used.  | major          |
| <a href="#">2.2.3.38</a> Culture                      | Updated defining namespace from mobilesync/resquestschema to mobilesync/responseschema.   | minor          |
| <a href="#">2.2.3.42.2</a> Delete (Sync)              | Added a paragraph to provide details about when the client receives a response from the server.   | minor          |
| 2.2.3.42.2 Delete (Sync)                              | Specified that the ServerId element of the master item and the airsynbase:InstanceId element of the specific occurrence are used to identify a recurrence instance in ActiveSync protocol version 16.0. | minor          |
| 2.2.3.42.2 Delete (Sync)                              | Updated the table to include the airsynbase:InstanceId element as a child element when Responses is the parent element of Delete.   | major          |
| <a href="#">2.2.3.49.1</a> DisplayName (Autodiscover) | Updated defining namespace from mobilesync/resquestschema to mobilesync/responseschema.   | minor          |
| <a href="#">2.2.3.56</a> EMailAddress                 | Removed the description for the defining namespace.   | minor          |
| <a href="#">2.2.3.65</a> Estimate                     | Updated Estimate element to be optional.  | minor          |
| <a href="#">2.2.3.67.2</a> Fetch (Sync)               | Added a paragraph to provide details about when the client receives a response from the server.   | minor          |

| Section   | Description   | Revision class |
|---|---|----------------|
| <a href="#">2.2.3.69</a> Find                                   | Added new section for this element.   | major          |
| <a href="#">2.2.3.80.2</a> FreeText (Search)                    | Added Or element as parent element for FreeText element.  | minor          |
| <a href="#">2.2.3.85</a> GetItemEstimate                        | Added Status as child element of GetItemEstimate element.   | minor          |
| <a href="#">2.2.3.86</a> GreaterThan                            | Added Or element as parent element for GreaterThan element.   | minor          |
| <a href="#">2.2.3.92</a> InstanceId                             | Updated description to include InstanceId in MeetingResponse command responses.   | minor          |
| <a href="#">2.2.3.92.1</a> InstanceId (MeetingResponse)         | Specified the Result element as a parent element in the MeetingResponse command response.   | minor          |
| <a href="#">2.2.3.96</a> LessThan                               | Added Or element as parent element for LessThan element.  | minor          |
| <a href="#">2.2.3.98.2</a> LongId (MeetingResponse)             | Removed InstanceId from the statement about elements that cannot be present when the search:LongId element is present.  | minor          |
| <a href="#">2.2.3.98.4</a> LongId (SmartForward and SmartReply) | Removed InstanceId from the statement about elements that cannot be present when the search:LongId element is present.  | minor          |
| <a href="#">2.2.3.120.1</a> Name (Autodiscover)                 | Updated defining namespace from mobilesync/resquestschema to mobilesync/responseschema.   | minor          |
| <a href="#">2.2.3.125.1</a> Options (Find)                      | Added the Options (Find) section.   | Major          |
| <a href="#">2.2.3.126</a> Or                                    | Updated And element as parent element for Or element.   | minor          |
| <a href="#">2.2.3.139.2</a> Properties (ItemOperations)         | Updated the table to specify the airsynchronbase:Location element as a child element of Properties for the ItemOperations response.   | major          |
| 2.2.3.139.2 Properties (ItemOperations)                         | Added airsynchronbase:NativeBodyType as child element of Properties.  | minor          |
| <a href="#">2.2.3.139.3</a> Properties (Search)                 | Updated the table to specify the airsynchronbase:Location element, airsynchronbase:NativeBodyType element, and all elements of the GAL namespace as child elements of Properties for the Search response. | major          |
| 2.2.3.139.3 Properties (Search)                                 | Updated description for Properties to be optional.  | minor          |
| <a href="#">2.2.3.142.2</a> Query (Search)                      | Updated the description of example for searching for "John".  | minor          |
| <a href="#">2.2.3.147</a> Redirect                              | Updated defining namespace from mobilesync/resquestschema to mobilesync/responseschema.   | minor          |
| <a href="#">2.2.3.151</a> RequestId                             | Specified that the RequestId element cannot be present in the MeetingResponse command request if the search:LongId element is present.  | minor          |
| <a href="#">2.2.3.153.1</a> Response (Autodiscover)             | Removed the description "All elements referenced in this section are defined in .namespace".  | minor          |
| <a href="#">2.2.3.153.3</a> Response (GetItemEstimate)          | Updated Response element to be optional.  | minor          |
| <a href="#">2.2.3.154</a> Responses                             | Specified that the server is not required to send an individual response for every operation that is sent by the client.  | minor          |

| Section   | Description  | Revision class |
|---|--|----------------|
| <a href="#">2.2.3.155.2</a> Result (MeetingResponse)      | Specified that the InstanceId element is a child element of the Result element only when protocol version 16.0 is used.  | minor          |
| <a href="#">2.2.3.158</a> Schema                          | Updated the table to specify the airsynchronbase:Location element and the data elements defined by the TopLevelSchemaProps group as child elements of the Schema element for the ItemOperations request. | major          |
| <a href="#">2.2.3.163</a> SendResponse                    | Specified how the SendResponse element affects the email message.  | major          |
| <a href="#">2.2.3.164</a> Server                          | Updated defining namespace from mobilesynchron/resquestschema to mobilesynchron/responseschema.  | minor          |
| <a href="#">2.2.3.165</a> ServerData                      | Updated defining namespace from mobilesynchron/resquestschema to mobilesynchron/responseschema.  | minor          |
| <a href="#">2.2.3.166.8</a> ServerId (Sync)               | Added the Persistent ID information.   | Minor          |
| <a href="#">2.2.3.168.1</a> Settings (Autodiscover)       | Updated defining namespace from mobilesynchron/resquestschema to mobilesynchron/responseschema.  | minor          |
| <a href="#">2.2.3.169</a> SmartForward                    | Specified elements that cannot be present when the Forwardees element or the airsynchronbase:Body element is present in a SmartForward command request.  | minor          |
| 2.2.3.169 SmartForward                                    | Specified that the Forwardees element and the airsynchronbase:Body element are valid in a SmartForward command request only when forwarding a calendar item.   | minor          |
| <a href="#">2.2.3.176.1</a> StartTime (ResolveRecipients) | Removed the statement specifying that EndTime must be included in Availability element.  | minor          |
| <a href="#">2.2.3.177.1</a> Status (Autodiscover)         | Updated defining namespace from mobilesynchron/resquestschema to mobilesynchron/responseschema.  | minor          |
| <a href="#">2.2.3.177.3</a> Status (FolderCreate)         | Updated the data type for the Status element.  | minor          |
| <a href="#">2.2.3.177.4</a> Status (FolderDelete)         | Updated the data type for the Status element.  | minor          |
| <a href="#">2.2.3.177.5</a> Status (FolderSync)           | Updated the data type for the Status element.  | minor          |
| <a href="#">2.2.3.177.6</a> Status (FolderUpdate)         | Updated the data type for the Status element.  | minor          |
| <a href="#">2.2.3.177.7</a> Status (GetItemEstimate)      | Added description to have GetItemEstimate as parent element of Status element.   | minor          |
| 2.2.3.177.7 Status (GetItemEstimate)                      | Updated the data type for the Status element.  | minor          |
| <a href="#">2.2.3.177.10</a> Status (MoveItems)           | Updated the data type for the Status element.  | minor          |
| <a href="#">2.2.3.177.11</a> Status (Ping)                | Updated the data type for the Status element.  | minor          |
| <a href="#">2.2.3.177.12</a> Status (ResolveRecipients)   | Clarified the description for error code 160.  | minor          |

| Section  | Description   | Revision class |
|--|---|----------------|
| <a href="#">2.2.3.177.12</a> Status (ResolveRecipients)                            | Updated the data type for the Status element.   | minor          |
| <a href="#">2.2.3.177.12</a> Status (ResolveRecipients)                            | Clarified the description for error code 160.   | minor          |
| <a href="#">2.2.3.177.17</a> Status (Sync)   | Updated the data type for the Status element.   | minor          |
| <a href="#">2.2.3.177.17</a> Status (Sync)   | Updated the description to include ServerId as a cause for resulting status 8.  | minor          |
| <a href="#">2.2.3.177.18</a> Status (ValidateCert)                                 | Updated the data type for the Status element.   | minor          |
| <a href="#">2.2.3.179</a> Supported  | Specified that the Support element is used to indicate support of Calendar class elements when protocol version 2.5, 12.0, 12.1, 14.0, or 14.1 is used. | major          |
| <a href="#">2.2.3.179</a> Supported  | Specified that all Calendar class properties are ghosted by default when protocol version 16.0 is used.   | major          |
| <a href="#">2.2.3.183</a> To   | Clarified the details about how the inclusion of the Availability element affects the number of matched recipients.                                     | minor          |
| <a href="#">2.2.3.183</a> To   | Clarified the description for error code 160.   | minor          |
| <a href="#">2.2.3.186.1</a> Type (Autodiscover)                                    | Updated defining namespace from mobilesync/resquestschema to mobilesync/responseschema.   | minor          |
| <a href="#">2.2.3.188</a> Url  | Updated defining namespace from mobilesync/resquestschema to mobilesync/responseschema.   | minor          |
| <a href="#">2.2.3.189</a> User   | Updated defining namespace from mobilesync/resquestschema to mobilesync/responseschema.   | minor          |
| <a href="#">2.2.4</a> Namespaces   | Added the Find namespace URI.   | major          |
| <a href="#">3</a> Protocol Details   | Changed "Exchange 2007" to "Exchange 2007 SP1" in all product behavior notes.   | minor          |
| <a href="#">3.1.5.5</a> Creating a Meeting or Appointment                          | Specified how a meeting request is sent to the attendees in protocol version 16.0 and protocol versions 2.5, 12.0, 12.1, 14.0, and 14.1.                | major          |
| <a href="#">3.1.5.6</a> Receiving and Accepting Meeting Requests                   | Specified that the fifth client action listed in the table applies only to protocol versions 2.5, 12.0, 12.1, 14.0, and 14.1.                           | major          |
| <a href="#">3.1.5.7</a> Receiving and Forwarding Meeting Requests                  | Rewrote the second paragraph to clarify details about forwarding a meeting request.   | major          |
| <a href="#">3.1.5.7</a> Receiving and Forwarding Meeting Requests                  | Rewrote the product behavior note to clarify the conditions under which Exchange 2007 changes the meeting organizer.                                    | major          |
| <a href="#">4.2</a> Discovering Account Settings by Using the Autodiscover Command | Updated the SMTP-address-domain in the URLs shown in step 2 to "contoso.com".   | minor          |
| <a href="#">6</a> Appendix A: Full XML Schema                                      | Updated description to specify the valid protocol versions for the schema.  | minor          |
| <a href="#">6.1</a> AirSync Namespace Schema                                       | Updated AirSync schema to include Truncation element.   | minor          |

| Section  | Description  | Revision class |
|--|--|----------------|
| <a href="#">6.5</a> ComposeMail Namespace Schema     | Updated the ComposeMail schema to include the Forwardees element.  | minor          |
| <a href="#">6.21</a> GetItemEstimate Response Schema | Updated schema of Estimate and Response elements to be optional.   | minor          |
| <a href="#">6.22</a> ItemOperations Namespace Schema | Updated the ItemOperations Namespace Schema to include the airsynbase:Location element as a child of the Properties element.                             | minor          |
| 6.22 ItemOperations Namespace Schema                 | Updated the ItemOperations Namespace Schema to include the airsynbase:Location element as a child of the Schema element.                                 | minor          |
| <a href="#">6.25</a> MeetingResponse Request Schema  | Updated MeetingResponse request schema to include SendResponse as a child element of Request.  | minor          |
| 6.25 MeetingResponse Request Schema                  | Added the ProposedStartTime and ProposedEndTime elements.  | major          |
| <a href="#">6.26</a> MeetingResponse Response Schema | Updated MeetingResponse response schema to include InstanceId as child element of Result.  | minor          |
| <a href="#">6.35</a> Search Response Schema          | Updated the Search response schema to include the airsynbase:Location element as a child of the Properties element.                                      | minor          |
| 6.35 Search Response Schema                          | Updated schema for Properties in Result element to be optional.  | minor          |
| <a href="#">6.41</a> SmartForward Request Schema     | Updated the SmartForward command request schema to include the airsynbase:Body element and the Forwardees element.                                       | minor          |
| <a href="#">6.45</a> Sync Request Schema             | Updated Sync request schema to include airsynbase:InstanceId, email2:Send and airsynbase:Location.   | minor          |
| 6.45 Sync Request Schema                             | Updated Sync Request schema to include email elements in ApplicationData of Change.  | minor          |
| <a href="#">6.46</a> Sync Response Schema            | Updated the Sync response schema to include the airsynbase:Location and airsynbase:InstanceId elements as child elements of the ApplicationData element. | minor          |
| <a href="#">7</a> Appendix B: Product Behavior       | Updated list of supported products.  | major          |
| 8 Change Tracking                                    | Updated tables throughout document to indicate protocol version support.   | minor          |



## 9 Index

### A

[Abstract data model](#) 385  
[AirSync Namespace Schema schema](#) 466  
[Applicability](#) 22  
[Autodiscover MobileSync Namespace Schema schema](#) 469  
[Autodiscover Request Schema schema](#) 470  
[Autodiscover Response Schema schema](#) 470

### C

[Capability negotiation](#) 22  
[Change tracking](#) 519  
Commands  
    [Autodiscover](#) 23  
    [FolderCreate](#) 28  
    [FolderDelete](#) 29  
    [FolderSync](#) 30  
    [FolderUpdate](#) 31  
    [GetAttachment](#) 32  
    [GetItemEstimate](#) 34  
    [ItemOperations](#) 35  
    [MeetingResponse](#) 38  
    [MoveItems](#) 40  
    [Ping](#) 41  
    [Provision](#) 42  
    [ResolveRecipients](#) 42  
    Search ([section 2.2.1.2](#) 25, [section 2.2.1.16](#) 44)  
    [SendMail](#) 48  
    [Settings](#) 49  
    [SmartForward](#) 52  
    [SmartReply](#) 54  
    [Sync](#) 56  
    [ValidateCert](#) 59  
[Common Status Codes message](#) 60  
[ComposeMail Namespace Schema schema](#) 471

### D

[Data model - abstract](#) 385

### E

[Elements message](#) 67

### F

[Fields - vendor-extensible](#) 22  
[FolderCreate Request Schema schema](#) 475  
[FolderCreate Response Schema schema](#) 476  
[FolderDelete Request Schema schema](#) 476  
[FolderDelete Response Schema schema](#) 477  
[FolderHierarchy Namespace Schema schema](#) 477  
[FolderSync Request Schema schema](#) 478  
[FolderSync Response Schema schema](#) 478  
[FolderUpdate Request Schema schema](#) 479  
[FolderUpdate Response Schema schema](#) 479  
[Full XML schema](#) 465  
    [AirSync Namespace Schema schema](#) 466

[Autodiscover MobileSync Namespace Schema schema](#) 469  
    [ComposeMail Namespace Schema schema](#) 471  
    [FolderCreate Request Schema schema](#) 475  
    [FolderCreate Response Schema schema](#) 476  
    [FolderDelete Request Schema schema](#) 476  
    [FolderDelete Response Schema schema](#) 477  
    [FolderHierarchy Response Schema schema](#) 477  
    [FolderSync Request Schema schema](#) 478  
    [FolderSync Response Schema schema](#) 478  
    [FolderUpdate Request Schema schema](#) 479  
    [FolderUpdate Response Schema schema](#) 479  
    [GAL Namespace Schema schema](#) 480  
    [GetHierarchy Response Schema schema](#) 480  
    [GetItemEstimate Request Schema schema](#) 481  
    [GetItemEstimate Response Schema schema](#) 481  
    [ItemOperations Namespace Schema schema](#) 482  
    [ItemOperations Request Schema schema](#) 484  
    [ItemOperations Response Schema schema](#) 485  
    [MeetingResponse Request Schema schema](#) 487  
    [MeetingResponse Response Schema schema](#) 488  
    [MoveItems Request Schema schema](#) 489  
    [MoveItems Response Schema schema](#) 489  
    [Ping Request Schema schema](#) 490  
    [Ping Response Schema schema](#) 491  
    [ResolveRecipients Request Schema schema](#) 491  
    [ResolveRecipients Response Schema schema](#) 492  
    Search Namespace Schema schema ([section 6.6](#) 472, [section 6.33](#) 493)  
    [Search Request Schema schema](#) 496  
    Search Response Schema schema ([section 6.7](#) 473, [section 6.8](#) 474, [section 6.35](#) 496)  
    [SendMail Request Schema schema](#) 500  
    [SendMail Response Schema schema](#) 500  
    Settings Namespace Schema schema ([section 6.38](#) 500, [section 6.47](#) 514)  
    [Settings Request Schema schema](#) 502  
    [Settings Response Schema schema](#) 503  
    [SmartForward Request Schema schema](#) 505  
    [SmartForward Response Schema schema](#) 505  
    [SmartReply Request Schema schema](#) 506  
    [SmartReply Response Schema schema](#) 506  
    [Sync Request Schema schema](#) 507  
    [Sync Response Schema schema](#) 511  
    [ValidateCert Response Schema schema](#) 515  
    [XML schema](#) 465

### G

[GAL Namespace Schema schema](#) 480  
[GetHierarchy Response Schema schema](#) 480  
[GetItemEstimate Request Schema schema](#) 481  
[GetItemEstimate Response Schema schema](#) 481  
[Glossary](#) 15

### H

[Higher-layer triggered events](#) 385

### I

- [Implementer - security considerations](#) 464
- [Index of security parameters](#) 464
- [Informative references](#) 21
- [Initialization](#) 385
- [Introduction](#) 15
- [Item Operations Request Schema schema](#) 484
- [ItemOperations Namespace Schema schema](#) 482
- [ItemOperations Response Schema schema](#) 485

**L**

- [Local events](#) 395

**M**

- [MeetingResponse Request Schema schema](#) 487
- [MeetingResponse Response Schema schema](#) 488
- [Message processing](#) 385
- Messages
  - [Common Status Codes](#) 60
  - [Elements](#) 67
  - [Namespaces](#) 383
  - [transport](#) 23
- [MoveItems Request Schema schema](#) 489
- [MoveItems Response Schema schema](#) 489

**N**

- [Namespaces message](#) 383
- [Normative references](#) 19

**O**

- [Overview \(synopsis\)](#) 21

**P**

- [Parameters - security index](#) 464
- [Ping Request Schema schema](#) 490
- [Ping Response Schema schema](#) 491
- [Preconditions](#) 22
- [Prerequisites](#) 22
- [Product behavior](#) 516
- Protocol details
  - [abstract data model](#) 385
  - [downloading policy settings](#) 385
  - [handling status errors](#) 394
  - [higher-layer triggered events](#) 385
  - [initialization](#) 385
  - [local events](#) 395
  - [message processing events and sequencing rules](#) 385
  - [receiving and accepting meeting requests](#) 390
  - [setting device information](#) 386
  - [synchronizing a folder hierarchy](#) 387
  - [synchronizing specific folders](#) 387
  - [timer events](#) 395
  - [timers](#) 385
- Protocol examples
  - [accessing documents on file shares and URIs](#) 453
  - [creating meetings](#) 438
  - [discovering account settings](#) 396
  - [downloading the current server security policy](#) 396
  - [fetching e-mail and attachments](#) 418

- [moving a conversation](#) 462
- [moving items to another folder](#) 437
- [pinging the server for updates](#) 415
- [replying to e-mail messages](#) 414
- [resolving recipients and retrieving free/busy data](#) 445
- [responding to meeting requests](#) 444
- [retrieving and changing OOF settings](#) 448
- [retrieving item estimates](#) 417
- [retrieving user information](#) 452
- [searching for an item in the mailbox](#) 429
- [searching the global address list](#) 433
- [sending e-mail messages](#) 414
- [setting a device password](#) 452
- [setting device information](#) 399
- [synchronizing data](#) 402
- [synchronizing folders](#) 400
- [using the Supported element and ghosted elements in the Sync command](#) 456
- [validating certificates](#) 451
- [working with folders](#) 434

## R

- [References](#) 19
  - [informative](#) 21
  - [normative](#) 19
- [Relationship to other protocols](#) 21
- [ResolveRecipients Request Schema schema](#) 491
- [ResolveRecipients Response Schema schema](#) 492

## S

- Search Namespace Schema schema ([section 6.6](#) 472, [section 6.33](#) 493)
- [Search Request Schema schema](#) 496
- Search Response Schema schema ([section 6.7](#) 473, [section 6.8](#) 474, [section 6.35](#) 496)
- Security
  - [implementer considerations](#) 464
  - [parameter index](#) 464
- [SendMail Request Schema schema](#) 500
- [SendMail Response Schema schema](#) 500
- [Sequencing rules](#) 385
- Settings Namespace Schema schema ([section 6.38](#) 500, [section 6.47](#) 514)
- [Settings Request Schema schema](#) 502
- [Settings Response Schema schema](#) 503
- [SmartForward Request Schema schema](#) 505
- [SmartForward Response Schema schema](#) 505
- [SmartReply Request Schema schema](#) 506
- [SmartReply Response Schema schema](#) 506
- [Standards assignments](#) 22
- [Sync Request Schema schema](#) 507
- [Sync Response Schema schema](#) 511

## T

- [Timer events](#) 395
- [Timers](#) 385
- [Tracking changes](#) 519
- [Transport](#) 23
- [Triggered events](#) 385

## V

[ValidateCert Response Schema schema](#) 515  
[Vendor-extensible fields](#) 22  
[Versioning](#) 22

## X

[XML schema](#) 465  
    [AirSync Namespace Schema schema](#) 466  
    [Autodiscover MobileSync Namespace Schema schema](#) 469  
    [Autodiscover Request Schema schema](#) 470  
    [Autodiscover Response Schema schema](#) 470  
    [ComposeMail Namespace Schema schema](#) 471  
    [FolderCreate Request Schema schema](#) 475  
    [FolderCreate Response Schema schema](#) 476  
    [FolderDelete Request Schema schema](#) 476  
    [FolderDelete Response Schema schema](#) 477  
    [FolderHierarchy Response Schema schema](#) 477  
    [FolderSync Request Schema schema](#) 478  
    [FolderSync Response Schema schema](#) 478  
    [FolderUpdate Request Schema schema](#) 479  
    [FolderUpdate Response Schema schema](#) 479  
    [GAL Namespace Schema schema](#) 480  
    [GetHierarchy Response Schema schema](#) 480  
    [GetItemEstimate Request Schema schema](#) 481  
    [GetItemEstimate Response Schema schema](#) 481  
    [Item Operations Namespace Schema schema](#) 482  
    [ItemOperations Request Schema schema](#) 484  
    [ItemOperations Response Schema schema](#) 485  
    [MeetingResponse Request Schema schema](#) 487  
    [MeetingResponse Response Schema schema](#) 488  
    [MoveItems Request Schema schema](#) 489  
    [MoveItems Response Schema schema](#) 489  
    [Ping Request Schema schema](#) 490  
    [Ping Response Schema schema](#) 491  
    [ResolveRecipients Request Schema schema](#) 491  
    [ResolveRecipients Response Schema schema](#) 492  
    Search Namespace Schema schema ([section 6.6](#) 472, [section 6.33](#) 493)  
    [Search Request Schema schema](#) 496  
    Search Response Schema schema ([section 6.7](#) 473, [section 6.8](#) 474, [section 6.35](#) 496)  
    [SendMail Request Schema schema](#) 500  
    [SendMail Response Schema schema](#) 500  
    Settings Namespace Schema schema ([section 6.38](#) 500, [section 6.47](#) 514)  
    [Settings Request Schema schema](#) 502  
    [Settings Response Schema schema](#) 503  
    [SmartForward Request Schema schema](#) 505  
    [SmartForward Response Schema schema](#) 505  
    [SmartReply Request Schema schema](#) 506  
    [SmartReply Response Schema schema](#) 506  
    [Sync Request Schema schema](#) 507  
    [Sync Response Schema schema](#) 511  
    [ValidateCert Response Schema schema](#) 515