



RESTful Network API for Address Book

Candidate Version 1.0 – 23 Oct 2015

Open Mobile Alliance
OMA-TS-REST_NetAPI_AddressBook-V1_0-20151023-C

Use of this document is subject to all of the terms and conditions of the Use Agreement located at <http://www.openmobilealliance.org/UseAgreement.html>.

Unless this document is clearly designated as an approved specification, this document is a work in process, is not an approved Open Mobile Alliance™ specification, and is subject to revision or removal without notice.

You may use this document or any part of the document for internal or educational purposes only, provided you do not modify, edit or take out of context the information in this document in any manner. Information contained in this document may be used, at your sole risk, for any purposes. You may not use this document in any other manner without the prior written permission of the Open Mobile Alliance. The Open Mobile Alliance authorizes you to copy this document, provided that you retain all copyright and other proprietary notices contained in the original materials on any copies of the materials and that you comply strictly with these terms. This copyright permission does not constitute an endorsement of the products or services. The Open Mobile Alliance assumes no responsibility for errors or omissions in this document.

Each Open Mobile Alliance member has agreed to use reasonable endeavors to inform the Open Mobile Alliance in a timely manner of Essential IPR as it becomes aware that the Essential IPR is related to the prepared or published specification. However, the members do not have an obligation to conduct IPR searches. The declared Essential IPR is publicly available to members and non-members of the Open Mobile Alliance and may be found on the “OMA IPR Declarations” list at <http://www.openmobilealliance.org/ipr.html>. The Open Mobile Alliance has not conducted an independent IPR review of this document and the information contained herein, and makes no representations or warranties regarding third party IPR, including without limitation patents, copyrights or trade secret rights. This document may contain inventions for which you must obtain licenses from third parties before making, using or selling the inventions. Defined terms above are set forth in the schedule to the Open Mobile Alliance Application Form.

NO REPRESENTATIONS OR WARRANTIES (WHETHER EXPRESS OR IMPLIED) ARE MADE BY THE OPEN MOBILE ALLIANCE OR ANY OPEN MOBILE ALLIANCE MEMBER OR ITS AFFILIATES REGARDING ANY OF THE IPR'S REPRESENTED ON THE “OMA IPR DECLARATIONS” LIST, INCLUDING, BUT NOT LIMITED TO THE ACCURACY, COMPLETENESS, VALIDITY OR RELEVANCE OF THE INFORMATION OR WHETHER OR NOT SUCH RIGHTS ARE ESSENTIAL OR NON-ESSENTIAL.

THE OPEN MOBILE ALLIANCE IS NOT LIABLE FOR AND HEREBY DISCLAIMS ANY DIRECT, INDIRECT, PUNITIVE, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES ARISING OUT OF OR IN CONNECTION WITH THE USE OF DOCUMENTS AND THE INFORMATION CONTAINED IN THE DOCUMENTS.

© 2015 Open Mobile Alliance Ltd. All Rights Reserved.

Used with the permission of the Open Mobile Alliance Ltd. under the terms set forth above.

Contents

1. SCOPE	11
2. REFERENCES	12
2.1 NORMATIVE REFERENCES	12
2.2 INFORMATIVE REFERENCES	12
3. TERMINOLOGY AND CONVENTIONS	13
3.1 CONVENTIONS	13
3.2 DEFINITIONS	13
3.3 ABBREVIATIONS	13
4. INTRODUCTION	15
4.1 VERSION 1.0	15
5. ADDRESS BOOK API DEFINITION	16
5.1 RESOURCES SUMMARY	16
5.2 DATA TYPES	24
5.2.1 XML Namespaces.....	24
5.2.2 Structures	24
5.2.2.1 Type: <i>ContactCollection</i>	24
5.2.2.2 Type: <i>Contact</i>	25
5.2.2.3 Type: <i>SharedIdentity</i>	25
5.2.2.4 Type: <i>ListCollection</i>	25
5.2.2.5 Type: <i>List</i>	26
5.2.2.6 Type: <i>AttributeList</i>	26
5.2.2.7 Type: <i>Attribute</i>	27
5.2.2.8 Type: <i>MemberCollection</i>	27
5.2.2.9 Type: <i>Member</i>	28
5.2.2.10 Type: <i>ListReferenceCollection</i>	28
5.2.2.11 Type: <i>AbChangesSubscriptionCollection</i>	29
5.2.2.12 Type: <i>AbChangesSubscription</i>	29
5.2.2.13 Type: <i>AbChangesNotification</i>	30
5.2.2.14 Type: <i>RuleList</i>	30
5.2.2.15 Type: <i>Rule</i>	31
5.2.2.16 Type: <i>ApplicableToContacts</i>	31
5.2.2.17 Type: <i>ApplicableToLists</i>	32
5.2.2.18 Type: <i>ApplicableToListsAndLinkedContacts</i>	32
5.2.2.19 Type: <i>AuthorizedTo</i>	32
5.2.2.20 Type: <i>MemberTransferParameters</i>	33
5.2.3 Enumerations	33
5.2.3.1 Enumeration: <i>ListType</i>	33
5.2.3.2 Enumeration: <i>ResourceStatus</i>	33
5.2.4 Values of the Link “rel” attribute.....	33
5.3 SEQUENCE DIAGRAMS	34
5.3.1 Managing contacts in the collection of contacts	34
5.3.2 Accessing the lists and members	35
5.3.3 Subscribing to address book changes and receiving notifications	37
5.3.4 Managing shared lists	38
5.3.5 Managing authorization rules.....	39
6. DETAILED SPECIFICATION OF THE RESOURCES	41
6.1 RESOURCE: COLLECTION OF CONTACTS	41
6.1.1 Request URL variables	41
6.1.2 Response Codes and Error Handling	41
6.1.3 GET.....	42
6.1.3.1 Example 1: Retrieve all contacts with all attributes (default) (Informative).....	42
6.1.3.2 Example 2: Retrieve all contacts with selected attributes (Informative).....	43
6.1.4 PUT.....	44
6.1.5 POST.....	44
6.1.6 DELETE	44

6.2	RESOURCE: INDIVIDUAL CONTACT	44
6.2.1	Request URL variables	45
6.2.2	Response Codes and Error Handling	45
6.2.3	GET	45
6.2.3.1	Example 1: Retrieve a contact with all attributes (default) (Informative)	45
6.2.3.2	Example 2: Retrieve a contact with selected attributes (Informative)	46
6.2.3.3	Example 3: Retrieve a contact with only vCard2.1 as selected attribute (Informative)	47
6.2.4	PUT	47
6.2.4.1	Example 1: Create a new contact (Informative)	47
6.2.4.2	Example 2: Update an existing contact with links to an existing member (Informative)	48
6.2.4.3	Example 3: Update an existing contact with links to non existing member (Informative)	50
6.2.5	POST	51
6.2.6	DELETE	51
6.2.6.1	Example: Delete a contact (Informative)	51
6.3	RESOURCE: ATTRIBUTES FOR A CONTACT	52
6.3.1	Request URL variables	52
6.3.2	Response Codes and Error Handling	52
6.3.3	GET	52
6.3.3.1	Example: Retrieve all attributes of a contact (Informative)	52
6.3.4	PUT	53
6.3.5	POST	53
6.3.6	DELETE	53
6.4	RESOURCE: INDIVIDUAL ATTRIBUTE FOR A CONTACT	53
6.4.1	Request URL variables	53
6.4.2	Response Codes and Error Handling	53
6.4.3	GET	53
6.4.3.1	Example 1: Retrieve a contact's attribute (Informative)	53
6.4.3.2	Example 2: Retrieve a contact's non existing attribute (Informative)	54
6.4.4	PUT	54
6.4.4.1	Example: Create or update a contact's attribute (Informative)	54
6.4.5	POST	55
6.4.6	DELETE	55
6.4.6.1	Example: Delete a contact's attribute (Informative)	55
6.5	RESOURCE: LISTS	55
6.5.1	Request URL variables	55
6.5.2	Response Codes	56
6.5.3	GET	56
6.5.3.1	Example 1: Retrieve lists with all attributes and all members with all member attributes (default) (Informative)	57
6.5.3.2	Example 2: Retrieve all lists belonging to a user without list attributes and without members (Informative)	58
6.5.3.3	Example 3: Retrieve specific lists attributes and specific member attributes (Informative)	59
6.5.3.4	Example 4: Retrieve lists with specific lists attributes and without members data (Informative)	61
6.5.3.5	Example 5: Retrieve specific lists attributes and list of members without attributes (Informative)	62
6.5.3.6	Example 6: Retrieve lists without attributes and members with all member attributes (Informative)	63
6.5.4	PUT	64
6.5.5	POST	64
6.5.6	DELETE	64
6.6	RESOURCE: INDIVIDUAL LIST	65
6.6.1	Request URL variables	65
6.6.2	Response Codes and Error Handling	65
6.6.3	GET	65
6.6.3.1	Example 1: Retrieve a list with all attributes and all member attributes (default) (Informative)	66
6.6.3.2	Example 2: Retrieve a list without list and member attributes (Informative)	67
6.6.3.3	Example 3: Retrieve a list with all attributes and selected member attributes (Informative)	67
6.6.3.4	Example 4: Retrieve a non existing list (Informative)	68
6.6.4	PUT	68
6.6.4.1	Example: Create a list (Informative)	68
6.6.5	POST	69
6.6.6	DELETE	69
6.6.6.1	Example: Delete a list (Informative)	70
6.7	RESOURCE: ATTRIBUTES FOR A LIST	70

6.7.1	Request URL variables	70
6.7.2	Response Codes and Error Handling	70
6.7.3	GET.....	70
6.7.3.1	Example: Retrieve all attributes for a list belonging to Bob (Informative).....	71
6.7.4	PUT.....	71
6.7.5	POST.....	71
6.7.6	DELETE	71
6.8	RESOURCE: INDIVIDUAL ATTRIBUTE FOR A LIST.....	72
6.8.1	Request URL variables	72
6.8.2	Response Codes and Error Handling	72
6.8.3	GET.....	72
6.8.3.1	Example 1: Retrieve an attribute value (Informative).....	72
6.8.3.2	Example 2: Retrieve a non existing attribute (Informative).....	73
6.8.4	PUT.....	73
6.8.4.1	Example: Create an attribute (Informative).....	73
6.8.5	POST.....	74
6.8.6	DELETE	74
6.8.6.1	Example: Delete an attribute (Informative).....	74
6.9	RESOURCE: MEMBERS IN A LIST	74
6.9.1	Request URL variables	74
6.9.2	Response Codes and Error Handling	74
6.9.3	GET.....	75
6.9.3.1	Example 1: Retrieve all members for a list belonging to a user with all attributes (default) (Informative).....	75
6.9.3.2	Example 2: Retrieve all members for a list belonging to a user, without member attributes (Informative).....	76
6.9.4	PUT.....	77
6.9.5	POST.....	77
6.9.6	DELETE	77
6.10	RESOURCE: INDIVIDUAL MEMBER IN A LIST	77
6.10.1	Request URL variables	77
6.10.2	Response Codes and Error Handling	77
6.10.3	GET.....	78
6.10.3.1	Example 1: Retrieve a member (Informative).....	78
6.10.3.2	Example 2: Retrieve a member and selected attributes (Informative)	79
6.10.3.3	Example 3: Retrieve a non existing member (Informative).....	79
6.10.4	PUT.....	80
6.10.4.1	Example 1: Create a member without a link to the contact (Informative)	80
6.10.4.2	Example 2: Update member with relation to non-existing contact (Informative)	80
6.10.5	POST.....	81
6.10.6	DELETE	81
6.10.6.1	Example: Delete a member (Informative).....	81
6.11	RESOURCE: ATTRIBUTES FOR A MEMBER IN A LIST	82
6.11.1	Request URL variables	82
6.11.2	Response Codes and Error Handling	82
6.11.3	GET.....	82
6.11.3.1	Example: Retrieve all attributes of a member of a list (Informative).....	82
6.11.4	PUT.....	83
6.11.5	POST.....	83
6.11.6	DELETE	83
6.12	RESOURCE: INDIVIDUAL ATTRIBUTE FOR A MEMBER IN A LIST	83
6.12.1	Request URL variables	83
6.12.2	Response Codes and Error Handling	83
6.12.3	GET.....	83
6.12.3.1	Example 1: Retrieve a member's attribute (Informative).....	84
6.12.3.2	Example 2: Retrieve a member's non existing attribute (Informative).....	84
6.12.4	PUT.....	85
6.12.4.1	Example: Create a member's attribute (Informative)	85
6.12.5	POST.....	85
6.12.6	DELETE	85
6.12.6.1	Example: Delete a member's attribute (Informative).....	85

6.13 RESOURCE: LIST REFERENCES	86
6.13.1 Request URL variables	86
6.13.2 Response Codes and Error Handling	86
6.13.3 GET.....	86
6.13.3.1 Example: Retrieve all list references in a list (Informative).....	86
6.13.4 PUT.....	86
6.13.5 POST.....	87
6.13.6 DELETE	87
6.14 RESOURCE: INDIVIDUAL LIST REFERENCE.....	87
6.14.1 Request URL variables	87
6.14.2 Response Codes and Error Handling	87
6.14.3 GET.....	87
6.14.3.1 Example 1: Retrieve a list reference (Informative).....	87
6.14.3.2 Example 2: Retrieve a non existing list reference (Informative).....	88
6.14.4 PUT.....	88
6.14.4.1 Example: Create a list reference (Informative).....	88
6.14.5 POST.....	89
6.14.6 DELETE	89
6.14.6.1 Example: Delete a list reference (Informative).....	89
6.15 RESOURCE: ADDRESS BOOK CHANGES SUBSCRIPTIONS.....	89
6.15.1 Request URL variables	90
6.15.2 Response Codes and Error Handling	90
6.15.3 GET.....	90
6.15.3.1 Example: Retrieve all list changes subscriptions (Informative).....	90
6.15.4 PUT.....	91
6.15.5 POST.....	91
6.15.5.1 Example 1: Create new subscription for list changes notification using 'tel' URI (Informative).....	91
6.15.5.2 Example 2: Create new subscription for list changes notification using 'acr' URI (Informative).....	92
6.15.6 DELETE	93
6.16 RESOURCE: INDIVIDUAL LIST CHANGES SUBSCRIPTION.....	93
6.16.1 Request URL variables	93
6.16.2 Response Codes and Error Handling	93
6.16.3 GET.....	93
6.16.3.1 Example: Retrieve individual list changes subscription (Informative).....	93
6.16.4 PUT.....	94
6.16.4.1 Example: Update/Extend duration of subscription (Informative).....	94
6.16.5 POST.....	95
6.16.6 DELETE	95
6.16.6.1 Example: Delete a list changes subscription (Informative).....	95
6.17 RESOURCE: CLIENT RESOURCE FOR LIST CHANGES NOTIFICATIONS	96
6.17.1 Request URL variables	96
6.17.2 Response Codes and Error Handling	96
6.17.3 GET.....	96
6.17.4 PUT.....	96
6.17.5 POST.....	96
6.17.5.1 Example 1: Notification for subscription with sendFullListContent=true (default) (Informative).....	97
6.17.5.2 Example 2: Notification for contact change subscription (Informative).....	97
6.17.5.3 Example 3: Notification for expired contact subscription (Informative).....	98
6.17.6 DELETE	98
6.18 RESOURCE: COLLECTION OF CONTACTS SHARED BY OTHER USER	98
6.18.1 Request URL variables	98
6.18.2 Response Codes and Error Handling	98
6.18.3 GET.....	99
6.18.3.1 Example 1: Retrieve contacts shared by a user identified by otherUserId with all contact attributes (default) (Informative).....	99
6.18.3.2 Example 2: Retrieve contacts shared by a user identified by otherUserId without contacts attributes (Informative)....	100
6.18.4 PUT.....	101
6.18.5 POST.....	101
6.18.6 DELETE	101

6.19	RESOURCE: INDIVIDUAL SHARED CONTACT	101
6.19.1	Request URL variables	101
6.19.2	Response Codes and Error Handling	101
6.19.3	GET	102
6.19.3.1	<i>Example 1: Retrieve information about individual shared contact using contactId (Informative)</i>	102
6.19.3.2	<i>Example 2: Retrieve information about individual shared contact using sharedIdentity (Informative)</i>	103
6.19.3.3	<i>Example 3: Retrieve information about individual shared contact, with selected contact attributes (default) (Informative)</i>	104
6.19.4	PUT	104
6.19.5	POST	104
6.19.6	DELETE	105
6.20	RESOURCE: COLLECTION OF SHARED LISTS	105
6.20.1	Request URL variables	105
6.20.2	Response Codes and Error Handling	105
6.20.3	GET	105
6.20.3.1	<i>Example 1: Retrieve lists shared by a user identified by otherUserId with all list attributes and all member attributes (default) (Informative)</i>	106
6.20.3.2	<i>Example 2: Retrieve lists shared by a user identified by otherUserId without lists attributes, but with selected member attributes (Informative)</i>	108
6.20.4	PUT	109
6.20.5	POST	109
6.20.6	DELETE	109
6.21	RESOURCE: INDIVIDUAL SHARED LIST	109
6.21.1	Request URL variables	110
6.21.2	Response Codes and Error Handling	110
6.21.3	GET	110
6.21.3.1	<i>Example 1: Retrieve individual list shared by a user identified by otherUserId, with all list attributes and all member attributes (default) (Informative)</i>	111
6.21.3.2	<i>Example 2: Retrieve individual list shared by a user identified by otherUserId, with all list attributes and no member attributes (default) (Informative)</i>	112
6.21.4	PUT	113
6.21.5	POST	113
6.21.6	DELETE	113
6.22	RESOURCE: MEMBERS IN A SHARED LIST	113
6.22.1	Request URL variables	113
6.22.2	Response Codes and Error Handling	113
6.22.3	GET	114
6.22.3.1	<i>Example: Retrieve all members for a shared list belonging to a user with all attributes (default) (Informative)</i>	114
6.22.4	PUT	115
6.22.5	POST	115
6.22.6	DELETE	115
6.23	RESOURCE: INDIVIDUAL MEMBER INFORMATION FROM SHARED LIST	115
6.23.1	Request URL variables	116
6.23.2	Response Codes and Error Handling	116
6.23.3	GET	116
6.23.3.1	<i>Example 1: Retrieve all member attributes about user identified as memberId from the list shared by a user identified by otherUserId (default) (Informative)</i>	116
6.23.3.2	<i>Example 2: Retrieve selected member attributes about user identified as memberId from the list shared by a user identified by otherUserId (default) (Informative)</i>	117
6.23.4	PUT	118
6.23.5	POST	118
6.23.6	DELETE	118
6.24	RESOURCE: AUTHORIZATION RULES	118
6.24.1	Request URL variables	118
6.24.2	Response Codes and Error Handling	118
6.24.3	GET	119
6.24.3.1	<i>Example: Retrieve all authorization rules (Informative)</i>	119
6.24.4	PUT	120
6.24.5	POST	120

6.24.5.1	Example: Create new rule for list and referenced contacts (Informative)	120
6.24.6	DELETE	121
6.25	RESOURCE: INDIVIDUAL AUTHORIZATION RULE	121
6.25.1	Request URL variables	121
6.25.2	Response Codes and Error Handling	121
6.25.3	GET	121
6.25.3.1	Example: Retrieve an authorization rule (Informative)	121
6.25.4	PUT	122
6.25.4.1	Example: Update an existing authorization rule (Informative)	122
6.25.5	POST	123
6.25.6	DELETE	123
6.26	RESOURCE: INDIVIDUAL AUTHORIZATION RULE DATA	123
6.26.1	Request URL variables	124
6.26.2	Response Codes and Error Handling	124
6.26.3	GET	124
6.26.3.1	Example: Retrieve data from an authorization rule (Informative)	124
6.26.4	PUT	124
6.26.4.1	Example: Authorize user by updating an existing authorization rule (Informative)	125
6.26.5	POST	125
6.26.6	DELETE	125
6.26.6.1	Example: Delete an authorized identity (Informative)	125
6.27	RESOURCE: INDIVIDUAL MEMBER TRANSFER	125
6.27.1	Request URL variables	126
6.27.2	Response Codes and Error Handling	126
6.27.3	GET	126
6.27.4	PUT	126
6.27.5	POST	126
6.27.5.1	Example: Transfer a member from one list to another (Informative)	126
6.27.6	DELETE	127
7.	FAULT DEFINITIONS	128
7.1	SERVICE EXCEPTIONS	128
7.1.1	SVC0240: Key property changes not allowed	128
7.2	POLICY EXCEPTIONS	128
7.2.5	POL0214: Too many resources	129
APPENDIX A.	CHANGE HISTORY (INFORMATIVE)	130
A.1	APPROVED VERSION HISTORY	130
A.2	DRAFT/CANDIDATE VERSION 1.0 HISTORY	130
APPENDIX B.	STATIC CONFORMANCE REQUIREMENTS (NORMATIVE)	133
B.1	SCR FOR REST.AB SERVER	133
B.1.1	SCR for REST.AB.ContactCollection Server	133
B.1.2	SCR for REST.AB.IndividualContact Server	133
B.1.3	SCR for REST.AB.AttributesForAContact Server	134
B.1.4	SCR for REST.AB.IndividualAttributeForAContact Server	134
B.1.5	SCR for REST.AB.Lists Server	134
B.1.6	SCR for REST.AB.IndividualList Server	135
B.1.7	SCR for REST.AB.AttributesForAList Server	135
B.1.8	SCR for REST.AB.IndividualAttributeForAList Server	135
B.1.9	SCR for REST.AB.MemberInAList Server	136
B.1.10	SCR for REST.AB.IndividualMemberInAList Server	136
B.1.11	SCR for REST.AB.AttributesForAMemberInAList Server	136
B.1.12	SCR for REST.AB.IndividualAttributeForAMemberInAList Server	137
B.1.13	SCR for REST.AB.ListReferences Server	137
B.1.14	SCR for REST.AB.IndivListReference Server	137
B.1.15	SCR for REST.AB.List.Subscr Server	138
B.1.16	SCR for REST.AB.Individual.Subscr Server	138
B.1.17	SCR for REST.AB.Notif Server	139

B.1.18	SCR for REST.AB.Shared.ContactCollection Server	139
B.1.19	SCR for REST.AB.Individual.Shared.Contact Server	139
B.1.20	SCR for REST.AB.Shared.Lists Server	139
B.1.21	SCR for REST.AB.Individual.Shared.List Server	140
B.1.22	SCR for REST.AB.Members.Ind.Shared.List Server	140
B.1.23	SCR for REST.AB.Member.Shared.List Server	140
B.1.24	SCR for REST.AB.Authorization.RuleList Server	140
B.1.25	SCR for REST.AB.Indiv.AuthorizationRule Server	141
B.1.26	SCR for REST.AB.Indiv.AuthorizationRuleData Server	141
B.1.27	SCR for REST.AB.IndividualMemberTransfer Server	141

APPENDIX C. APPLICATION/X-WWW-FORM-URLENCODED REQUEST FORMAT FOR POST OPERATIONS (NORMATIVE).....142

C.1	CREATE A SUBSCRIPTION FOR LIST CHANGES NOTIFICATIONS	142
C.1.1	Example using 'tel' URI (Informative)	143
C.1.1.1	Request	143
C.1.1.2	Response	144
C.1.2	Example using 'acr' URI (Informative)	144
C.1.2.1	Request	144
C.1.2.2	Response	144
C.2	CREATE AN AUTHORIZATION RULE	145
C.2.1	Example (Informative)	147
C.2.1.1	Request	147
C.2.1.2	Response	147
C.3	TRANSFER A MEMBER FROM ONE LIST TO ANOTHER	147
C.3.1	Example: (Informative)	148
C.3.1.1	Request	148
C.3.1.2	Response	148

APPENDIX D. JSON EXAMPLES (INFORMATIVE)149

D.1	RETRIEVE ALL CONTACTS WITH ALL ATTRIBUTES (DEFAULT) (SECTION 6.1.3.1)	149
D.2	RETRIEVE A CONTACT WITH ALL ATTRIBUTES (DEFAULT) (SECTION 6.2.3.1)	150
D.3	RETRIEVE A CONTACT WITH ONLY VCARD2.1 AS SELECTED ATTRIBUTE (SECTION 6.2.3.3)	151
D.4	CREATE A NEW CONTACT (SECTION 6.2.4.1)	152
D.5	RETRIEVE ALL ATTRIBUTES OF A CONTACT (SECTION 6.3.3.1)	153
D.6	RETRIEVE A CONTACT'S ATTRIBUTE (SECTION 6.4.3.1)	153
D.7	CREATE OR UPDATE A CONTACT'S ATTRIBUTE (SECTION 6.4.4.1)	153
D.8	RETRIEVE SPECIFIC LISTS ATTRIBUTES AND SPECIFIC MEMBER ATTRIBUTES (SECTION 6.5.3.3)	154
D.9	RETRIEVE A LIST WITH ALL ATTRIBUTES AND ALL MEMBER ATTRIBUTES (DEFAULT) (SECTION 6.6.3.1)	156
D.10	RETRIEVE A NON EXISTING LIST (SECTION 6.6.3.4)	156
D.11	CREATE A LIST (SECTION 6.6.4.1)	157
D.12	RETRIEVE ALL ATTRIBUTES FOR A LIST BELONGING TO BOB (SECTION 6.7.3.1)	158
D.13	RETRIEVE AN ATTRIBUTE VALUE (SECTION 6.8.3.1)	158
D.14	CREATE AN ATTRIBUTE (SECTION 6.8.4.1)	159
D.15	RETRIEVE ALL MEMBERS FOR A LIST BELONGING TO A USER WITH ALL ATTRIBUTES (DEFAULT) (SECTION 6.9.3.1)	159
D.16	RETRIEVE A MEMBER AND SELECTED ATTRIBUTES (SECTION 6.10.3.2)	160
D.17	CREATE A MEMBER WITHOUT A LINK TO THE CONTACT (SECTION 6.10.4.1)	161
D.18	RETRIEVE ALL ATTRIBUTES OF A MEMBER OF A LIST (SECTION 6.11.3.1)	161
D.19	RETRIEVE A MEMBER'S NON EXISTING ATTRIBUTE (SECTION 6.12.3.2)	162
D.20	CREATE A MEMBER'S ATTRIBUTE (SECTION 6.12.4.1)	162
D.21	RETRIEVE ALL LIST REFERENCES IN A LIST (SECTION 6.13.3.1)	163
D.22	RETRIEVE A LIST REFERENCE (SECTION 6.14.3.1)	163
D.23	CREATE A LIST REFERENCE (SECTION 6.14.4.1)	164
D.24	RETRIEVE ALL LIST CHANGES SUBSCRIPTIONS (SECTION 6.15.3.1)	164
D.25	CREATE NEW SUBSCRIPTION FOR LIST CHANGES NOTIFICATION USING 'TEL' URI (SECTION 6.15.5.1)	165
D.26	CREATE NEW SUBSCRIPTION FOR LIST CHANGES NOTIFICATION USING 'ACR' URI (SECTION 6.15.5.2)	166
D.27	RETRIEVE INDIVIDUAL LIST CHANGES SUBSCRIPTION (SECTION 6.16.3.1)	167
D.28	UPDATE/EXTEND DURATION OF SUBSCRIPTION (SECTION 6.16.4.1)	167

D.29 NOTIFICATION FOR CONTACT CHANGE SUBSCRIPTION (SECTION 6.17.5.2).....168

D.30 RETRIEVE CONTACTS SHARED BY A USER IDENTIFIED BY OTHERUserId WITH ALL CONTACT ATTRIBUTES (SECTION 6.18.3.1).....169

D.31 RETRIEVE INFORMATION ABOUT INDIVIDUAL SHARED CONTACT USING CONTACTId (SECTION 6.19.3.1).....170

D.32 RETRIEVE LISTS SHARED BY A USER IDENTIFIED BY OTHERUserId WITHOUT LISTS ATTRIBUTES, BUT WITH SELECTED MEMBER ATTRIBUTES (SECTION 6.20.3.2)171

D.33 RETRIEVE AN INDIVIDUAL LIST SHARED BY A USER IDENTIFIED BY OTHERUserId, WITH ALL LIST ATTRIBUTES AND ALL MEMBER ATTRIBUTES (SECTION 6.21.3.1)172

D.34 RETRIEVE ALL MEMBERS FOR A SHARED LIST WITH ALL ATTRIBUTES (DEFAULT) (SECTION 6.22.3.1).....173

D.35 RETRIEVE SELECTED MEMBER ATTRIBUTES ABOUT USER IDENTIFIED AS MEMBERId FROM THE LIST SHARED BY A USER IDENTIFIED BY OTHERUserId (SECTION 6.23.3.2)174

D.36 RETRIEVE ALL AUTHORIZATION RULES (SECTION 6.24.3.1)174

D.37 CREATE NEW RULE FOR LIST AND REFERENCED CONTACTS (SECTION 6.24.5.1).....175

D.38 RETRIEVE AN AUTHORIZATION RULE (SECTION 6.25.3.1)176

D.39 UPDATE AN EXISTING AUTHORIZATION RULE (SECTION 6.25.4.1)176

D.40 RETRIEVE DATA FROM AN AUTHORIZATION RULE (SECTION 6.26.3.1)177

D.41 AUTHORIZE USER BY UPDATING AN EXISTING AUTHORIZATION RULE (SECTION 6.26.4.1).....177

D.42 DELETE AN AUTHORIZED IDENTITY (SECTION 6.26.6.1)178

D.43 TRANSFER A MEMBER FROM ONE LIST TO ANOTHER (SECTION 6.27.5.1)178

APPENDIX E. PARLAY X OPERATIONS MAPPING (INFORMATIVE).....179

APPENDIX F. LIGHT-WEIGHT RESOURCES (INFORMATIVE)180

APPENDIX G. AUTHORIZATION ASPECTS (NORMATIVE)181

G.1 USE WITH OMA AUTHORIZATION FRAMEWORK FOR NETWORK APIS.....181

G.1.1 Scope values181

G.1.1.1 Definitions.....181

G.1.1.2 Downscoping181

G.1.1.3 Mapping with resources and methods.....182

G.1.2 Use of ‘acr:auth’187

APPENDIX H. OVERVIEW OF DATA TYPES (INFORMATIVE).....188

Figures

Figure 1 Resource structure defined by this specification.....17

Figure 2 Managing contacts.....34

Figure 3 Accessing lists and members.....36

Figure 4 Subscription to notifications about address book changes.....37

Figure 5 Flow for managing shared lists.....38

Figure 6 Flow for managing authorization rules39

Figure 7 Data types for contacts, members and lists188

Tables

Table 1: Parlay X operations mapping179

Table 2: Light-weight Resources for Address Book180

Table 3: Scope values for RESTful Address Book API181

Table 4: Required scope values for: managing contacts183

Table 5: Required scope values for: managing lists and members in a list185

Table 6: Required scope values for: managing subscriptions to notifications about contacts and/or lists changes.....185

Table 7: Required scope values for: managing authorization rules for shared contacts/lists/members186

1. Scope

This specification defines a RESTful Address Book API using an HTTP protocol binding, based on the similar API defined in [3GPP 29.199-13].

2. References

2.1 Normative References

- [3GPP 29.199-13] 3GPP Technical Specification, “Open Service Access (OSA); Parlay X Web Services; Part 18: Address List Management (Release 8)”, URL:<http://www.3gpp.org/>
- [Autho4API_10] “Authorization Framework for Network APIs”, Open Mobile Alliance™, OMA-ER-Autho4API-V1_0, URL:<http://www.openmobilealliance.org/>
- [REST_NetAPI_ACR] “RESTful Network API for Anonymous Customer Reference Management”, Open Mobile Alliance™, OMA-TS-REST_NetAPI_ACR-V1_0, URL:<http://www.openmobilealliance.org/>
- [REST_NetAPI_Common] “Common definitions for RESTful Network APIs”, Open Mobile Alliance™, OMA-TS-REST_NetAPI_Common-V1_0, URL:<http://www.openmobilealliance.org/>
- [REST_NetAPI_Notification Channel] “RESTful Network API for Notification Channel”, Open Mobile Alliance™, OMA-TS-REST_NetAPI_NotificationChannel-V1_0, URL:<http://www.openmobilealliance.org/>
- [REST_SUP_AddressBook] “XML schema for the RESTful Network API for Address Book”, Open Mobile Alliance™, OMA-SUP-XSD_rest_netapi_addressbook-V1_0, URL:<http://www.openmobilealliance.org/>
- [RFC2119] “Key words for use in RFCs to Indicate Requirement Levels”, S. Bradner, March 1997, URL:<http://www.ietf.org/rfc/rfc2119.txt>
- [RFC2426] “vCard MIME Directory Profile”, F.Dawson et al., September 1998, URL:<http://www.ietf.org/rfc/rfc2426.txt>
- [RFC3261] “SIP: Session Initiation Protocol”, J. Rosenberg et al., June 2002, URL:<http://www.rfc-editor.org/rfc/rfc3261.txt>
- [RFC3966] “The tel URI for Telephone Numbers”, H.Schulzrinne, December 2004, URL:<http://www.ietf.org/rfc/rfc3966.txt>
- [RFC3986] “Uniform Resource Identifier (URI): Generic Syntax”, T. Berners-Lee, R. Fielding, L. Masinter, January 2005, URL:<http://www.ietf.org/rfc/rfc3986.txt>
- [RFC7159] “The JavaScript Object Notation (JSON) Data Interchange Format”, T. Bray, Ed., March 2014, URL:<http://tools.ietf.org/html/rfc7159>
- [RFC7231] “Hypertext Transfer Protocol (HTTP/1.1): Semantics and Content,” R. Fielding, Ed., J.Raschke, Ed., June 2014, URL:<http://tools.ietf.org/html/rfc7231>
- [SCRRULES] “SCR Rules and Procedures”, Open Mobile Alliance™, OMA-ORG-SCR_Rules_and_Procedures, URL:<http://www.openmobilealliance.org/>
- [W3C_URLENC] HTML 4.01 Specification, Section 17.13.4 Form content types, The World Wide Web Consortium, URL:<http://www.w3.org/TR/html401/interact/forms.html#h-17.13.4.1>
- [XMLSchema1] W3C XML Schema Definition Language (XSD) 1.1 Part 1: Structures, W3C Recommendation 5 April 2012, URL:<http://www.w3.org/TR/xmlschema11-1/>
- [XMLSchema2] W3C XML Schema Definition Language (XSD) 1.1 Part 2: Datatypes, W3C Recommendation 5 April 2012, URL:<http://www.w3.org/TR/xmlschema11-2/>

2.2 Informative References

- [OMADICT] “Dictionary for OMA Specifications”, Version 2.9, Open Mobile Alliance™, OMA-ORG-Dictionary-V2_9, URL:<http://www.openmobilealliance.org/>
- [ParlayREST_AddressListMgmt] “RESTful bindings for Parlay X Web Services – Address List Management”, Version 1.0, Open Mobile Alliance™, OMA-TS-ParlayREST_AddressListManagement-V1_0
- [REST_WP] “Guidelines for RESTful Network APIs”, Open Mobile Alliance™, OMA-WP-Guidelines_for_RESTful_Network_APIs, URL:<http://www.openmobilealliance.org/>

3. Terminology and Conventions

3.1 Conventions

The key words “MUST”, “MUST NOT”, “REQUIRED”, “SHALL”, “SHALL NOT”, “SHOULD”, “SHOULD NOT”, “RECOMMENDED”, “MAY”, and “OPTIONAL” in this document are to be interpreted as described in [RFC2119].

All sections and appendixes, except “Scope” and “Introduction”, are normative, unless they are explicitly indicated to be informative.

3.2 Definitions

For the purpose of this TS, all definitions from the OMA Dictionary apply [OMADICT].

Client-side Notification URL	An HTTP URL exposed by a client, on which it is capable of receiving notifications and that can be used by the client when subscribing to notifications.
Heavy-weight Resource	A resource which is identified by a resource URL which is then used by HTTP methods to operate on the entire data structure representing the resource.
Light-weight Resource	A subordinate resource of a Heavy-weight Resource which is identified by its own resource URL which is then used by HTTP methods to operate on a part of the data structure representing the Heavy-weight Resource. The Light-weight Resource URL can be seen as an extension of the Heavy-weight Resource URL. There could be several levels of Light-weight Resources below the ancestor Heavy-weight Resource, depending on the data structure.
Notification Channel	A channel created on the request of the client and used to deliver notifications from a server to an application. The channel is represented as a resource and provides means for the server to post notifications and for the client to receive them via specified delivery mechanisms.
Notification Server	A server that is capable of creating and maintaining Notification Channels.
Server-side Notification URL	An HTTP URL exposed by a Notification Server, that identifies a Notification Channel and that can be used by a client when subscribing to notifications.

3.3 Abbreviations

AB	Address Book
ACR	Anonymous Customer Reference
API	Application Programming Interface
HTTP	HyperText Transfer Protocol
JSON	JavaScript Object Notation
MIME	Multipurpose Internet Mail Extensions
OMA	Open Mobile Alliance
REST	REpresentational State Transfer
SCR	Static Conformance Requirements
SIP	Session Initiation Protocol
TS	Technical Specification
URI	Uniform Resource Identifier
URL	Uniform Resource Locator

VCard	Virtual-Information Card
WP	White Paper
XML	eXtensible Markup Language
XSD	XML Schema Definition

4. Introduction

The Technical Specification for the RESTful Network API for Address Book (AB) contains the HTTP protocol binding based on the Parlay X Address List Management Web Services [3GPP 29.199-13] specification, using the REST architectural style. The specification provides resource definitions, the HTTP verbs applicable for each of these resources, and the element data structures, as well as support material including flow diagrams and examples using the various supported message body formats (i.e. XML, JSON, and application/x-www-form-urlencoded).

4.1 Version 1.0

The RESTful Network API for Address Book V1.0 is a republication of the ParlayREST Address List Management API V1.0 [ParlayREST_AddressListMgmt] as part of the suite of OMA RESTful Network APIs.

Bug fixes and structural changes to fit that suite, but also functional changes have been applied.

Version 1.0 of the RESTful Network API for Address Book keeps supporting the following operations:

- Manage attributes related to a list
- Manage attributes related to a contact or a member in a list
- Manage contacts
- Manage lists
- Manage members in a list
- Manage nested lists related to a list
- Manage shared contacts or lists
- Manage subscriptions to contact or list changes
- Send notifications about contact or list changes

The following new functionality has been introduced:

- Transfer a member from one list to another
- Support “vCard 2.1” and “vCard 3.0” as contact attributes [RFC2426]
- Support for scope values used with authorization framework defined in [Autho4API_10]
- Support for Anonymous Customer Reference (ACR) as an end user identifier
- Support for “acr:auth” as a reserved keyword in a resource URL variable that identifies an end user
- Resources, data types and element names have been changed to allow future extensions and reflect the API re-naming from Address List Management to Address Book

5. Address Book API definition

This section is organized to support a comprehensive understanding of the RESTful Address Book API design. It specifies the definition of all resources, definition of all data structures, and definitions of all operations permitted on the specified resources.

Common data types, naming conventions, fault definitions and namespaces are defined in [REST_NetAPI_Common].

The remainder of this document is structured as follows:

Section 5 starts with a diagram representing the resources hierarchy, followed by a table listing all the resources (and their URL) used by this API, along with the data structure and the supported HTTP verbs (section 5.1). What follows are the data structures (section 5.2). A sample of typical use cases is included in section 5.3, described as high level flow diagrams.

Section 6 contains the detailed specification for each of the resources. Each such subsection defines the resource, the request URL variables that are common for all HTTP methods, and the supported HTTP verbs. For each supported HTTP verb, a description of the functionality is provided, along with an example of a request and an example of a response. For each unsupported HTTP verb, the returned HTTP error status is specified, as well as what should be returned in the Allow header.

All examples in section 6 use XML as the format for the message body. Application/x-www-form-urlencoded examples are provided in Appendix C, while JSON examples are provided in Appendix D.

Section 7 contains fault definition details such as Service Exceptions and Policy Exceptions.

Appendix B provides the Static Conformance Requirements (SCR).

Appendix E lists the Parlay X equivalent method for each supported REST resource and method combination, where applicable.

Appendix F provides a list of all Light-weight Resources, where applicable.

Appendix G defines authorization aspects to control access to the resources defined in this specification.

Finally, Appendix A illustrates the most common data structures and their relationships in Address Book.

Note: Throughout this document client and application can be used interchangeably.

5.1 Resources Summary

This section summarizes all the resources used by the RESTful Address Book API.

The "apiVersion" URL variable SHALL have the value "v1" to indicate that the API corresponds to this version of the specification. See [REST_NetAPI_Common] which specifies the semantics of this variable.

The figure below visualizes the resource structure defined by this specification. Note that those nodes in the resource tree which have associated HTTP methods defined in this specification are depicted by solid boxes.

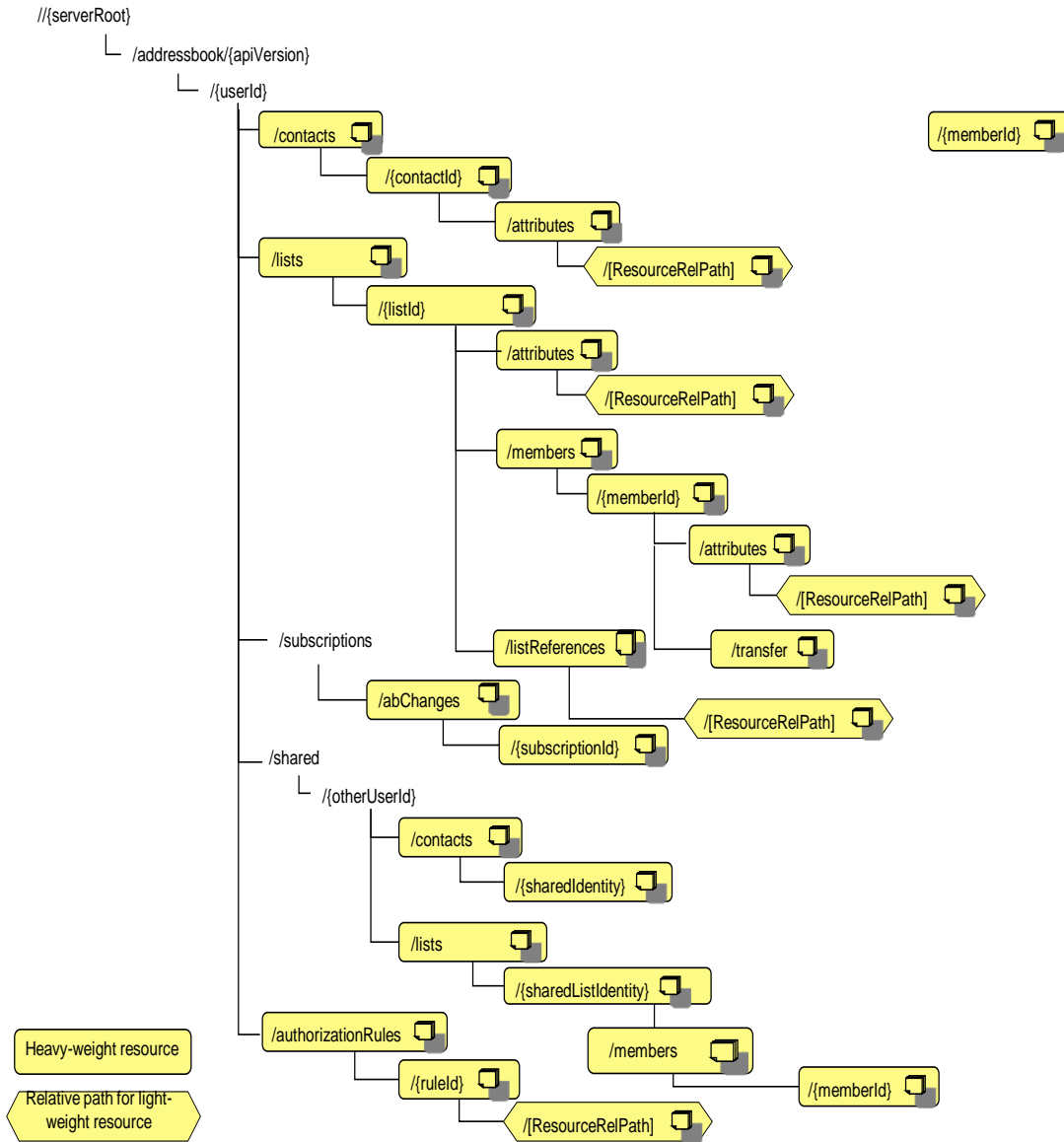


Figure 1 Resource structure defined by this specification

The following tables give a detailed overview of the resources defined in this specification, the data type of their representation and the allowed HTTP methods.

Purpose: To allow client to manage all contacts

Resource	Base URL: http://{serverRoot}/addressbook/{apiVersion}	Data Structures	HTTP verbs			
			GET	PUT	POST	DELETE
Collection of contacts	/{userId}/contacts	ContactCollection	This operation retrieves information about all user's contacts.	no	no	no
Individual contact	/{userId}/contacts/{contactId}	Contact	This operation retrieves information about individual contact from the collection of user's contacts.	This operation creates a new contact or updates information about an existing contact.	no	This operation removes a contact.
Attributes for a contact	/{userId}/contacts/{contactId}/attributes	AttributeList	This operation returns all attributes for a contact.	no	no	no
Individual attribute for a contact	/{userId}/contacts/{contactId}/attributes/{ResourceRelPath}	Attribute	This operation returns the value of the attribute for a contact.	This operation creates or updates an attribute for contact.	no	This operation removes an attribute for a contact.

Purpose: To allow client to manage its lists and members in lists

Resource	Base URL: http://{serverRoot}/addressbook/{apiVersion}	Data Structures	HTTP verbs			
			GET	PUT	POST	DELETE
Lists	/{userId}/lists	ListCollection	This operation retrieves all lists the user has created.	no	no	no
Individual list	/{userId}/lists/{listId}	List	This operation retrieves the list.	This operation creates or updates the entire list.	no	This operation removes the list from the system including attributes and members.
Attributes for a list	/{userId}/lists/{listId}/attributes	AttributeList	This operation returns all attributes for a list.	no	no	no
Individual attribute for a list	/{userId}/lists/{listId}/attributes/[ResourceRelPath]	Attribute	This operation returns the value of the list attribute.	This operation creates or updates an attribute	no	This operation deletes an attribute
Members in a list	/{userId}/lists/{listId}/members	MemberCollection	This operation retrieves the members in the list.	no	no	no
Individual member in a list	/{userId}/lists/{listId}/members/{memberId}	Member	This operation retrieves a user from a list. (Normally only used to verify the existence of the member)	This operation creates and updates a member of the list.	no	This operation removes the member from the list.
Attributes for a member in a list	/{userId}/lists/{listId}/members/{memberId}/attributes	AttributeList	This operation returns all attributes for a member.	no	no	no
Individual attribute for a member in a list	/{userId}/lists/{listId}/members/{memberId}/attributes/[ResourceRelPath]	Attribute	This operation returns the value of the attribute for a member.	This operation creates or updates an attribute for a member.	no	This operation removes an attribute for a member.

Resource	Base URL: http://{serverRoot}/addressbook/{apiVersion}	Data Structures	HTTP verbs			
			GET	PUT	POST	DELETE
				member.		
Individual member transfer	/{userId}/lists/{listId}/members/{memberId}/transfer	MemberTransferParameters (used for POST request) common:ResourceReference (used for POST response)	no	no	This operation transfers a member from one list to another list	no
List references	/{userId}/lists/{listId}/listReferences	ListReferenceCollection	This operation returns a list of references to other lists.	no	no	no
Individual list reference	/{userId}/lists/{listId}/listReferences/[ResourceRelPath]	common:Link	This operation returns the value of list reference.	This operation creates a new list reference.	no	This operation removes a list reference.

Purpose: To allow client to manage subscriptions to address book changes

Resource	Base URL: http://{serverRoot}/addressbook/{apiVersion}	Data Structures	HTTP verbs			
			GET	PUT	POST	DELETE
Address Book changes subscriptions	/{userId}/subscriptions/abChanges	AbChangesSubscriptionCollection	This operation retrieves all active subscriptions for address book changes.	no	This operation creates a new subscription for address book changes.	no
Individual address book changes subscription	/{userId}/subscriptions/abChanges/{subscriptionId}	AbChangesSubscription	This operation retrieves information about individual subscription.	This operation updates/extends the duration of the subscription.	no	This operation deletes and terminates subscription.

Purpose: To allow client to receive notifications about address book changes

Resource	Base URL: http://{serverRoot}/addressbook/{apiVersion}	Data Structures	HTTP verbs			
			GET	PUT	POST	DELETE
Client resource for address book changes notifications	<specified by client in the subscription>	AbChangesNotification	no	no	This operation notifies a client about address book changes	no

Purpose: To allow client access to the contacts shared by another user

Resource	Base URL: http://{serverRoot}/addressbook/{apiVersion}	Data Structures	HTTP verbs			
			GET	PUT	POST	DELETE
Collection of shared contacts	/{userId}/shared/{otherUserId}/contacts	ContactCollection	This operation retrieves all contacts shared by another user identified by {otherUserId} with the requesting user identified by {userId}.	no	no	no
Individual shared contact	/{userId}/shared/{otherUserId}/contacts/{sharedIdentity}	Contact	This operation retrieves information about individual contact shared by user identified by {otherUserId} with requesting user identified by {userId}.	no	no	no

Purpose: To allow client access to the lists shared by another user

Resource	Base URL: http://{serverRoot}/addressbook/{apiVersion}	Data Structures	HTTP verbs			
			GET	PUT	POST	DELETE
Collection of shared lists	/{userId}/shared/{otherUserId}/lists	ListCollection	This operation retrieves all lists shared by another user identified by {otherUserId} with the requesting user identified by {userId}.	no	no	no
Individual shared list	/{userId}/shared/{otherUserId}/lists/{sharedListId entity}	List	This operation retrieves information about individual list shared by user identified by {otherUserId} with requesting user identified by {userId}.	no	no	no
Members in a shared list	/{userId}/shared/{otherUserId}/lists/{sharedListId entity}/members	MemberCollection	This operation retrieves the members in the list shared by user identified by {otherUserId} with requesting user identified by {userId}.	no	no	no
Individual member information from shared list	/{userId}/shared/lists/{otherUserId}/{sharedListId entity}/members/{memberId}	Member	This operation retrieves individual member information from the shared list.	no	no	no

Purpose: To allow client access to authorization rules for shared contacts and lists

Resource	Base URL: http://{serverRoot}/addressbook/{apiVersion}	Data Structures	HTTP verbs			
			GET	PUT	POST	DELETE
Authorization Rules	/{userId}/authorizationRules	RuleList (Used for GET) Rule (Used for POST) common:ResourceReference (optional alternative for POST response)	This operation retrieves all authorization rules	no	This operation creates new authorization rule	no
Individual authorization rule	/{userId}/authorizationRules/{ruleId}	Rule (Used for PUT/GET)	This operation retrieves individual authorization rule	This operation updates individual authorization rule	no	This operation removes individual authorization rule
Individual authorization rule data	/{userId}/authorizationRules/{ruleId}/[ResourceReferencePath]	The data structure corresponds to the element pointed out by the request-URL. (Used for PUT/GET)	This operation retrieves data as specified in the URL	This operation creates or updates data as specified in the URL	no	This operation removes the data as specified in the URL

5.2 Data Types

5.2.1 XML Namespaces

The namespace for the Address Book data types is:

```
urn:oma:xml:rest:netapi:addressbook:1
```

The 'xsd' namespace is used in the present document to refer to the XML Schema data types defined in XML Schema [XMLSchema1, XMLSchema2]. The 'common' namespace is used in the present document to refer to the data types defined in [REST_NetAPI_Common]. The use of the names 'xsd' and 'common' is not semantically significant.

The XML schema for the data structures defined in the section below is given in [REST_SUP_AddressBook].

Applications following the RESTful Network API for Address Book V 1.0 specification SHALL use the namespace urn:oma:xml:rest:netapi:addressbook:1.

5.2.2 Structures

The subsections of this section define the data structures used in the RESTful Address Book API.

Some of the structures can be instantiated as so-called root elements, i.e. they define the type of a representation of a so-called Heavy-weight Resource.

The column [ResourceRelPath] in the tables below, if used, includes relative resource paths for Light-weight Resource URLs that are used to access individual elements in the data structure (so-called Light-weight Resources). A string from this column needs to be appended to the corresponding Heavy-weight Resource URL in order to create Light-weight Resource URL for that particular element in the data structure. "Not applicable" means that individual access to that element is not supported. The root element and data type of the resource associated with the [ResourceRelPath] are defined by the Element and Type columns in the row that defines the [ResourceRelPath].

For structures that contain elements which describe a user identifier, the statements in section 6 regarding 'tel', 'sip' and 'acr' URI schemes apply.

5.2.2.1 Type: ContactCollection

Collection of all individual contacts for a user, in the form of a flat unique list

Element	Type	Optional	Description
contact	Contact [0..unbounded]	Yes	Contains a list of user's contacts
resourceURL	xsd:anyURI	No	Self referring URL

A root element named contactCollection of type ContactCollection is allowed in response bodies.

5.2.2.2 Type: Contact

Individual contact information in the collection of contacts

Element	Type	Optional	Description
contactId	xsd:anyURI	No	Contains a relative URI of the contact (e.g. "Alice"). It is a key property of the element and SHALL NOT be altered when included in the Light-weight Resource URL. If contactId is also part of the request URL, the two MUST have the same value.
sharedIdentity	SharedIdentity	Yes	Contains a list of publicly known identities (absolute URIs) of the contact. A shared identity MAY be used by a requesting user to identify the contact in addition to the contactId (since the contactId may not be known by others).
attributeList	AttributeList	Yes	Contains a list of attributes (e.g. "display-name") related to a contact.
resourceURL	xsd:anyURI	Yes	Self referring URL. The resourceURL SHALL NOT be included in POST requests by the client, but MUST be included in POST requests representing notifications by the server to the client, when a complete representation of the resource is embedded in the notification. The resourceURL MUST also be included in responses to any HTTP method that returns an entity body, and in PUT requests.
link	common:Link [0..unbounded]	Yes	MAY contain references to members (rel="Member") in type List associated with the contact. When a member containing a link to a contact is added to a list (or updated), a reverse link SHALL be created automatically by the server pointing from the contact to the actual member. When a member containing a link to a contact is removed from a list (or member is updated and link removed), the reverse link pointing from the contact to the member SHALL be removed automatically by the server. Links SHALL NOT be included in responses for a shared contact, unless the member referred by the link is a member in a list shared with the requester.

A root element named contact of type Contact is allowed in request and/or response bodies.

5.2.2.3 Type: SharedIdentity

List of publicly known identities

Element	Type	Optional	Description
sharedId	xsd:anyURI [0..unbounded]	Yes	Contains a list of absolute URIs (e.g. 'sip' URI, 'tel' URI, 'acr' URI) representing contact identities or list identities known to other users, used when retrieving a contact, respectively a list.

5.2.2.4 Type: ListCollection

List of lists

Element	Type	Optional	Description
list	List [0..unbounded]	Yes	Contains a list of list identities.
resourceURL	xsd:anyURI	No	Self referring URL

A root element named listCollection of type ListCollection is allowed in response bodies.

5.2.2.5 Type: List

List of identities

Element	Type	Optional	Description
listId	xsd:anyURI	No	Contains a relative URI representing the list identity (e.g. "friends"). It is a key property of the element and SHALL NOT be altered when included in the Light-weight Resource URL. If listId is also part of the request URL, the two MUST have the same value.
memberCollection	MemberCollection	Yes	Members in the list
listReferenceCollection	ListReferenceCollection	Yes	Contains references to other lists.
category	ListType [0..unbounded]	Yes	Specifies the type of list. URIList is default if not specified.
sharedListIdentity	SharedIdentity	Yes	Contains a list of publicly known identities (absolute URIs) of the list (e.g. mailto:friendslist@example.com). A shared identity MAY be used by a requesting user to identify the list in addition to the listId (since the listId may not be known by others).
attributeList	AttributeList	Yes	Contains a list of attributes related to a list.
resourceURL	xsd:anyURI	Yes	Self referring URL. The resourceURL SHALL NOT be included in POST requests by the client, but MUST be included in POST requests representing notifications by the server to the client, when a complete representation of the resource is embedded in the notification. The resourceURL MUST also be included in responses to any HTTP method that returns an entity body, and in PUT requests.

A root element named list of type List is allowed in response bodies.

5.2.2.6 Type: AttributeList

Attributes of a list

Element	Type	Optional	[ResourceRelPath]	Description
attribute	Attribute [0..unbounded]	Yes	{name}	Contains a list of attributes related to contact, list or a member. The sub-element 'name' of the type Attribute SHALL NOT be altered when this element is accessed as a Light-weight Resource.
resourceURL	xsd:anyURI	No	Not applicable	Self referring URL

A root element named attributeList of type AttributeList is allowed in request and/or response bodies.

Column [ResourceRelPath] includes relative resource paths for Light-weight Resource URLs that are used to access individual elements in the data structure. A string from this column needs to be appended to the corresponding Heavy-weight Resource URL in order to create Light-weight Resource URL for that particular element in the data structure. "Not applicable" means that individual access to that element is not supported. The root element and data type of the resource associated with the [ResourceRelPath] are defined by the Element and Type columns in the row that defines the [ResourceRelPath].

5.2.2.7 Type: Attribute

Individual attribute of a list

Element	Type	Optional	Description
name	xsd:string	No	Name of the attribute. The following names are predefined by this specification: "display-name". It is a key property of the element and SHALL NOT be altered when included in the Light-weight Resource URL. "vCard2.1" and "vCard3.0" are reserved names, and SHALL only be used to access the entire vCard as an opaque object [RFC2426]. When 'name' is "vCard2.1" or "vCard3.0", it MUST be associated with the 'objectValue' choice to access an entire opaque vCard2.1 or vCard3.0, respectively.
value	xsd:string	Choice	Optional element; if present it provides the value of the attribute.
objectValue	xsd:base64Binary	Choice	Optional element; if present it contains a base64Binary object. In case name is "vCard2.1" this element SHALL contain a base64Binary encoded vCard2.1 object. In case name is "vCard3.0" this element SHALL contain a base64Binary encoded vCard3.0 object.
<any element>	< type is defined in a schema implementing the element>	Choice	Optional element; if present it provides the value of the attribute. Note that element 'any element' can be any element from any other namespace (schema) than the target namespace. Type of such element is defined by the schema implementing the element. In XML implementations, element "any" must be qualified with the namespace prefix.

XSD modelling uses an optional "choice" to select either a value or an objectValue or <any element>, or none of them.

A root element named attribute of type Attribute is allowed in request and/or response bodies.

5.2.2.8 Type: MemberCollection

Collection of members that are part of a list

Element	Type	Optional	Description
member	Member [0..unbounded]	Yes	Contains a list of members related to a members list.
resourceURL	xsd:anyURI	No	Self referring URL

A root element named memberCollection of type MemberCollection is allowed in response bodies.

5.2.2.9 Type: Member

Individual member information in a list

Element	Type	Optional	Description
memberId	xsd:anyURI	No	Contains an identifier of a single member (e.g. 'sip' URI, 'tel' URI, 'acr' URI). It is a key property of the element and SHALL NOT be altered when included in the Light-weight Resource URL. If memberId is also part of the request URL, the two MUST have the same value.
attributeList	AttributeList	Yes	Contains a list of attributes (e.g. display name) related to a member.
resourceURL	xsd:anyURI	Yes	Self referring URL. The resourceURL SHALL NOT be included in POST requests by the client, but MUST be included in POST requests representing notifications by the server to the client, when a complete representation of the resource is embedded in the notification. The resourceURL MUST also be included in responses to any HTTP method that returns an entity body, and in PUT requests.
link	common:Link [0..unbounded]	Yes	MAY contain references to contacts (rel="Contact") in type 'ContactCollection' associated with the member. When a contact containing a link to a member is added to the 'ContactCollection' (or updated), a reverse link SHALL be created automatically by the server pointing from the member to the actual contact. When a contact containing a link to a member is removed from the 'ContactCollection' (or contact is updated and link removed), the reverse link pointing from the member to the contact SHALL be removed automatically by the server. Links SHALL NOT be included in responses for a shared list, unless the contact referred by the link is also shared with the requester.

A root element named member of type Member is allowed in request and/or response bodies.

5.2.2.10 Type: ListReferenceCollection

List of references to other lists

Element	Type	Optional	[ResourceRelPath]	Description
resourceURL	xsd:anyURI	No	Not applicable	Self referring URL
link	common:Link [0..unbounded]	Yes	{href}	Contains references to other lists (rel="List").

A root element named listReferenceCollection of type ListReferenceCollection is allowed in response bodies.

5.2.2.11 Type: AbChangesSubscriptionCollection

Collection of subscriptions to notifications of changes in contacts and/or lists

Element	Type	Optional	Description
abChangesSubscription	AbChangesSubscription [0..unbounded]	Yes	Contains a list of subscriptions related to contacts changes and/or list changes.
resourceURL	xsd:anyURI	No	Self referring URL

A root element named abChangesSubscriptionCollection of type AbChangesSubscriptionCollection is allowed in response bodies.

5.2.2.12 Type: AbChangesSubscription

Individual subscription to notifications of changes in contacts and/or a list

Element	Type	Optional	Description
anyContacts	(empty)	Choice	Indicates a subscription for changes about any contacts in the 'ContactCollection'.
listId	xsd:anyURI	Choice	Indicates a subscription for changes about the specified list.
callbackReference	common:CallbackReference	No	Client's notification URL and OPTIONAL callbackData
clientCorrelator	xsd:string	Yes	<p>A correlator that the client can use to tag this particular resource representation during a request to create a resource on the server.</p> <p>This field MAY be present. Note: this allows the client to recover from communication failures during resource creation and therefore avoids duplicate subscription creation in such situations.</p> <p>In case the field is present, the server SHALL not alter its value, and SHALL provide it as part of the representation of this resource. In case the field is not present, the server SHALL NOT generate it.</p>
applicationTag	xsd:string	Yes	A tag that the client MAY use to tag this particular resource on the server. In case the field is present, the server SHALL not alter its value, and SHALL provide it as part of the representation of this resource. In case the field is not present, the server SHALL NOT generate it.
duration	xsd:int	Yes	Subscription duration in seconds. Server would expire subscription after specified number of seconds after subscription creation. If not specified – default value assigned by the server.
resourceURL	xsd:anyURI	Yes	Self referring URL. The resourceURL SHALL NOT be included in POST requests by the client, but MUST be included in POST requests representing notifications by the server to the client, when a complete representation of the resource is embedded in the notification. The resourceURL MUST also be included in responses to any HTTP method that returns an entity body, and in PUT requests.

XSD modelling uses a “choice” to select either anyContacts or listId.

A root element named abChangesSubscription of type AbChangesSubscription is allowed in request and response bodies.

Note that the clientCorrelator is used for purposes of error recovery as specified in [REST_NetAPI_Common], and internal client purposes. The server is NOT REQUIRED to use the clientCorrelator value in any form in the creation of the URL of the resource. The document [REST_NetAPI_Common] provides a recommendation regarding the generation of the value of this field.

5.2.2.13 Type: AbChangesNotification

Notifications of changes in contacts and/or a list

Element	Type	Optional	Description
callbackData	xsd:string	Yes	The ‘callbackData’ element if it was passed by the application in the ‘callbackReference’ element when creating a subscription to notifications of changes in contacts and/or a list. See [REST_NetAPI_Common] for details.
resourceStatus	ResourceStatus	No	Indicates the state for the subscription.
duration	xsd:int	Yes	Represents the time in seconds that the subscription is active, starting from the time the subscription is created by the server.
link	common:Link [1..unbounded]	No	SHALL contain reference to the added or updated member or contact (rel=”Member” or rel=”Contact” respectively). A notification MAY include several links for each member or contact. SHALL contain reference to the list in case a member or contact has been removed (rel=”List” or rel=”ContactCollection” respectively). SHALL contain reference to the subscription (rel=”AbChangesSubscription”) if resourceStatus is ‘Active’.

A root element named abChangesNotification of type AbChangesNotification is used by server in the POST request to the client informing it about change in the list that client is monitoring (using one of the subscriptions).

5.2.2.14 Type: RuleList

List of authorization rules

Element	Type	Optional	Description
rule	Rule [0..unbounded]	Yes	Contains a list of all authorization rules related to contacts and lists.
resourceURL	xsd:anyURI	No	Self referring URL

A root element named ruleList of type RuleList is allowed in response bodies.

5.2.2.15 Type: Rule

Individual authorization rule

Element	Type	Optional	Description
clientCorrelator	xsd:string	Yes	A correlator that the client can use to tag this particular resource representation during a request to create a resource on the server. This field SHOULD be present. Note: this allows the client to recover from communication failures during resource creation and therefore avoids duplicate resource creation in such situations. In case the field is present, the server SHALL not alter its value, and SHALL provide it as part of the representation of this resource. In case the field is not present, the server SHALL NOT generate it.
applicationTag	xsd:string	Yes	A tag that the client MAY use to tag this particular resource on the server. In case the field is present, the server SHALL not alter its value, and SHALL provide it as part of the representation of this resource. In case the field is not present, the server SHALL NOT generate it.
applicableToContacts	ApplicableToContacts	Yes	Defines for which contacts the rule applies for.
applicableToLists	ApplicableToLists	Yes	Defines for which lists the rule applies for.
applicableToListsAndContacts	ApplicableToListsAndLinkedContacts	Yes	Defines for which lists and referenced contacts the rule applies for.
authorizedTo	AuthorizedTo	No	Defines who have access to lists and contacts.
listFilter	xsd:string [0..unbounded]	Yes	Filter for list attributes (section 6.5) the retrieving user is allowed to see. An empty filter means that the user has access to all attributes.
indivFilter	xsd:string [0..unbounded]	Yes	Filter for member and contact attributes (section 6.1 and 6.9) the retrieving user is allowed to see. An empty filter means that the user has access to all attributes.
resourceURL	xsd:anyURI	Yes	Self referring URL. The resourceURL SHALL NOT be included in POST requests by the client, but MUST be included in POST requests representing notifications by the server to the client, when a complete representation of the resource is embedded in the notification. The resourceURL MUST also be included in responses to any HTTP method that returns an entity body, and in PUT requests.

A root element named rule of type Rule is allowed in request and response bodies.

Regarding the clientCorrelator field, the note in section 5.2.2.12 applies.

5.2.2.16 Type: ApplicableToContacts

Contacts the rule applies to

Element	Type	Optional	Description
contactId	xsd:anyURI [0..unbounded]	Choice	The rule applies to the specified list of 'contactId' that are part of the 'ContactCollection'.
allContacts	(empty)	Choice	The rule applies to all contacts.

XSD modelling uses an optional "choice" to select either contactId or allContacts.

5.2.2.17 Type: ApplicableToLists

Lists the rule applies to

Element	Type	Optional	Description
listId	xsd:anyURI [0..unbounded]	Choice	The rule applies to the specified list of 'listId'.
allLists	(empty)	Choice	The rule applies to all lists.

XSD modelling uses an optional “choice” to select either listId or allLists.

5.2.2.18 Type: ApplicableToListsAndLinkedContacts

Lists and referenced contacts the rule applies to

Element	Type	Optional	Description
listId	xsd:anyURI [0..unbounded]	Choice	The rule applies to the specified list of 'listId'. The rule applies also to contacts that are referenced from the specified list.
allLists	(empty)	Choice	The rule applies for all lists and referenced contacts.

XSD modelling uses an optional “choice” to select either listId or allLists.

5.2.2.19 Type: AuthorizedTo

Authorized identities

Element	Type	Optional	[ResourceRelPath]	Description
userId	xsd:anyURI [0..unbounded]	Choice	users/{userId}	User is authorized to access a resource for which the rule is applicable to.
allSharedIdentities	(empty)	Choice	<i>Not applicable</i>	All contacts with shared identities are authorized to access a resource for which the rule is applicable to.
listId	xsd:anyURI [0..unbounded]	Choice	lists/{listId}	Users within the list are authorized to access a resource for which the rule is applicable to.
allLists	(empty)	Choice	<i>Not applicable</i>	Users within all lists are authorized to access a resource for which the rule is applicable to.
link	common:Link [0..unbounded]	Choice	externalLists/{href}	Users within the list (owned by another user) are authorized to access a resource for which the rule is applicable to. Link specified using rel="List".
domainName	xsd:string [0..unbounded]	Choice	domains/{domainName}	Users within the domain are authorized to access a resource for which the rule is applicable to.
otherUser	(empty)	Choice	<i>Not applicable</i>	Users not authorized by any other rule are authorized to access a resource for which the rule is applicable to.

XSD modelling uses an optional “choice” to select either userId or allSharedIdentities or listId or allLists or link or domainName or otherUser.

5.2.2.20 Type: MemberTransferParameters

Set of parameters for the member transfer request

Element	Type	Optional	Description
destination	xsd:anyURI	No	Contains a relative URI representing the list where the member is to be transferred.

A root element named memberTransferParameters of type MemberTransferParameters is allowed in request bodies.

5.2.3 Enumerations

The subsections of this section define the enumerations used in the RESTful Address Book API.

5.2.3.1 Enumeration: ListType

Enumeration of types of lists

Enumeration	Description
URIList	Indicates that list is used as a list of URIs, such as a presence list, email distribution list.
GroupURIList	Indicates that list is used to store a list of URIs intended for group communication.
Group	Indicates that list is used for group communication, such as conferencing etc.

5.2.3.2 Enumeration: ResourceStatus

Enumeration of possible status of a subscription

Enumeration	Description
Active	Indicates that the subscription is active and authorized.
TerminatedTimeout	Indicates that the subscription has been terminated. The subscription was not refreshed in time before it expired.
Pending	Indicates that the subscription is awaiting an authorization decision.
TerminatedBlocked	Indicates that the subscription has been terminated. The subscription was blocked.
TerminatedNoResource	Indicates that the subscription has been terminated. The intended resource does not exist.
TerminatedOther	Indicates that the subscription has been terminated of an unknown reason.

5.2.4 Values of the Link “rel” attribute

The “rel” attribute of the Link element is a free string set by the server implementation, to indicate a relationship between the current resource and an external resource. The following are possible strings (list is non-exhaustive, and can be extended):

- Attribute
- AttributeList
- Contact
- AbChangesSubscription
- AbChangesSubscriptionCollection
- Member
- MemberCollection
- List
- ListCollection

- ListReferenceCollection
- MemberTransferParameters

These values indicate the kind of resource that the link points to.

5.3 Sequence Diagrams

The following sub-sections describe the resources, methods and steps involved in typical scenarios.

In a sequence diagram, a step which involves delivering a notification is labeled with “POST or NOTIFY”, where “POST” refers to delivery via the HTTP POST method, and “NOTIFY” refers to delivery using the Notification Channel [REST_NetAPI_NotificationChannel].

5.3.1 Managing contacts in the collection of contacts

The figure below shows various ways to retrieve and manage contacts in the collection of contacts. There is one application acting on behalf of userId. The application retrieves all contacts of userId, creates/updates a new contact for userId or deletes a contact for userId in the collection of contacts.

The resources:

- To retrieve all the user’s contacts the following resource is used:
http://{serverRoot}/addressbook/{apiVersion}/{userId}/contacts
- To retrieve, add, update or delete one contact in the collection of contacts the following resource is used:
http://{serverRoot}/addressbook/{apiVersion}/{userId}/contacts/{contactId}
- To retrieve all attributes of a specific contact the following resource is used:
http://{serverRoot}/addressbook/{apiVersion}/{userId}/contacts/{contactId}/attributes
- To retrieve, create, update or delete a single attribute of a specific contact the following resource is used:
http://{serverRoot}/addressbook/{apiVersion}/{userId}/contacts/{contactId}/attributes/[ResourceRelPath]

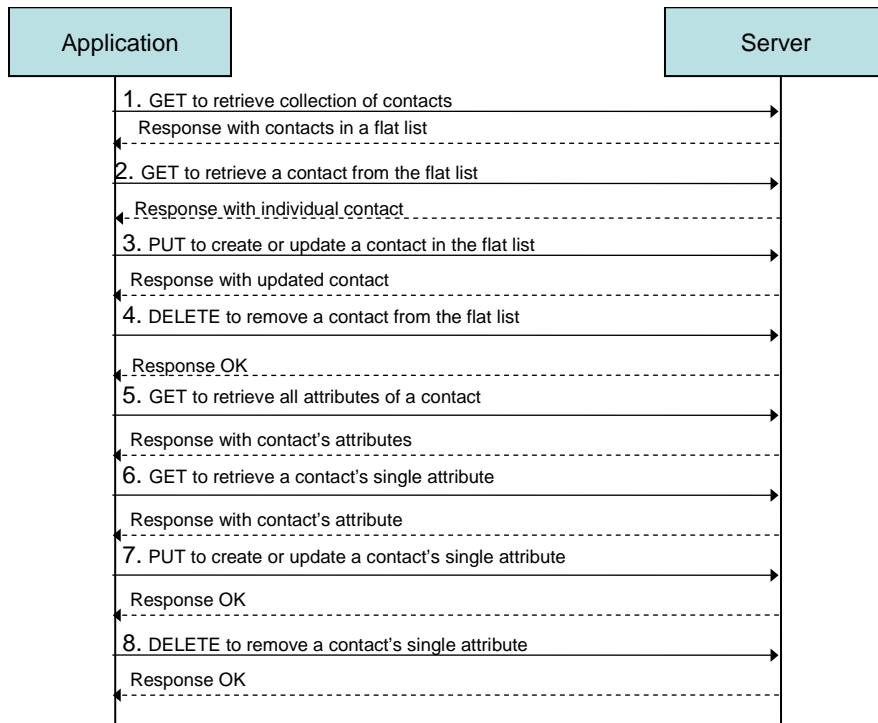


Figure 2 Managing contacts

Outline of the flows:

1. The application retrieves all contacts for `userId`, by performing a GET on the following resource:
http://{serverRoot}/addressbook/{apiVersion}/{userId}/contacts
The result contains all the contacts for `userId`.
2. The application retrieves one contact for `userId`, by performing a GET on the following resource:
http://{serverRoot}/addressbook/{apiVersion}/{userId}/contacts/{contactId}
The result contains the information for one selected contact.
3. The application adds/updates a new contact by performing a PUT on the following resource:
http://{serverRoot}/addressbook/{apiVersion}/{userId}/contacts/{contactId}
The result contains a return code indicating whether or not the operation was successful.
4. The application deletes one contact from the collection of all contacts by performing a DELETE on the following resource: **http://{serverRoot}/addressbook/{apiVersion}/{userId}/contacts/{contactId}**
The result contains a return code indicating whether or not the operation was successful.
5. The application retrieves all attributes of a specific contact by performing a GET on the following resource:
http://{serverRoot}/addressbook/{apiVersion}/{userId}/contacts/{contactId}/attributes
6. The application retrieves a single attribute of a specific contact by performing GET on the following resource:
http://{serverRoot}/addressbook/{apiVersion}/{userId}/contacts/{contactId}/attributes/[ResourceRelPath]
7. The application creates or updates a single attribute of a specific contact by performing PUT on the following resource:
http://{serverRoot}/addressbook/{apiVersion}/{userId}/contacts/{contactId}/attributes/[ResourceRelPath]
8. The application deletes a single attribute of a specific contact by performing DELETE on the following resource:
http://{serverRoot}/addressbook/{apiVersion}/{userId}/contacts/{contactId}/attributes/[ResourceRelPath]

5.3.2 Accessing the lists and members

The figure below shows various ways to retrieve and manipulate data in lists. There is one application acting on behalf of Alice. The application is interested in one specific list, the list with id 'myFriends'. In that list there is one specific member, called Bob that is used in this example.

The resources:

- To fetch all the lists the following resource is used:
http://{serverRoot}/addressbook/{apiVersion}/{userId}/lists
- To add a new list the following resource is used:
http://{serverRoot}/addressbook/{apiVersion}/{userId}/lists/{listId}
- To fetch all the members of a list the following resource is used:
http://{serverRoot}/addressbook/{apiVersion}/{userId}/lists/{listId}/members
- To add a specific member to a list the following resource is used:
http://{serverRoot}/addressbook/{apiVersion}/{userId}/lists/{listId}/members/{memberId}
- To fetch all attributes for a list this resource is used:
http://{serverRoot}/addressbook/{apiVersion}/{userId}/lists/{listId}/attributes
- To fetch all attributes of a specific member the following resource is used:
http://{serverRoot}/addressbook/{apiVersion}/{userId}/lists/{listId}/members/{memberId}/attributes
- To fetch a single attribute of a specific member the following resource is used:
http://{serverRoot}/addressbook/{apiVersion}/{userId}/lists/{listId}/members/{memberId}/attributes/[ResourceRelPath]

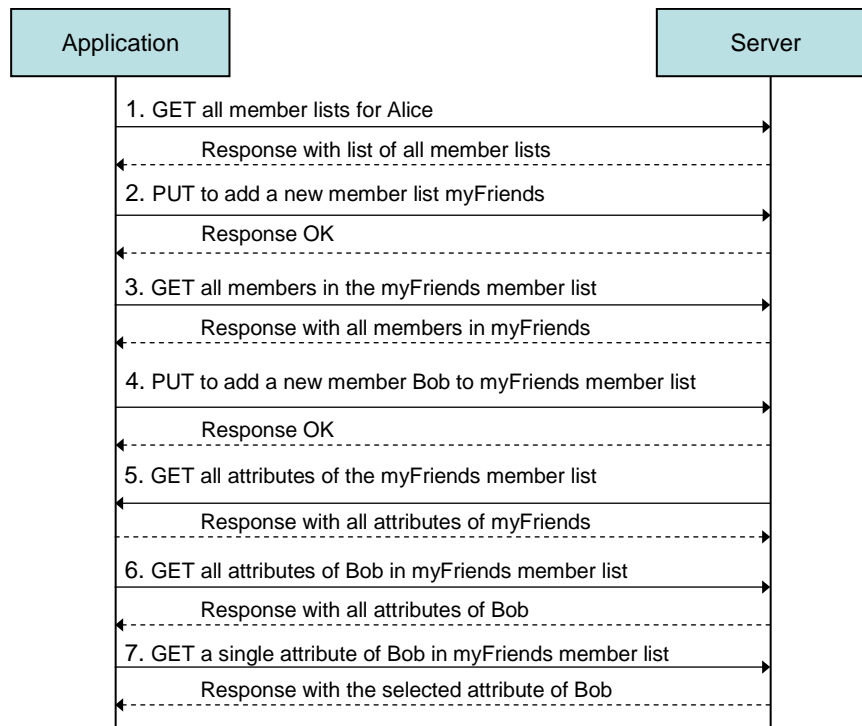


Figure 3 Accessing lists and members

Outline of the flows:

1. The application fetches all the lists for the userId Alice by doing a GET on the following resource:
http://{serverRoot}/addressbook/{apiVersion}/{aliceUserId}/lists
 The result contains all the lists for Alice.
2. The application adds a new list called myFriends by doing a PUT on the following resource:
http://{serverRoot}/addressbook/{apiVersion}/{aliceUserId}/lists/myFriends
 The result contains a return code indicating whether or not the operation was successful.
3. The application fetches all the members of the myFriends list by doing a GET on the following resource:
http://{serverRoot}/addressbook/{apiVersion}/{aliceUserId}/lists/myFriends/members
 The response will contain all the members of the myFriends list from Alice, but will not contain the attributes of the list.
4. The application adds a new member called Bob to the myFriends list doing a PUT on the following resource:
http://{serverRoot}/addressbook/{apiVersion}/{aliceUserId}/lists/myFriends/members/{bobUserId}
 The result contains a return code indicating whether or not the operation was successful.
5. The application fetches all attributes for the myFriends list by doing a GET on the following resource:
http://{serverRoot}/addressbook/{apiVersion}/{aliceUserId}/lists/myFriends/attributes
 The response will contain all attributes of the myFriends list.
6. The application fetches all attributes of Bob in the myFriends list by doing a GET on the following resource:
http://{serverRoot}/addressbook/{apiVersion}/{aliceUserId}/lists/myFriends/members/{bobUserId}/attributes
 The result contains all the attributes of Bob in this list.
7. The application fetches the display name attribute of Bob in the myFriends list by doing a GET on the following resource:
http://{serverRoot}/addressbook/{apiVersion}/{aliceUserId}/lists/myFriends/members/{bobUserId}/attributes/display-name
 The result contains Bob's display name attribute.

5.3.3 Subscribing to address book changes and receiving notifications

The figure below shows how a client can subscribe for notifications about contacts and list changes and receive notifications.

The notification URL passed by the client during the subscription step can be a Client-side Notification URL, or a Server-side Notification URL. Refer to [REST_NetAPI_NotificationChannel] for sequence flows illustrating the creation of a Notification Channel and obtaining a Server-side Notification URL on the server-side, and the use of that Notification Channel by the client.

The resources:

- To retrieve all the subscriptions to lists changes, and to create a new subscription the following resource is used:
http://{serverRoot}/addressbook/{apiVersion}/{userId}/subscriptions/abChanges
- To retrieve or delete an individual subscription, the following resource is used:
http://{serverRoot}/addressbook/{apiVersion}/{userId}/subscriptions/abChanges/{subscriptionId}

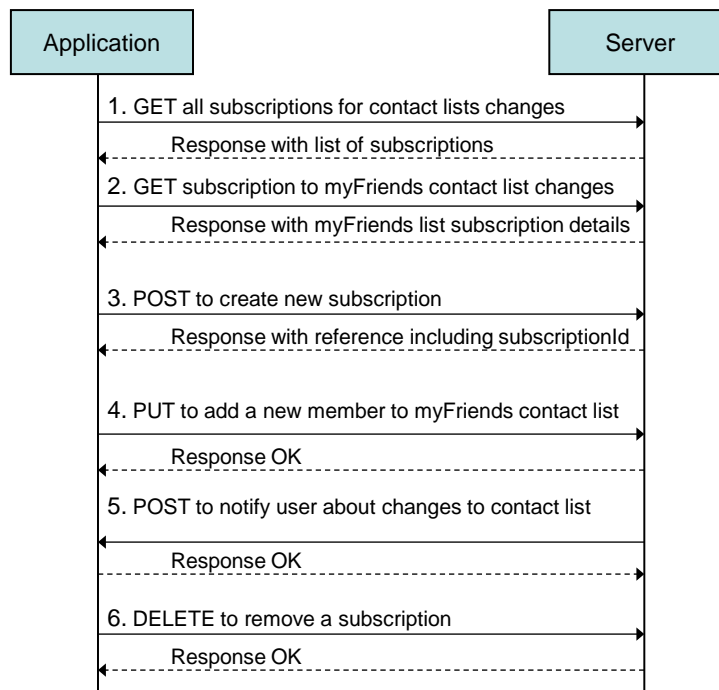


Figure 4 Subscription to notifications about address book changes

Outline of the flows:

1. The application retrieves list of all subscriptions for list changes for the userId by performing a GET on the following resource:
http://{serverRoot}/addressbook/{apiVersion}/{aliceUserId}/subscriptions/abChanges
The result contains all the subscriptions created by Alice.
2. The application retrieves an individual subscription identified by subscriptionId by performing a GET on the following resource:
http://{serverRoot}/addressbook/{apiVersion}/{aliceUserId}/subscriptions/abChanges/{subscriptionId}
The result contains a return code indicating whether or not the operation was successful.
3. The application creates a new subscription for address book changes notification by performing a POST on the following resource, including in the request body a client application supplied notifyURL:
http://{serverRoot}/addressbook/{apiVersion}/{aliceUserId}/subscriptions/abChanges
If successful (as shown), the response will contain the complete representation of the newly created resource for subscription, including a self reference to the created resource.

4. The application adds a new member called Bob to the myFriends list doing a PUT on the following resource:
http://{serverRoot}/addressbook/{apiVersion}/{aliceUserId}/lists/myFriends/members/{bobUserId}
The result contains a return code indicating whether or not the operation was successful.
5. The server notifies the application about the changes in his myFriends list, by performing a POST on the client application supplied notifyURL in the newly created subscriptionId, Alternatively, the client obtains the notifications using a Notification Channel [REST_NetAPI_NotificationChannel].
http://{client-supplied notifyURL}
The result contains a return code indicating whether or not the operation was successful.
6. The application deletes the subscription identified by subscriptionId by performing a DELETE on the resource:
http://{serverRoot}/addressbook/{apiVersion}/{aliceUserId} /subscription/abChanges/{subscriptionId}
The result was successful.

5.3.4 Managing shared lists

The figure below shows how to manage shared lists.

The resources:

- To retrieve all lists shared by another user the following resource is used:
http://{serverRoot}/addressbook/{apiVersion}/{userId}/shared/{otherUserId}/lists
- To retrieve an individual list shared by another user the following resource is used:
http://{serverRoot}/addressbook/{apiVersion}/{userId}/shared/{otherUserId}/lists/{sharedListIdentity}
- To retrieve a member's information from a list shared by another user the following resource is used:
http://{serverRoot}/addressbook/{apiVersion}/{userId}/shared/{otherUserId}/lists/{sharedListIdentity}/members/{memberId}

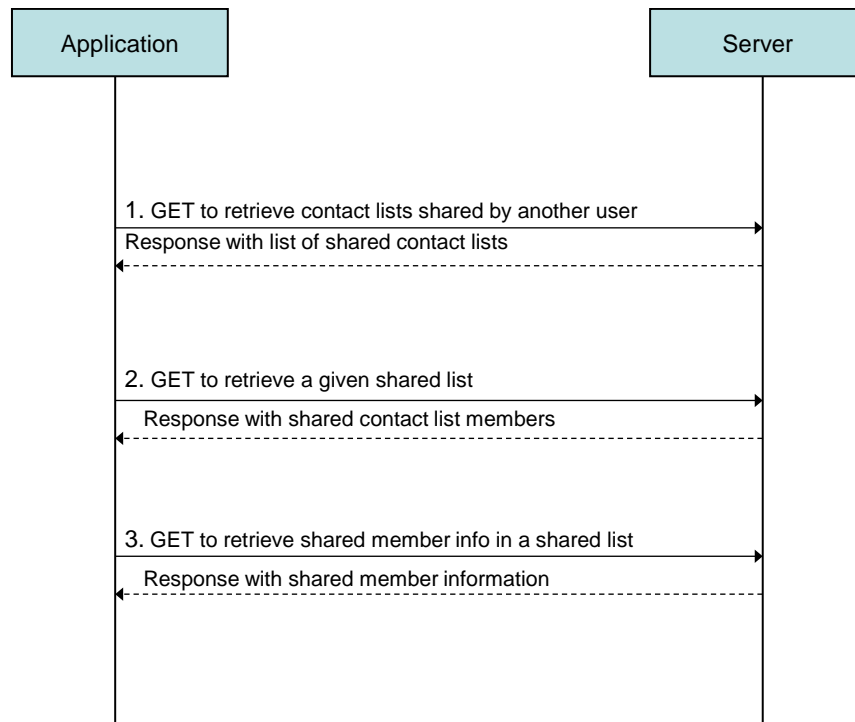


Figure 5 Flow for managing shared lists

1. Outline of the flows: The application retrieves a list of all lists shared by the user identified by otherUserId with the user identified by userId, by performing a GET on the following resource:
http://{serverRoot}/addressbook/{apiVersion}/{userId}/shared/{otherUserId}/lists
The result contains all the lists that otherUserId shares with userId.

2. The application retrieves an individual list shared by the user identified by otherUserId with the user identified by userId, by performing a GET on the following resource:
http://{serverRoot}/addressbook/{apiVersion}/{userId}/shared/{otherUserId}/lists/{sharedListIdentity}
 The result contains all the members in the shared list.
3. The application retrieves member's information from a list shared by the user identified by otherUserId with the user identified by userId, by performing a GET on the following resource:
http://{serverRoot}/addressbook/{apiVersion}/{userId}/shared/{otherUserId}/lists/{sharedListIdentity}/members/{sharedMemberId}
 The result contains the selected member's information.

Note: sequence flows for managing shared contacts are similar.

5.3.5 Managing authorization rules

The figure below shows how to manage authorization rules for sharing lists.

The resources:

- To retrieve all authorization rules and to create a new authorization rule the following resource is used:
http://{serverRoot}/addressbook/{apiVersion}/{userId}/authorizationRules
- To retrieve, update or delete an individual authorization rule the following resource is used:
http://{serverRoot}/addressbook/{apiVersion}/{userId}/authorizationRules/{ruleId}
- To retrieve, update or delete the authorized entity in an authorization rule the following resource is used:
http://{serverRoot}/addressbook/{apiVersion}/{userId}/authorizationRules/{ruleId}/[ResourceRelPath]

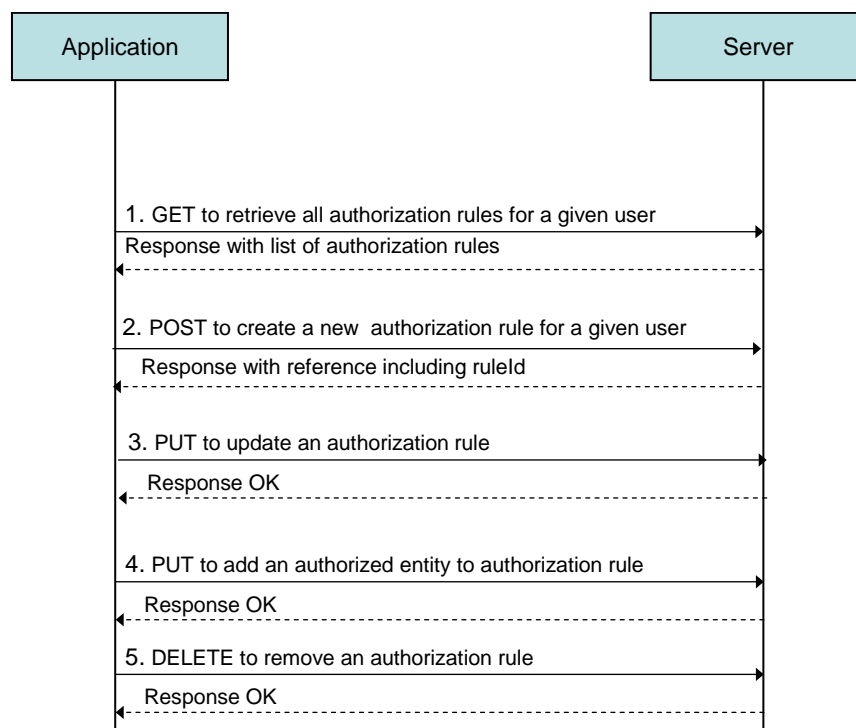


Figure 6 Flow for managing authorization rules

1. Outline of the flows: The application retrieves a list of all authorization rules for a given user lists shared by the user identified by userId, by performing a GET on the following resource:
http://{serverRoot}/addressbook/{apiVersion}/{userId}/authorizationRules
 The result contains all the authorization rules for the given user.
2. The application creates a new authorization rule for a given user identified by userId, by performing a POST on the following resource:

http://{serverRoot}/addressbook/{apiVersion}/{userId}/authorizationRules

The result contains a reference to new resource including the newly created ruleId.

3. The application updates an authorization rule for the user identified by userId by performing a PUT on the following resource:

http://{serverRoot}/addressbook/{apiVersion}/{userId}/authorizationRules/{ruleId}

The result contains a return code indicating whether or not the operation was successful.

4. The application adds an authorized entity (e.g. Alice) to the authorization rule for the user identified by userId by performing a PUT on the following resource:

http://{serverRoot}/addressbook/{apiVersion}/{userId}/authorizationRules/{ruleId}/users/{aliceUserId}

The result contains a return code indicating whether or not the operation was successful.

5. The application deletes an authorization rule for the user identified by userId by performing a DELETE on the following resource:

http://{serverRoot}/addressbook/{apiVersion}/{userId}/authorizationRules/{ruleId}

The result contains a return code indicating whether or not the operation was successful.

6. Detailed specification of the resources

The following applies to all resources defined in this specification regardless of the representation format (i.e. XML, JSON, application/x-www-form-urlencoded):

- Reserved characters in URL variables (parts of a URL denoted below by a name in curly brackets) **MUST** be percent-encoded according to [RFC3986]. Note that this always applies, no matter whether the URL is used as a Request URL or inside the representation of a resource (such as in “resourceURL” and “link” elements).
- If a user identifier (e.g. address, userId, etc) of type anyURI is in the form of an MSISDN, it **MUST** be defined as a global number according to [RFC3966] (e.g. tel:+19585550100). The use of characters other than digits and the leading “+” sign **SHOULD** be avoided in order to ensure uniqueness of the resource URL. This applies regardless of whether the user identifier appears in a URL variable or in a parameter in the body of an HTTP message.
- If a user identifier (e.g. address, userId, etc) of type anyURI is in the form of a SIP URI, it **MUST** be defined according to [RFC3261].
- If a user identifier (e.g. address, userId, etc) of type anyURI is in the form of an Anonymous Customer Reference (ACR), it **MUST** be defined according to Appendix H of [REST_NetAPI_ACR].
 - The ACR ‘auth’ is a supported reserved keyword, and **MUST NOT** be assigned as an ACR to any particular end user. See G.1.2 for details regarding the use of this reserved keyword.
- For requests and responses that have a body, the following applies: in the requests received, the server **SHALL** support JSON and XML encoding of the parameters in the body, and **MAY** support application/x-www-form-urlencoded parameters in the body. The Server **SHALL** return either JSON or XML encoded parameters in the response body, according to the result of the content type negotiation as specified in [REST_NetAPI_Common]. In notifications to the Client, the server **SHALL** use either XML or JSON encoding, depending on which format the client has specified in the related subscription. The generation and handling of the JSON representations **SHALL** follow the rules for JSON encoding in HTTP Requests/Responses as specified in [REST_NetAPI_Common].

6.1 Resource: Collection of contacts

The resource used is:

`http://{serverRoot}/addressbook/{apiVersion}/{userId}/contacts`

This resource is used to retrieve a collection of all contacts owned by a given user.

6.1.1 Request URL variables

The following request URL variables are common for all HTTP methods:

Name	Description
serverRoot	Server base url: hostname+port+base path. Port and base path are OPTIONAL. Example: example.com/exampleAPI
apiVersion	Version of the API client wants to use. The value of this variable is defined in section 5.1.
userId	User identifier. Examples: tel:+19585550100, acr:pseudonym123

See section 6 for a statement on the escaping of reserved characters in URL variables.

6.1.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

For Policy Exception and Service Exception fault codes applicable to the RESTful Address Book API, see section 7.

6.1.3 GET

This resource is used to retrieve a collection of contacts and their information.

Supported parameters in the query string of the Request URL are:

Name	Type/Values	Optional	Description
indivFilter	xsd:string	Yes	<p>Defines the level of information related to a contact in a collection of contacts, returned in a GET response body.</p> <p>The syntax of this query parameter is: indivFilter=indivFilterValue, where indivFilterValue can take one of the values specified below.</p> <p>If indivFilter is absent, GET response body SHALL include all contact sub-elements, plus all contact attributes (default behaviour).</p> <p>If indivFilterValue = Contact attribute name (e.g. name1), GET response body SHALL include all contact sub-elements, plus only selected contact attributes (i.e. name1). Any number of indivFilter=indivFilterValue pairs separated by & are allowed.</p> <p>If indivFilterValue = ~noAttr, GET response body SHALL include all contact sub-elements and none of the contact attributes.</p> <p>If indivFilterValue = ~none, GET response body SHALL include none of the contact information (contact structure to be omitted).</p> <p>No other indivFilterValue is supported.</p>

6.1.3.1 Example 1: Retrieve all contacts with all attributes (default) (Informative)

6.1.3.1.1 Request

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts HTTP/1.1
Accept: application/xml
Host: example.com
```

6.1.3.1.2 Response

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:contactCollection xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <contact>
    <contactId>alice</contactId>
    <attributeList>
      <attribute>
        <name>display-name</name>
        <value>Alice</value>
      </attribute>
      <attribute>
        <name>cellphone</name>
        <value>tel:+19585550109</value>
      </attribute>
    </attributeList>
  </contact>
</ab:contactCollection>
```

```

    <attribute>
      <name>state</name>
      <value>California</value>
    </attribute>
    <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/alice/attributes</resourceURL>
  </attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/alice</resourceURL>
  <link rel="Member"
href="http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/tel%3A%2B19585550122"/>
</contact>
<contact>
  <contactId>sam</contactId>
  <sharedIdentity>
    <sharedId>tel:+19585550121</sharedId>
  </sharedIdentity>
  <attributeList>
<attribute>
  <name>display-name</name>
  <value>Sam</value>
</attribute>
<attribute>
  <name>cellphone</name>
  <value>tel:+19585550108</value>
</attribute>
<attribute>
  <name>state</name>
  <value>New Jersey</value>
</attribute>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/sam/attributes</resourceURL>
</attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/sam</resourceURL>
  <link rel="Member"
href="http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/tel%3A%2B19585550121"/>
  <link rel="Member"
href="http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/members/tel%3A%2B19585550121"/>
</contact>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts</resourceURL>
</ab:contactCollection>

```

6.1.3.2 Example 2: Retrieve all contacts with selected attributes (Informative)

6.1.3.2.1 Request

```

GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts?indivFilter=cellphone HTTP/1.1
Accept: application/xml
Host: example.com

```

6.1.3.2.2 Response

```

HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

```

```

<?xml version="1.0" encoding="UTF-8"?>
<ab:contactCollection xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">

```

```

<contact>
<contactId>alice</contactId>
<attributeList>
<attribute>
  <name>cellphone</name>
  <value>tel:+19585550109</value>
</attribute>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/alice/attributes</resourceURL>
</attributeList>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/alice</resourceURL>
<link rel="Member"
href="http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/tel%3A%2B19585550122"/>
</contact>
<contact>
<contactId>sam</contactId>
<sharedIdentity>
  <sharedId>tel:+19585550121</sharedId>
</sharedIdentity>
<attributeList>
<attribute>
  <name>cellphone</name>
  <value>tel:+19585550108</value>
</attribute>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/sam/attributes</resourceURL>
</attributeList>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/sam</resourceURL>
<link rel="Member"
href="http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/tel%3A%2B19585550121"/>
<link rel="Member"
href="http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/members/tel%3A%2B19585550121"/>
</contact>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts</resourceURL>
</ab:contactCollection>

```

6.1.4 PUT

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.1.5 POST

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.1.6 DELETE

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.2 Resource: Individual contact

The resource used is:

http://{serverRoot}/addressbook/{apiVersion}/{userId}/contacts/{contactId}

This resource is used to retrieve, create, update or delete individual contact from the collection of contacts of a given user.

6.2.1 Request URL variables

The following request URL variables are common for all HTTP methods:

Name	Description
serverRoot	Server base url: hostname+port+base path. Port and base path are OPTIONAL. Example: example.com/exampleAPI
apiVersion	Version of the API client wants to use. The value of this variable is defined in section 5.1.
userId	User identifier. Examples: tel:+19585550100, acr:pseudonym123
contactId	Contact identifier. Example: alice

See section 6 for a statement on the escaping of reserved characters in URL variables.

6.2.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

For Policy Exception and Service Exception fault codes applicable to the RESTful Address Book API, see section 7.

6.2.3 GET

This resource is used to retrieve individual member data from the collection of contacts of a given user.

Supported parameters in the query string of the Request URL are:

Name	Type/Values	Optional	Description
indivFilter	xsd:string	Yes	<p>Defines the level of information related to a contact in a collection of contacts, returned in a GET response body.</p> <p>The syntax of this query parameter is: indivFilter=indivFilterValue, where indivFilterValue can take one of the values specified below.</p> <p>If indivFilter is absent, GET response body SHALL include all contact sub-elements, plus all contact attributes (default behaviour).</p> <p>If indivFilterValue = Contact attribute name (e.g. name1), GET response body SHALL include all contact sub-elements, plus only selected contact attributes (i.e. name1). Any number of indivFilter=indivFilterValue pairs separated by & are allowed. No other indivFilterValue is supported.</p>

6.2.3.1 Example 1: Retrieve a contact with all attributes (default) (Informative)

6.2.3.1.1 Request

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/alice HTTP/1.1
Accept: application/xml
Host: example.com
```

6.2.3.1.2 Response

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn
```

```
<?xml version="1.0" encoding="UTF-8"?>
<ab:contact xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <contactId>alice</contactId>
  <attributeList>
  <attribute>
    <name>display-name</name>
    <value>Alice</value>
  </attribute><attribute>
    <name>cellphone</name>
    <value>tel:+19585550109</value>
  </attribute>
  <attribute>
    <name>state</name>
    <value>California</value>
  </attribute>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/alice/attributes</resourceURL>
</attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/alice</resourceURL>
  <link rel="Member"
href="http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/tel%3A%2B19585550122"/>
</ab:contact>
```

6.2.3.2 Example 2: Retrieve a contact with selected attributes (Informative)

6.2.3.2.1 Request

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/alice?indivFilter=cellphone HTTP/1.1
Accept: application/xml
Host: example.com
```

6.2.3.2.2 Response

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:contact xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <contactId>alice</contactId>
  <attributeList>
  <attribute>
    <name>cellphone</name>
    <value>tel:+19585550109</value>
  </attribute>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/alice/attributes</resourceURL>
</attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/alice</resourceURL>
  <link rel="Member"
href="http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/tel%3A%2B19585550122"/>
</ab:contact>
```

6.2.3.3 Example 3: Retrieve a contact with only vCard2.1 as selected attribute (Informative)

6.2.3.3.1 Request

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/alice?indivFilter=vCard2.1 HTTP/1.1
Accept: application/xml
Host: example.com
```

6.2.3.3.2 Response

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn
```

```
<?xml version="1.0" encoding="UTF-8"?>
<ab:contact xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <contactId>alice</contactId>
  <attributeList>
    <attribute>
      <name>vCard2.1</name>
      <objectValue>
        QkVHSU46VknBUkQNCIZFUINJT046Mi4xDQpOOkd1bXA7Rm9ycmVzdA0KRk46Rm9ycmVzdCBHdW1wDQpPUkc6QnViYmEgR3Vtc
        CBTaHJpbXAgQ28uDQpUSVRMRTpTaHJpbXAgTWFuDQpURUw7V09SSztWT0lDRTooMTEkSA1NTUitMTIxMg0KVEVMO0hPTUU7
        Vk9JQ0U6KQDQwNCKgNTU1LTEyMTINCKFEUjtiXT1JLOjs7MTAwIFdhGdVycyBFZGdlO0JheXRvd247TEE7MzAzMTQ7VW5pdGVkIFN
        0YXRlcyBvZiBBBbWVyaWNhDQpMQUJFTDdtXT1JLO0VOQ09ESU5HPVFVT1RFRC1QUKIOVEFCTEU6MTAwIFdhGdVycyBFZGdlPTBE
        PTBBQmF5dG93biwgTEEGMzAzMTQ9MEQ9MEFVbml0ZWQgU3RhdGVzIG9mIEFtZXJpY2ENCkFEUjtiT01FOjs7NDIlgUGxhbnRhdGlv
        biBTdC47QmF5dG93bjtMQTszMDMxNDIvbmI0ZWQgU3RhdGVzIG9mIEFtZXJpY2ENCkxBOkVMO0hPTUU7RU5DT0RJTkc9UUVVPE
        VELVBSU5UQUJMRT00MiBQbGFudGF0aW9uIFN0Lj0wRD0wQUJheXRvd24sIExBIDMwMzE0PTBEPTBBVW5pdGVkIFN0YXRlcyBv
        ZiBBBbWVyaWNhDQpFTUFJTDtQUkVGO0IOVEVSTkVUOmZvcnJlc3RndW1wQGV4YW1wbGUuY29tDQpSRVY6MjAwODAMjRUMTK
        1MjQzWg0KRU5EOIZDQVJE
      </objectValue>
    </attribute>
    <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/alice/attributes</resourceURL>
  </attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/alice</resourceURL>
  <link rel="Member"
  href="http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/tel%3A%2B19585550122"/>
</ab:contact>
```

6.2.4 PUT

This operation is used to create or update a contact in the collection of contacts.

6.2.4.1 Example 1: Create a new contact (Informative)

6.2.4.1.1 Request

```
PUT /exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/maria HTTP/1.1
Accept: application/xml
Host: example.com
Content-Type: application/xml
Content-Length : nnnn
```

```
<?xml version="1.0" encoding="UTF-8"?>
<ab:contact xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
```

```

<contactId>maria</contactId>
<attributeList>
<attribute>
  <name>cellphone</name>
  <value>tel:+19585550106</value>
</attribute>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/maria/attributes</resourceURL>
</attributeList>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/maria</resourceURL>
</ab:contact>

```

6.2.4.1.2 Response

HTTP/1.1 201 Created
 Date: Fri, 10 Dec 2010 12:51:59 GMT
 Location: http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/maria
 Content-Type: application/xml

```

<?xml version="1.0" encoding="UTF-8"?>
<ab:contact xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <contactId>maria</contactId>
  <attributeList>
<attribute>
  <name>cellphone</name>
  <value>tel:+19585550106</value>
</attribute>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/maria/attributes</resourceURL>
</attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/maria</resourceURL>
</ab:contact>

```

6.2.4.2 Example 2: Update an existing contact with links to an existing member (Informative)

The PUT example is followed by a GET example on a list that was updated as a result of updating a Contact request. The Member is updated with the reverse link to the Contact.

6.2.4.2.1 Request

```

PUT /exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/maria HTTP/1.1
Accept: application/xml
Host: example.com
Content-Type: application/xml
Content-Length : nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:contact xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <contactId>maria</contactId>
  <attributeList>
<attribute>
  <name>cellphone</name>
  <value>tel:+19585550106</value>
</attribute>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/maria/attributes</resourceURL>
</attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/maria</resourceURL>

```



```
<link rel="Member"
href="http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/members/tel%3A%2B19585550106"/>
</ab:contact>
```

6.2.4.2.2 Response

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Location:http://example.com/v1/ addressbook/tel%3A%2B19585550100/contacts/maria
Content-Type: application/xml
Content-Length : nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:contact xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <contactId>maria</contactId>
  <attributeList>
<attribute>
  <name>cellphone</name>
  <value>tel:+19585550106</value>
</attribute>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/maria/attributes</resourceURL>
</attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/maria</resourceURL>
  <link rel="Member"
href="http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/members/tel%3A%2B19585550106"/>
</ab:contact>
```

6.2.4.2.3 Request

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678 HTTP/1.1
Accept: application/xml
Host: example.com
```

6.2.4.2.4 Response

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length : nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:list xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <listId>5678</listId>
  <memberCollection>
  <member>
    <memberId>+19585550106</memberId>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/members/
mailto%3Aliza@example.com
  </resourceURL>
  <link rel="Contact" href="http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/maria"/>
</member>
  <member>
    <memberId>mailto:liza@example.com</memberId>
  <attributeList>
  <attribute>
```

```

<name>display-name</name>
  <value>Wife</value>
</attribute>
<attribute>
  <name>age</name>
  <value>42</value>
</attribute>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/members/
mailto%3Aliza@example.com/attributes</resourceURL>
  </attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/members/
mailto%3Aliza@example.com
  </resourceURL>
</member>
<member>
  <memberId>mailto:serezha@example.co</memberId>
  <attributeList>
  <attribute>
    <name>display-name</name>
    <value>Son</value>
  </attribute>
  <attribute>
    <name>phone</name>
    <value>tel:+19585550105</value>
  </attribute>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/members/
mailto%3Aserezha@example.com/attributes</resourceURL>
  </attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/members/
mailto%3Aserezha@example.com
  </resourceURL>
</member>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/members</resourceURL>
</memberCollection>
<attributeList>
<attribute>
  <name>display-name</name>
  <value>Family</value>
</attribute>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/attributes</resourceURL>
</attributeList>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678</resourceURL>
</ab:list>

```

6.2.4.3 Example 3: Update an existing contact with links to non existing member (Informative)

In this example the user tries to update a contact including a link to a member which does not exist.

6.2.4.3.1 Request

```

PUT /exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/maria HTTP/1.1
Accept: application/xml
Host: example.com
Content-Type: application/xml
Content-Length : nnnn

```

```
<?xml version="1.0" encoding="UTF-8"?>
<ab:contact xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <contactId>maria</contactId>
  <attributeList>
  <attribute>
    <name>cellphone</name>
    <value>tel:+19585550106</value>
  </attribute>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/maria/attributes</resourceURL>
</attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/maria</resourceURL>
  <link rel="Member"
href="http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/members/tel%3A%2B19585550108"/>
</ab:contact>
```

6.2.4.3.2 Response

```
HTTP/1.1 403 Forbidden
Date: Fri, 10 Dec 2010 12:51:59 GMT
```

6.2.5 POST

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET, PUT, DELETE' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.2.6 DELETE

This operation deletes a contact in a list. It SHALL also automatically delete any reverse links in a referenced member.

6.2.6.1 Example: Delete a contact (Informative)

6.2.6.1.1 Request

```
DELETE /exampleAPI/addressbook/v1/tel%3A%2B19585550105/contacts/sam HTTP/1.1
Accept: application/xml
Host: example.com
```

6.2.6.1.2 Response

```
HTTP/1.1 204 No Content
Date: Fri, 10 Dec 2010 12:53:23 GMT
```

6.3 Resource: Attributes for a contact

The resource used is:

http://{serverRoot}/addressbook/{apiVersion}/{userId}/contacts/{contactId}/attributes

This resource is used to retrieve all attributes for a contact.

6.3.1 Request URL variables

The following request URL variables are common for all HTTP methods:

Name	Description
serverRoot	Server base url: hostname+port+base path. Port and base path are OPTIONAL. Example: example.com/exampleAPI
apiVersion	Version of the API client wants to use. The value of this variable is defined in section 5.1.
userId	User identifier. Examples: tel:+19585550100, acr:pseudonym123
contactId	Contact identifier. Example: alice

See section 6 for a statement on the escaping of reserved characters in URL variables.

6.3.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

For Policy Exception and Service Exception fault codes applicable to the RESTful Address Book API, see section 7.

6.3.3 GET

This operation is used for retrieval of all attributes of a contact for a given user identity.

6.3.3.1 Example: Retrieve all attributes of a contact (Informative)

Retrieve all attributes of a contact belonging to a user, and return result in XML format, using resFormat parameter in URL.

6.3.3.1.1 Request

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/maria/attributes?resFormat=XML HTTP/1.1
Accept: application/xml
Host: example.com
```

6.3.3.1.2 Response

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:attributeList xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
<attribute>
  <name>cellphone</name>
  <value>tel:+19585550106</value>
</attribute>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/maria/attributes</resourceURL>
</ab:attributeList>
```

6.3.4 PUT

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.3.5 POST

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.3.6 DELETE

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.4 Resource: Individual attribute for a contact

The resource used is:

http://{serverRoot}/addressbook/{apiVersion}/{userId}/contacts/{contactId}/attributes/[ResourceRelPath]

This Light-weight Resource is used to manage attributes for a contact, which include creation, retrieval, update and delete operations.

6.4.1 Request URL variables

The following request URL variables are common for all HTTP methods:

Name	Description
serverRoot	Server base url: hostname+port+base path. Port and base path are OPTIONAL. Example: example.com/exampleAPI
apiVersion	Version of the API client wants to use. The value of this variable is defined in section 5.1.
userId	User identifier. Examples: tel:+19585550100, acr:pseudonym123
contactId	Contact identifier. Example: alice
[ResourceRelPath]	Light-weight relative resource path. The allowed string for this Light-weight Resource is {name}, as defined in the [ResourceRelPath] column in table 5.2.2.6. {name} indicates the name of the attribute. Example: display-name

See section 6 for a statement on the escaping of reserved characters in URL variables.

6.4.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

For Policy Exception and Service Exception fault codes applicable to the RESTful Address Book API, see section 7.

6.4.3 GET

This operation is used for retrieval of attribute values of a contact of a user.

6.4.3.1 Example 1: Retrieve a contact's attribute

(Informative)

6.4.3.1.1 Request

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/alice/attributes/cellphone HTTP/1.1
Accept: application/xml
Host: example.com
```

6.4.3.1.2 Response

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn
```

```
<?xml version="1.0" encoding="UTF-8"?>
<ab:attribute xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <name>cellphone</name>
  <value>tel:+19585550109</value>
</ab:attribute>
```

6.4.3.2 Example 2: Retrieve a contact's non existing attribute (Informative)**6.4.3.2.1 Request**

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/alice/attribute/alien HTTP/1.1
Accept: application/xml
Host: example.com
```

6.4.3.2.2 Response

```
HTTP/1.1 404 Not Found
Date: Fri, 10 Dec 2010 12:55:59 GMT
Content-Type: application/xml
Content-Length: nnnn
```

```
<?xml version="1.0" encoding="UTF-8"?>
<common:requestError xmlns:common="urn:oma:xml:rest:netapi:common:1">
  <serviceException>
    <messageId>SVC0002</messageId>
    <text>Invalid input value for message part %1</text>
    <variables>Alien</variables>
  </serviceException>
</common:requestError>
```

6.4.4 PUT

This operation is used for creation or update of an attribute of a contact. If successful, this SHALL also create or update the attribute for the members in lists that are associated with the contact.

6.4.4.1 Example: Create or update a contact's attribute (Informative)**6.4.4.1.1 Request**

```
PUT /exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/alice/attributes/married HTTP/1.1
Accept: application/xml
Host: example.com
Content-Type: application/xml
Content-Length : nnnn
```

```
<?xml version="1.0" encoding="UTF-8"?>
<ab:attribute xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <name>married</name>
  <value>true</value>
</ab:attribute>
```

6.4.4.1.2 Response

```
HTTP/1.1 201 Created
Date: Fri, 10 Dec 2010 12:51:59 GMT
Location:http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/alice/attributes/married
Content-Type: application/xml
Content-Length: nnnn
```

```
<?xml version="1.0" encoding="UTF-8"?>
<ab:attribute xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <name>married</name>
  <value>true</value>
</ab:attribute>
```

6.4.5 POST

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET, PUT, DELETE' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.4.6 DELETE

This operation deletes an attribute of a contact. If successful, this SHALL also delete the attribute from the members' attributes in lists associated with the contact.

6.4.6.1 Example: Delete a contact's attribute (Informative)

6.4.6.1.1 Request

```
DELETE /exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/alice/attributes/display-name HTTP/1.1
Accept: application/xml
Host: example.com
```

6.4.6.1.2 Response

```
HTTP/1.1 204 No Content
Date: Fri, 10 Dec 2010 12:53:23 GMT
```

6.5 Resource: Lists

The resource used is:

http://{serverRoot}/addressbook/{apiVersion}/{userId}/lists

This resource is used to retrieve all lists belonging to a user.

6.5.1 Request URL variables

The following request URL variables are common for all HTTP methods:

Name	Description
serverRoot	Server base url: hostname+port+base path. Port and base path are OPTIONAL. Example: example.com/exampleAPI
apiVersion	Version of the API client wants to use. The value of this variable is defined in section 5.1.
userId	User identifier. Examples: tel:+19585550100, acr:pseudonym123

See section 6 for a statement on the escaping of reserved characters in URL variables.

6.5.2 Response Codes

For HTTP response codes, see [REST_NetAPI_Common].

For Policy Exception and Service Exception fault codes applicable to the RESTful Address Book API, see section 7.

6.5.3 GET

This operation is used for retrieval of all lists for a given user identity.

Supported parameters in the query string of the Request URL are:

Name	Type/Values	Optional	Description
listFilter	xsd:string	Yes	<p>Defines the level of information related to a list, returned in a GET response body.</p> <p>The syntax of this query parameter is: listFilter = listFilterValue, where listFilterValue can take one of the values specified below.</p> <p>If listFilter is absent, GET response body SHALL include all the list sub-elements, plus all list attributes (default behaviour).</p> <p>If listFilterValue = List attribute name (e.g. name1), GET response body SHALL include all list sub-elements, plus only selected list attributes (i.e. name1). Any number of listFilter = listFilterValue pairs separated by & are allowed.</p> <p>If listFilterValue = ~noAttr, GET response body SHALL include all the list sub-elements and none of the list attributes.</p> <p>No other listFilterValue is supported.</p>
indivFilter	xsd:string	Yes	<p>Defines the level of information related to a member in a list, returned in a GET response body.</p> <p>The syntax of this query parameter is: indivFilter = indivFilterValue, where indivFilterValue can take one of the values specified below.</p> <p>If indivFilter is absent, GET response body SHALL include all member sub-elements, plus all member attributes (default behaviour).</p> <p>If indivFilterValue = Member attribute name (e.g. name1), GET response body SHALL include all member sub-elements, plus only selected member attributes (i.e. name1). Any number of indivFilter = indivFilterValue pairs separated by & are allowed.</p> <p>If indivFilterValue = ~noAttr, GET response body SHALL include all member sub-elements and none of the member attributes.</p> <p>If indivFilterValue = ~none, GET response body SHALL include none of the member information (member structure to be omitted).</p> <p>No other indivFilterValue is supported.</p>

6.5.3.1 Example 1: Retrieve lists with all attributes and all members with all member attributes (default) (Informative)

6.5.3.1.1 Request

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists HTTP/1.1
Accept: application/xml
Host: example.com
```

6.5.3.1.2 Response

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:listCollection xmlns:ab="urn:oma+xml:rest:netapi:addressbook:1">
  <list>
    <listId>1234</listId>
    <memberCollection>
      <member>
        <memberId>sip:alice@example.com</memberId>
        <attributeList>
          <attribute>
            <name>display-name</name>
            <value>Alice</value>
          </attribute>
        </attributeList>
        <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/
sip%3Aalice@example.com/attributes</resourceURL>
          </attributeList>
          <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/
sip%3Aalice@example.com</resourceURL>
        </member>
      </memberCollection>
      <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members</resourceURL>
      <category>URIList</category>
      <sharedListIdentity>
        <sharedId>sip:bob@example.com;list=1234</sharedId>
      </sharedListIdentity>
      <attributeList>
        <attribute>
          <name>display-name</name>
          <value>Friends</value>
        </attribute>
      </attributeList>
      <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/attributes</resourceURL>
      </attributeList>
      <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234</resourceURL>
    </list>
    <list>
      <listId>5678</listId>
      <memberCollection>
        <member>
          <memberId>mailto:liza@example.com</memberId>
          <attributeList>
            <attribute>
              <name>display-name</name>
```

```

    <value>Wife</value>
  </attribute>
</attribute>
  <name>age</name>
  <value>42</value>
</attribute>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/members/
mailto%3Aliza@example.com/attributes</resourceURL>
  </attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/members/
mailto%3Aliza@example.com</resourceURL>
</member>
<member>
  <memberId>mailto:serezha@example.com</memberId>
  <attributeList>
    <attribute>
      <name>display-name</name>
      <value>Son</value>
    </attribute>
    <attribute>
      <name>phone</name>
      <value>tel:+19585550105</value>
    </attribute>
  </attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/members/
mailto%3Aserezha@example.com/attributes</resourceURL>
  </attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/members/
mailto%3Aserezha@example.com</resourceURL>
</member>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/members</resourceURL>
</memberCollection>
<attributeList>
  <attribute>
    <name>display-name</name>
    <value>Family</value>
  </attribute>
</attributeList>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/attributes</resourceURL>
</attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678</resourceURL>
</list>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists</resourceURL>
</ab:listCollection>

```

6.5.3.2 Example 2: Retrieve all lists belonging to a user without list attributes and without members (Informative)

Retrieve all lists belonging to a user, and return result in XML format.

6.5.3.2.1 Request

```

GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists?listFilter=~noAttr&indivFilter=~none HTTP/1.1
Accept: application/xml
Host: example.com

```

6.5.3.2.2 Response

```

HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:listCollection xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <list>
    <listId>1234</listId>
    <category>URIList</category>
    <sharedListIdentity>
      <sharedId>sip:bob@example.com;list=1234</sharedId>
    </sharedListIdentity>
    <resourceURL>http://example.com/exampleAPI/addressbook/v1/mailto%3Abob@example.com/lists/1234</resourceURL>
  </list>
  <list>
    <listId>5678</listId>
    <resourceURL>http://example.com/exampleAPI/addressbook/v1/mailto%3Abob@example.com/lists/5678</resourceURL>
  </list>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists</resourceURL>
</ab:listCollection>

```

6.5.3.3 Example 3: Retrieve specific lists attributes and specific member attributes (Informative)

6.5.3.3.1 Request

```

GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists?listFilter=display-name&indivFilter=display-name&indivFilter=phone
HTTP/1.1
Accept: application/xml
Host: example.com

```

6.5.3.3.2 Response

```

HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:listCollection xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <list>
    <listId>1234</listId>
    <memberCollection>
      <member>
        <memberId>sip:alice@example.com</memberId>
        <attributeList>
          <attribute>
            <name>display-name</name>
            <value>Alice</value>
          </attribute>
        </attributeList>
      </member>
    </memberCollection>
    <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/
    sip%3Aalice@example.com/attributes</resourceURL>
  </list>
</ab:listCollection>

```

```

<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/
sip%3Aalice@example.com</resourceURL>
  </member>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members</resourceURL>
  </memberCollection>
  <category>URIList</category>
  <sharedListIdentity>
    <sharedId>sip:bob@example.com;list=1234</sharedId>
  </sharedListIdentity>
  <attributeList>
    <attribute>
      <name>display-name</name>
      <value>Friends</value>
    </attribute>
  </attributeList>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/attributes</resourceURL>
  </attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234</resourceURL>
</list>
</list>
<listId>5678</listId>
<memberCollection>
  <member>
    <memberId>mailto:liza@example.com</memberId>
    <attributeList>
      <attribute>
        <name>display-name</name>
        <value>Wife</value>
      </attribute>
    </attributeList>
  </member>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/members/
  mailto%3Aaliza@example.com/attributes</resourceURL>
    </attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/members/
  mailto%3Aaliza@example.com</resourceURL>
    </member>
  <member>
    <memberId>mailto:serezha@example.com</memberId>
    <attributeList>
      <attribute>
        <name>display-name</name>
        <value>Son</value>
      </attribute>
      <attribute>
        <name>phone</name>
        <value>tel:+19585550105</value>
      </attribute>
    </attributeList>
  </member>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/members/
  mailto%3Aserezha@example.com/attributes</resourceURL>
    </attributeList>
    <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/members/
  mailto%3Aserezha@example.com</resourceURL>
  </member>
</memberCollection>
</attributeList>
<attribute>
  <name>display-name</name>
  <value>Family</value>
</attribute>

```

```

    </attribute>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/attributes</resourceURL>
  </attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678</resourceURL>
</list>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists</resourceURL>
</ab:listCollection>

```

6.5.3.4 Example 4: Retrieve lists with specific lists attributes and without members (Informative)

6.5.3.4.1 Request

```

GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists?listFilter=display-name&indivFilter=-none HTTP/1.1
Accept: application/xml
Host: example.com

```

6.5.3.4.2 Response

```

HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:listCollection xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <list>
    <listId>1234</listId>
    <category>URIList</category>
    <sharedListIdentity>
      <sharedId>sip:bob@example.com;list=1234</sharedId>
    </sharedListIdentity>
    <attributeList>
      <attribute>
        <name>display-name</name>
        <value>Friends</value>
      </attribute>
    <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/attributes</resourceURL>
  </attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234</resourceURL>
</list>
  <list>
    <listId>5678</listId>
    <attributeList>
      <attribute>
        <name>display-name</name>
        <value>Family</value>
      </attribute>
    <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/attributes</resourceURL>
  </attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678</resourceURL>
</list>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists</resourceURL>
</ab:listCollection>

```

6.5.3.5 Example 5: Retrieve specific lists attributes and list of members without attributes (Informative)

6.5.3.5.1 Request

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists?listFilter=display-name&indivFilter=-noAttr HTTP/1.1
Accept: application/xml
Host: example.com
```

6.5.3.5.2 Response

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:listCollection xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <list>
    <listId>1234</listId>
    <memberCollection>
      <member>
        <memberId>sip:alice@example.com</memberId>
        <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/
sip%3Aalice@example.com</resourceURL>
      </member>
      <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members</resourceURL>
    </memberCollection>
    <category>URIList</category>
    <sharedListIdentity>
      <sharedId>sip:bob@example.com;list=1234</sharedId>
    </sharedListIdentity>
    <attributeList>
      <attribute>
        <name>display-name</name>
        <value>Friends</value>
      </attribute>
      <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/attributes</resourceURL>
    </attributeList>
    <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234</resourceURL>
  </list>
  <list>
    <listId>5678</listId>
    <memberCollection>
      <member>
        <memberId>mailto:liza@example.com</memberId>
        <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/members/
mailto%3Aliza@example.com</resourceURL>
      </member>
      <member>
        <memberId>mailto:serezha@example.com</memberId>
        <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/members/
mailto%3Aserezha@example.com</resourceURL>
      </member>
      <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/members</resourceURL>
    </memberCollection>
```

```

<attributeList>
  <attribute>
    <name>display-name</name>
    <value>Family</value>
  </attribute>
</attributeList>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/attributes</resourceURL>
</attributeList>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678</resourceURL>
</list>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists</resourceURL>
</ab:listCollection>

```

6.5.3.6 Example 6: Retrieve lists without attributes and members with all member attributes (Informative)

6.5.3.6.1 Request

```

GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists?listFilter=--noAttr HTTP/1.1
Accept: application/xml
Host: example.com

```

6.5.3.6.2 Response

```

HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:listCollection xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <list>
    <listId>1234</listId>
    <memberCollection>
      <member>
        <memberId>sip:alice@example.com</memberId>
        <attributeList>
          <attribute>
            <name>display-name</name>
            <value>Alice</value>
          </attribute>
        </attributeList>
        <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/
        sip%3Aliza@example.com/attributes</resourceURL>
        </attributeList>
        <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/
        sip%3Aalice@example.com</resourceURL>
      </member>
    </memberCollection>
  </list>
  <list>
    <listId>5678</listId>
    <memberCollection>
      <member>
        <memberId>mailto:liza@example.com</memberId>

```

```

<attributeList>
  <attribute>
    <name>display-name</name>
    <value>Wife</value>
  </attribute>
  <attribute>
    <name>age</name>
    <value>42</value>
  </attribute>
</resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/members/
mailto%3AAliza@example.com/attributes</resourceURL>
  </attributeList>
</resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/members/
mailto%3AAliza@example.com</resourceURL>
  </member>
  <member>
    <memberId>mailto:serezha@example.com</memberId>
    <attributeList>
      <attribute>
        <name>display-name</name>
        <value>Son</value>
      </attribute>
      <attribute>
        <name>phone</name>
        <value>tel:+19585550105</value>
      </attribute>
    </attributeList>
  </resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/members/
mailto%3AAliza@example.com/attributes</resourceURL>
  </attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/members/
mailto%3ASerezha@example.com</resourceURL>
  </member>
</resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/members</resourceURL>
  </memberCollection>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678</resourceURL>
  </list>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists</resourceURL>
</ab:listCollection>

```

6.5.4 PUT

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.5.5 POST

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.5.6 DELETE

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.6 Resource: Individual list

The resource used is:

http://{serverRoot}/addressbook/{apiVersion}/{userId}/lists/{listId}

This resource is used to manage an individual list, which include creation, update, retrieval, and delete operations for a particular list.

6.6.1 Request URL variables

The following request URL variables are common for all HTTP methods:

Name	Description
serverRoot	Server base url: hostname+port+base path. Port and base path are OPTIONAL. Example: example.com/exampleAPI
apiVersion	Version of the API client wants to use. The value of this variable is defined in section 5.1.
userId	User identifier. Examples: tel:+19585550100, acr:pseudonym123
listId	List identifier. Example: 1234

See section 6 for a statement on the escaping of reserved characters in URL variables.

6.6.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

For Policy Exception and Service Exception fault codes applicable to the RESTful Address Book API, see section 7.

6.6.3 GET

This operation is used for retrieval of a given list. (This operation is normally only used to verify the existence of the list).

Supported parameters in the query string of the Request URL are:

Name	Type/Values	Optional	Description
listFilter	xsd:string	Yes	<p>Defines the level of information related to a list, returned in a GET response body.</p> <p>The syntax of this query parameter is: listFilter = listFilterValue, where listFilterValue can take one of the values specified below.</p> <p>If listFilter is absent, GET response body SHALL include all the list sub-elements, plus all list attributes (default behaviour).</p> <p>If listFilterValue = List attribute name (e.g. name1), GET response body SHALL include all list sub-elements, plus only selected list attributes (i.e. name1). Any number of listFilter = listFilterValue pairs separated by & are allowed.</p> <p>If listFilterValue = ~noAttr, GET response body SHALL include all the list sub-elements and none of the list attributes.</p> <p>No other listFilterValue is supported.</p>
indivFilter	xsd:string	Yes	<p>Defines the level of information related to a member in a list, returned in a GET response body.</p> <p>The syntax of this query parameter is: indivFilter = indivFilterValue, where indivFilterValue can take one of the values specified below.</p>

			<p>If indivFilter is absent, GET response body SHALL include all member sub-elements, plus all member attributes (default behaviour).</p> <p>If indivFilterValue = Member attribute name (e.g. name1), GET response body SHALL include all member sub-elements, plus only selected member attributes (i.e. name1). Any number of indivFilter = indivFilterValue pairs separated by & are allowed.</p> <p>If indivFilterValue = ~noAttr, GET response body SHALL include all member sub-elements and none of the member attributes.</p> <p>If indivFilterValue = ~none, GET response body SHALL include none of the member information (member structure to be omitted).</p> <p>No other indivFilterValue is supported.</p>
--	--	--	--

6.6.3.1 Example 1: Retrieve a list with all attributes and all member attributes (default) (Informative)

6.6.3.1.1 Request

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234 HTTP/1.1
Accept: application/xml
Host: example.com
```

6.6.3.1.2 Response

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:list xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <listId>1234</listId>
  <memberCollection>
    <member>
      <memberId>sip:alice@example.com</memberId>
      <attributeList>
        <attribute>
          <name>display-name</name>
          <value>Alice</value>
        </attribute>
        <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/sip%3Aalice@example.com/attributes</resourceURL>
      </attributeList>
      <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/sip%3Aalice@example.com</resourceURL>
    </member>
    <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members</resourceURL>
  </memberCollection>
  <attributeList>
    <attribute>
      <name>display-name</name>
      <value>Friends</value>
    </attribute>
  </attributeList>
</ab:list>
```

```
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/attributes</resourceURL>
</attributeList>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234</resourceURL>
</ab:list>
```

6.6.3.2 Example 2: Retrieve a list without list and member attributes (Informative)

6.6.3.2.1 Request

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234?listFilter=~noAttr&indivFilter=~noAttr HTTP/1.1
Accept: application/xml
Host: example.com
```

6.6.3.2.2 Response

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:list xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <listId>1234</listId>
  <memberCollection>
    <member>
      <memberId>sip:alice@example.com</memberId>
      <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/
sip%3Aalice@example.com</resourceURL>
    </member>
  </memberCollection>
</resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members</resourceURL>
</ab:list>
```

6.6.3.3 Example 3: Retrieve a list with all attributes and selected member attributes (Informative)

6.6.3.3.1 Request

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234?indivFilter=display-name HTTP/1.1
Accept: application/xml
Host: example.com
```

6.6.3.3.2 Response

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:list xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <listId>1234</listId>
  <memberCollection>
    <member>
```

```

<memberId>sip:alice@example.com</memberId>
<attributeList>
  <attribute>
    <name>display-name</name>
    <value>Alice</value>
  </attribute>
</attributeList>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/
sip%3Aalice@example.com/attributes</resourceURL>
  </attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/
sip%3Aalice@example.com</resourceURL>
</member>
</memberCollection>
</resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234</resourceURL>
</ab:list>

```

6.6.3.4 Example 4: Retrieve a non existing list (Informative)

6.6.3.4.1 Request

```

GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/4321 HTTP/1.1
Accept: application/xml
Host: example.com

```

6.6.3.4.2 Response

```

HTTP/1.1 404 Not Found
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<common:requestError xmlns:common="urn:oma:xml:rest:netapi:common:1">
  <link rel="List"
    href="http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/4321"/>
  <serviceException>
    <messageId>SVC0002</messageId>
    <text>Invalid input value for message part %1</text>
    <variables>listId</variables>
  </serviceException>
</common:requestError>

```

6.6.4 PUT

This operation is used for creation or update of a list.

6.6.4.1 Example: Create a list (Informative)

6.6.4.1.1 Request

```

PUT /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/bobPublic HTTP/1.1
Accept: application/xml
Host: example.com
Content-Type: application/xml
Content-Length: nnnn

```

```
<?xml version="1.0" encoding="UTF-8"?>
<ab:list xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <listId>bobPublic</listId>
  <memberCollection>
    <member>
      <memberId>mailto:alice@example.com</memberId>
      <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/bobPublic/members/
mailto%3Aalice@example.com</resourceURL>
    </member>
  </memberCollection>
</ab:list>
```

6.6.4.1.2 Response

```
HTTP/1.1 201 Created
Date: Fri, 10 Dec 2010 12:51:59 GMT
Location: http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/bobPublic
Content-Type: application/xml
Content-Length: nnnn
```

```
<?xml version="1.0" encoding="UTF-8"?>
<ab:list xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <listId>bobPublic</listId>
  <memberCollection>
    <member>
      <memberId>mailto:alice@example.com</memberId>
      <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/bobPublic/members/
mailto%3Aalice@example.com</resourceURL>
    </member>
  </memberCollection>
</ab:list>
```

6.6.5 POST

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET, PUT, DELETE' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.6.6 DELETE

This operation deletes a list.

6.6.6.1 Example: Delete a list**(Informative)****6.6.6.1.1 Request**

```
DELETE /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/bobPublic HTTP/1.1
Accept: application/xml
Host: example.com
```

6.6.6.1.2 Response

```
HTTP/1.1 204 No Content
Date: Fri, 10 Dec 2010 12:53:23 GMT
```

6.7 Resource: Attributes for a list

The resource used is:

http://{serverRoot}/addressbook/{apiVersion}/{userId}/lists/{listId}/attributes

This resource is used to retrieve all attributes of a list belonging to a user.

6.7.1 Request URL variables

The following request URL variables are common for all HTTP methods:

Name	Description
serverRoot	Server base url: hostname+port+base path. Port and base path are OPTIONAL. Example: example.com/exampleAPI
apiVersion	Version of the API client wants to use. The value of this variable is defined in section 5.1.
userId	User identifier. Examples: tel:+19585550100, acr:pseudonym123

See section 6 for a statement on the escaping of reserved characters in URL variables.

6.7.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

For Policy Exception and Service Exception fault codes applicable to the RESTful Address Book API, see section 7.

6.7.3 GET

This operation is used for retrieval of all attributes for a list for a given user identity.

6.7.3.1 Example: Retrieve all attributes for a list belonging to Bob (Informative)

Retrieve all attributes for a list belonging to Bob, and return result in XML format.

6.7.3.1.1 Request

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/attributes HTTP/1.1
Accept: application/xml
Host: example.com
```

6.7.3.1.2 Response

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:attributeList xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <attribute>
    <name>display-name</name>
    <value>Friends</value>
  </attribute>
  <attribute>
    <name>date-created</name>
    <value>Fri, 10 Dec 2010 11:28:34 GMT</value>
  </attribute>
</resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/attributes</resourceURL>
</ab:attributeList>
```

6.7.4 PUT

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.7.5 POST

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.7.6 DELETE

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.8 Resource: Individual attribute for a list

The resource used is:

http://{serverRoot}/addressbook/{apiVersion}/{userId}/lists/{listId}/attributes/[ResourceRelPath]

This resource is used to manage attributes on an individual list, which include creation, update, retrieval, and delete operations for the attributes.

6.8.1 Request URL variables

The following request URL variables are common for all HTTP methods:

Name	Description
serverRoot	Server base url: hostname+port+base path. Port and base path are OPTIONAL. Example: example.com/exampleAPI
apiVersion	Version of the API client wants to use. The value of this variable is defined in section 5.1.
userId	User identifier. Examples: tel:+19585550100, acr:pseudonym123
listId	List identifier. Example: 4567
ResourceRelPath	Light-weight relative resource path. The allowed string for this Light-weight Resource is {name}, as defined in the [ResourceRelPath] column in table 5.2.2.6. {name} indicates the name of the attribute. Example: display-name

See section 6 for a statement on the escaping of reserved characters in URL variables.

6.8.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

For Policy Exception and Service Exception fault codes applicable to the RESTful Address Book API, see section 7.

6.8.3 GET

This operation is used for retrieval of the value of a given attribute of a list.

6.8.3.1 Example 1: Retrieve an attribute value

(Informative)

6.8.3.1.1 Request

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/attributes/date-created HTTP/1.1
Accept: application/xml
Host: example.com
```

6.8.3.1.2 Response

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:attribute xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <name>date-created</name>
  <value>Fri, 10 Dec 2010 11:28:34 GMT</value>
</ab:attribute>
```


6.8.3.2 Example 2: Retrieve a non existing attribute (Informative)

6.8.3.2.1 Request

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/attributes/alien HTTP/1.1
Accept: application/xml
Host: example.com
```

6.8.3.2.2 Response

```
HTTP/1.1 404 Not Found
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<common:requestError xmlns:common="urn:oma:xml:rest:netapi:common:1">
  <serviceException>
    <messageId>SVC0002</messageId>
    <text>Invalid input value for message part %1</text>
    <variables>alien</variables>
  </serviceException>
</common:requestError>
```

6.8.4 PUT

This operation is used for creation or update of an attribute of a list.

6.8.4.1 Example: Create an attribute (Informative)

6.8.4.1.1 Request

```
PUT /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/attributes/display-name HTTP/1.1
Accept: application/xml
Host: example.com
Content-Type: application/xml
Content-Length: nnnn
```

```
<?xml version="1.0" encoding="UTF-8"?>
<ab:attribute xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <name>display-name</name>
  <value>Close friends</value>
</ab:attribute>
```

6.8.4.1.2 Response

```
HTTP/1.1 201 Created
Date: Fri, 10 Dec 2010 12:51:59 GMT
Location: http://example.com/exampleAPI/v1/addressbook/tel%3A%2B19585550123/lists/1234/attributes/display-name
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:attribute xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <name>display-name</name>
  <value>Close friends</value>
</ab:attribute>
```

6.8.5 POST

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET, PUT, DELETE' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.8.6 DELETE

This operation deletes an attribute of a list.

6.8.6.1 Example: Delete an attribute

(Informative)

6.8.6.1.1 Request

```
DELETE /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/attributes/display-name HTTP/1.1
Accept: application/xml
Host: example.com
```

6.8.6.1.2 Response

```
HTTP/1.1 204 No Content
Date: Fri, 10 Dec 2010 12:53:23 GMT
```

6.9 Resource: Members in a list

The resource used is:

http://{serverRoot}/addressbook/{apiVersion}/{userId}/lists/{listId}/members

This resource is used to retrieve all members of a list belonging to a user.

6.9.1 Request URL variables

The following request URL variables are common for all HTTP methods:

Name	Description
serverRoot	Server base url: hostname+port+base path. Port and base path are OPTIONAL. Example: example.com/exampleAPI
apiVersion	Vversion of the API client wants to use. The value of this variable is defined in section 5.1.
userId	User identifier. Examples: tel:+19585550100, acr:pseudonym123
listId	List identifier. Example: myList

See section 6 for a statement on the escaping of reserved characters in URL variables.

6.9.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

For Policy Exception and Service Exception fault codes applicable to the RESTful Address Book API, see section 7.

6.9.3 GET

This operation is used for retrieval of all members of list for a given user identity.

Supported parameters in the query string of the Request URL are:

Name	Type/Values	Optional	Description
indivFilter	xsd:string	Yes	<p>Defines the level of information related to a member in a list, returned in a GET response body.</p> <p>The syntax of this query parameter is: indivFilter = indivFilterValue, where indivFilterValue can take one of the values specified below.</p> <p>If indivFilter is absent, GET response body SHALL include all member sub-elements, plus all member attributes (default behaviour).</p> <p>If indivFilterValue = Member attribute name (e.g. name1), GET response body SHALL include all member sub-elements, plus only selected member attributes (i.e. name1). Any number of indivFilter = indivFilterValue pairs separated by & are allowed.</p> <p>If indivFilterValue = ~noAttr, GET response body SHALL include all member sub-elements and none of the member attributes.</p> <p>If indivFilterValue = ~none, GET response body SHALL include none of the member information (member structure to be omitted).</p> <p>No other indivFilterValue is supported.</p>

6.9.3.1 Example 1: Retrieve all members for a list belonging to a user with all attributes (default) (Informative)

Retrieve all members of a list belonging to a user, and return result in XML format.

6.9.3.1.1 Request

```
GET /exampleAPI/addressbook/v1/teI%3A%2B19585550100/lists/1234/members HTTP/1.1
Accept: application/xml
Host: example.com
```

6.9.3.1.2 Response

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:memberCollection xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <member>
    <memberId>mailto:alice@example.com</memberId>
    <attributeList>
      <attribute>
        <name>display-name</name>
        <value>Alice</value>
      </attribute>
    </attributeList>
  </member>
</ab:memberCollection>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/teI%3A%2B19585550100/lists/1234/members/
```

```

mailto%3Aalice@example.com/attributes</resourceURL>
  </attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/
mailto%3Aalice@example.com
  </resourceURL>
</member>
<member>
  <memberId>tel:+19585550124</memberId>
  <attributeList>
  <attribute>
    <name>display-name</name>
    <value>Bob</value>
  </attribute>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/
tel%3A%2B19585550124/attributes</resourceURL>
  </attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/
tel%3A%2B19585550124
  </resourceURL>
</member>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members</resourceURL>
</ab:memberCollection>

```

6.9.3.2 Example 2: Retrieve all members for a list belonging to a user, without member attributes (Informative)

Retrieve all members of a list belonging to a user, and return result in XML format.

6.9.3.2.1 Request

```

GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members?indivFilter=-noAttr HTTP/1.1
Accept: application/xml
Host: example.com

```

6.9.3.2.2 Response

```

HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:memberCollection xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <member>
    <memberId>mailto:alice@example.com</memberId>
    <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/
mailto%3Aalice@example.com
    </resourceURL>
  </member>
  <member>
    <memberId>tel:+19585550124</memberId>
    <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members
/tel%3A%2B19585550124</resourceURL>
  </member>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members</resourceURL>
</ab:memberCollection>

```

6.9.4 PUT

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.9.5 POST

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.9.6 DELETE

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.10 Resource: Individual member in a list

The resource used is:

http://{serverRoot}/addressbook/{apiVersion}/{userId}/lists/{listId}/members/{memberId}

This resource is used to manage members on an individual list, which include creation, update, retrieval, and delete operations for the members.

6.10.1 Request URL variables

The following request URL variables are common for all HTTP methods:

Name	Description
serverRoot	Server base url: hostname+port+base path. Port and base path are OPTIONAL. Example: example.com/exampleAPI
apiVersion	Version of the API client wants to use. The value of this variable is defined in section 5.1.
userId	User identifier. Examples: tel:+19585550100, acr:pseudonym123
listId	List identifier. Example: 6789
memberId	Member identifier. Example: mailto:alice@example.com

See section 6 for a statement on the escaping of reserved characters in URL variables.

6.10.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

For Policy Exception and Service Exception fault codes applicable to the RESTful Address Book API, see section 7.

6.10.3 GET

This operation is used for retrieval of a member from a list.

Supported parameters in the query string of the Request URL are:

Name	Type/Values	Optional	Description
indivFilter	xsd:string	Yes	<p>Defines the level of information related to a member in a list, returned in a GET response body.</p> <p>The syntax of this query parameter is: indivFilter = indivFilterValue, where indivFilterValue can take one of the values specified below.</p> <p>If indivFilter is absent, GET response body SHALL include all member sub-elements, plus all member attributes (default behaviour).</p> <p>If indivFilterValue = Member attribute name (e.g. name1), GET response body SHALL include all member sub-elements, plus only selected member attributes (i.e. name1). Any number of indivFilter = indivFilterValue pairs separated by & are allowed. No other indivFilterValue is supported.</p>

6.10.3.1 Example 1: Retrieve a member

(Informative)

6.10.3.1.1 Request

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/sip%3Aalice@example.com HTTP/1.1
Accept: application/xml
Host: example.com
```

6.10.3.1.2 Response

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:member xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <memberId>sip:alice@example.com</memberId>
  <attributeList>
    <attribute>
      <name>display-name</name>
      <value>Alice</value>
    </attribute>
    <attribute>
      <name>cellphone</name>
      <value>tel:+19585550155</value>
    </attribute>
  </attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/
mailto%3Aalice@example.com/attributes</resourceURL>
  </attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/
mailto%3Aalice@example.com
  </resourceURL>
</ab:member>
```

6.10.3.2 Example 2: Retrieve a member and selected attributes (Informative)**6.10.3.2.1 Request**

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/sip%3Aalice@example.com?indivFilter=cellphone
HTTP/1.1
Accept: application/xml
Host: example.com
```

6.10.3.2.2 Response

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:member xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <memberId>sip:alice@example.com</memberId>
  <attributeList>
    <attribute>
      <name>cellphone</name>
      <value>tel:+19585550155</value>
    </attribute>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/
  mailto%3Aalice@example.com/attributes</resourceURL>
  </attributeList> <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/
  mailto%3Aalice@example.com</resourceURL>
</ab:member>
```

6.10.3.3 Example 3: Retrieve a non existing member (Informative)**6.10.3.3.1 Request**

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/mailto%3Ajoe@example.com HTTP/1.1Accept:
application/xml
Host: example.com
```

6.10.3.3.2 Response

```
HTTP/1.1 404 Not Found
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<common:requestError xmlns:common="urn:oma:xml:rest:netapi:common:1">

  <serviceException>
    <messageId>SVC0002</messageId>
    <text> Invalid input value for message part %1</text>
    <variables>memberId</variables>
  </serviceException>
</common:requestError>
```

6.10.4 PUT

This operation is used for creation or update of a member on a list.

6.10.4.1 Example 1: Create a member without a link to the contact (Informative)

6.10.4.1.1 Request

```
PUT /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/6789/members/mailto%3Aole@example.com HTTP/1.1
Accept: application/xml
Host: example.com
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:member xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <memberId>mailto:ole@example.com</memberId>
  <attributeList>
    <attribute>
      <name>display-name</name>
      <value>Ole</value>
    </attribute>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/6789/members/
  mailto%3Aole@example.com/attributes</resourceURL>
</attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/6789/members/
  mailto%3Aole@example.com</resourceURL>
</ab:member>
```

6.10.4.1.2 Response

```
HTTP/1.1 201 Created
Date: Fri, 10 Dec 2010 12:51:59 GMT
Location: http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/6789/members/
mailto%3Aole@example.com
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:member xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <memberId>mailto:ole@example.com</memberId>
  <attributeList>
    <attribute>
      <name>display-name</name>
      <value>Ole</value>
    </attribute>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/
  mailto%3Aalice@example.com/attributes</resourceURL>
  </attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/6789/members/
  mailto%3Aole@example.com
  </resourceURL>
</ab:member>
```

6.10.4.2 Example 2: Update member with relation to non-existing contact (Informative)

In this example the user tries to update a member including a link to a contact, which does not exist.

6.10.4.2.1 Request

```

PUT /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/6789/members/mailto%3Ajoe@example.com HTTP/1.1
Accept: application/xml
Host: example.com
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:member xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <memberId>mailto:joe@example.com</memberId>
  <attributeList>
    <attribute>
      <name>display-name</name>
      <value>Joe</value>
    </attribute>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/6789/members/
  mailto%3Ajoe@example.com/attributes</resourceURL>
  </attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/6789/members/
  mailto%3Ajoe@example.com
  </resourceURL>
  <link rel="Contact" href="http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/joe"/>
</ab:member>

```

6.10.4.2.2 Response

```

HTTP/1.1 403 Forbidden
Date: Fri, 10 Dec 2010 12:51:59 GMT

```

6.10.5 POST

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET, PUT, DELETE' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.10.6 DELETE

This operation deletes a member from a list.

6.10.6.1 Example: Delete a member

(Informative)

6.10.6.1.1 Request

```

DELETE /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/6789/members/tel%3A%2B19585550125 HTTP/1.1
Accept: application/xml
Host: example.com

```

6.10.6.1.2 Response

```

HTTP/1.1 204 No Content
Date: Fri, 10 Dec 2010 12:53:23 GMT

```

6.11 Resource: Attributes for a member in a list

The resource used is:

http://{serverRoot}/addressbook/{apiVersion}/{userId}/lists/{listId}/members/{memberId}/attributes

This resource is used to retrieve all attributes for a member of a list.

6.11.1 Request URL variables

The following request URL variables are common for all HTTP methods:

Name	Description
serverRoot	Server base url: hostname+port+base path. Port and base path are OPTIONAL. Example: example.com/exampleAPI
apiVersion	Version of the API client wants to use. The value of this variable is defined in section 5.1.
userId	User identifier. Examples: tel:+19585550100, acr:pseudonym123
listId	List identifier. Example: myList.
memberId	Member identifier. Example: tel:+19585550126

See section 6 for a statement on the escaping of reserved characters in URL variables.

6.11.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

For Policy Exception and Service Exception fault codes applicable to the RESTful Address Book API, see section 7.

6.11.3 GET

This operation is used for retrieval of all members of list for a given user identity.

6.11.3.1 Example: Retrieve all attributes of a member of a list (Informative)

Retrieve all attributes of a member of a list belonging to a user, and return result in XML format.

6.11.3.1.1 Request

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/6789/members/mailto%3Aalice@example.com/attributes HTTP/1.1
Accept: application/xml
Host: example.com
```

6.11.3.1.2 Response

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:attributeList xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <attribute>
    <name>display-name</name>
    <value>Alice</value>
  </attribute>
  <attribute>
    <name>cellphone</name>
```

```

<value>tel:+19585550155</value>
</attribute>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members
/mailto%3Aalice@example.com/attributes</resourceURL>
</ab:attributeList>

```

6.11.4 PUT

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.11.5 POST

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.11.6 DELETE

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.12 Resource: Individual attribute for a member in a list

The resource used is:

http://{serverRoot}/addressbook/{apiVersion}/{userId}/lists/{listId}/members/{memberId}/attributes/[ResourceRelPath]

This Light-weight Resource is used to manage attributes for a member in a list, which include creation, update, retrieval, and delete operations.

6.12.1 Request URL variables

The following request URL variables are common for all HTTP methods:

Name	Description
serverRoot	Server base url: hostname+port+base path. Example: example.com/exampleAPI
apiVersion	Version of the API client wants to use. The value of this variable is defined in section 5.1.
userId	User identifier. Examples: tel:+19585550100, acr:pseudonym123
listId	List identifier. Example: myFriends
memberId	Member identifier. Example: tel:+19585550126
[ResourceRelPath]	Light-weight relative resource path. The allowed string for this Light-weight Resource is {name}, as defined in the [ResourceRelPath] column in table 5.2.2.6. {name} indicates the name of the attribute. Example: display-name

See section 6 for a statement on the escaping of reserved characters in URL variables.

6.12.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

For Policy Exception and Service Exception fault codes applicable to the RESTful Address Book API, see section 7.

6.12.3 GET

This operation is used for retrieval of attribute values of a member on a list.

6.12.3.1 Example 1: Retrieve a member's attribute (Informative)

6.12.3.1.1 Request

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/6789/members/sip%3Aalice@example.com/attributes/display-name
HTTP/1.1
Accept: application/xml
Host: example.com
```

6.12.3.1.2 Response

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:attribute xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <name>display-name</name>
  <value>Alice</value>
</ab:attribute>
```

6.12.3.2 Example 2: Retrieve a member's non existing attribute (Informative)

6.12.3.2.1 Request

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/6789/members/sip%3Aalice@example.com/attributes/pet HTTP/1.1
Accept: application/xml
Host: example.com
```

6.12.3.2.2 Response

```
HTTP/1.1 404 Not Found
Date: Fri, 10 Dec 2010 12:55:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<common:requestError xmlns:common="urn:oma:xml:rest:netapi:common:1">
  <serviceException>
    <messageId>SVC0002</messageId>
    <text>Invalid input value for message part %1</text>
    <variables>pet</variables>
  </serviceException>
</common:requestError>
```

6.12.4 PUT

This operation is used for creation or update of an attribute of a member on a list.

6.12.4.1 Example: Create a member's attribute

(Informative)

6.12.4.1.1 Request

```
PUT /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/6789/members/sip%3Aalice@example.com/attributes/born HTTP/1.1
Accept: application/xml
Host: example.com
Content-Type: application/xml
Content-Length: nnnn
```

```
<?xml version="1.0" encoding="UTF-8"?>
<ab:attribute xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <name>born</name>
  <value>1984</value>
</ab:attribute>
```

6.12.4.1.2 Response

```
HTTP/1.1 201 Created
Date: Fri, 10 Dec 2010 12:51:59 GMT
Location:http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/6789/members/
sip%3Aalice@example.com/attributes/born
Content-Type: application/xml
Content-Length: nnnn
```

```
<?xml version="1.0" encoding="UTF-8"?>
<ab:attribute xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <name>born</name>
  <value>1984</value>
</ab:attribute>
```

6.12.5 POST

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET, PUT, DELETE' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.12.6 DELETE

This operation deletes a member from a list.

6.12.6.1 Example: Delete a member's attribute

(Informative)

6.12.6.1.1 Request

```
DELETE /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/6789/members/sip%3Aalice@example.com/attributes/born
HTTP/1.1
Accept: application/xml
Host: example.com
```

6.12.6.1.2 Response

```
HTTP/1.1 204 No Content
Date: Fri, 10 Dec 2010 12:53:23 GMT
```

6.13 Resource: List references

The resource used is:

http://{serverRoot}/addressbook/{apiVersion}/{userId}/lists/{listId}/listReferences

This resource is used to retrieve list of references for all nested lists.

6.13.1 Request URL variables

The following request URL variables are common for all HTTP methods:

Name	Description
serverRoot	Server base url: hostname+port+base path. Port and base path are OPTIONAL. Example: example.com/exampleAPI
apiVersion	Version of the API client wants to use. The value of this variable is defined in section 5.1.
userId	User identifier. Examples: tel:+19585550100, acr:pseudonym123
listId	List identifier. Example: myList

See section 6 for a statement on the escaping of reserved characters in URL variables.

6.13.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

For Policy Exception and Service Exception fault codes applicable to the RESTful Address Book API, see section 7.

6.13.3 GET

This operation is used for retrieval of a list of references to other lists.

6.13.3.1 Example: Retrieve all list references in a list (Informative)

Retrieve all list references in a list belonging to a user, and return result in XML format.

6.13.3.1.1 Request

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/allFriends/listReferences HTTP/1.1
Accept: application/xml
Host: example.com
```

6.13.3.1.2 Response

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:listReferenceCollection xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/friends/listReferences</resourceURL>
  <link rel="List" href="http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234"/>
  <link rel="List" href="http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678"/>
</ab:listReferenceCollection>
```

6.13.4 PUT

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.13.5 POST

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the ‘Allow: GET’ field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.13.6 DELETE

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the ‘Allow: GET’ field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.14 Resource: Individual list reference

The resource used is:

http://{serverRoot}/addressbook/{apiVersion}/{userId}/lists/{listId}/listReferences/{ResourceRelPath}

This Light-weight Resource is used to manage list references in a nested list, which include creation, update, retrieval, and delete operations.

6.14.1 Request URL variables

The following request URL variables are common for all HTTP methods:

Name	Description
serverRoot	Server base url: hostname+port+base path. Port and base path are OPTIONAL. Example: example.com/exampleAPI
apiVersion	Version of the API client wants to use. The value of this variable is defined in section 5.1.
userId	User identifier. Examples: tel:+19585550100, acr:pseudonym123
listId	List identifier. Example: myList
[ResourceRelPath]	Light-weight relative resource path. The allowed string for this Light-weight Resource is {href}, as defined in the [ResourceRelPath] column in table 5.2.2.10. {href} indicates the link to the referenced list.

See section 6 for a statement on the escaping of reserved characters in URL variables.

6.14.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

For Policy Exception and Service Exception fault codes applicable to the RESTful Address Book API, see section 7.

6.14.3 GET

This operation is used for retrieval of a list reference in a nested list. This is typically used to verify if the list reference exists.

6.14.3.1 Example 1: Retrieve a list reference (Informative)

6.14.3.1.1 Request

```
GET
/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/allFriends/listReferences/http%3A/example.com/exampleAPI/addressbook/
v1/tel%3A%2B19585550100/lists/1234 HTTP/1.1
Accept: application/xml
Host: example.com
```

6.14.3.1.2 Response

```

HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:link xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1" rel="List"
href="http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234"/>

```

6.14.3.2 Example 2: Retrieve a non existing list reference (Informative)

6.14.3.2.1 Request

```

GET
/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/allFriends/listReferences/http%3A/example.com/exampleAPI/addressbook/v
1/tel%3A%2B19585550100/lists/1235 HTTP/1.1
Accept: application/xml
Host: example.com

```

6.14.3.2.2 Response

```

HTTP/1.1 404 Not Found
Date: Fri, 10 Dec 2010 12:55:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<common:requestError xmlns:common="urn:oma:xml:rest:netapi:common:1">
  <serviceException>
    <messageId>SVC0002</messageId>
    <text>Invalid input value for message part %1</text>
    <variables>href</variables>
  </serviceException>
</common:requestError>

```

6.14.4 PUT

This operation is used for creation of a list reference in a list.

6.14.4.1 Example: Create a list reference (Informative)

6.14.4.1.1 Request

```

PUT
/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/allFriends/listReferences/http%3A/example.com/exampleAPI/addressbook/
v1/tel%3A%2B19585550100/lists/5678 HTTP/1.1
Accept: application/xml
Host: example.com
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:link xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1" rel="List"
href="http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678"/>

```


6.14.4.1.2 Response

```
HTTP/1.1 201 Created
Date: Fri, 10 Dec 2010 12:51:59 GMT
Location: http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/memberlist/allFriends/listReferences/
http%3A//example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678
Content-Type: application/xml
Content-Length: nnnn
```

```
<?xml version="1.0" encoding="UTF-8"?>
<ab:link xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1" rel="List"
href="http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678"/>
```

6.14.5 POST

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: 'GET, PUT, DELETE' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.14.6 DELETE

This operation deletes a list reference in a list.

6.14.6.1 Example: Delete a list reference

(Informative)

6.14.6.1.1 Request

```
DELETE /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/allFriends/listReferences/
http%3A//example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678 HTTP/1.1
Accept: application/xml
Host: example.com
```

6.14.6.1.2 Response

```
HTTP/1.1 204 No Content
Date: Fri, 10 Dec 2010 12:53:23 GMT
```

6.15 Resource: Address Book changes subscriptions

The resource used is:

http://{serverRoot}/addressbook/{apiVersion}/{userId}/subscriptions/abChanges

This resource is used to retrieve address book changes subscriptions, as well as for the creation of new subscriptions.

This resource can be used in conjunction with a Client-side Notification URL, or in conjunction with a Server-side Notification URL. In this latter case, the application MUST first create a Notification Channel (see [REST_NetAPI_NotificationChannel]) before creating a subscription.

6.15.1 Request URL variables

The following request URL variables are common for all HTTP methods:

Name	Description
serverRoot	Server base url: hostname+port+base path. Port and base path are OPTIONAL. Example: example.com/exampleAPI
apiVersion	Version of the API client wants to use. The value of this variable is defined in section 5.1.
userId	User identifier. Examples: tel:+19585550100, acr:pseudonym123

See section 6 for a statement on the escaping of reserved characters in URL variables.

6.15.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

For Policy Exception and Service Exception fault codes applicable to the RESTful Address Book API, see section 7.

6.15.3 GET

This operation is used for retrieval of all list change subscriptions for a list.

6.15.3.1 Example: Retrieve all list changes subscriptions (Informative)

6.15.3.1.1 Request

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/subscriptions/abChanges HTTP/1.1
Accept: application/xml
Host: example.com
```

6.15.3.1.2 Response

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:abChangesSubscriptionCollection xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <abChangesSubscription>
    <listId>1234</listId>
    <callbackReference>
      <notifyURL>http://application.example.com/notifications/lists/1234</notifyURL>
      <callbackData>12345</callbackData>
    </callbackReference>
    <clientCorrelator>123</clientCorrelator>
    <applicationTag>myApp</applicationTag>
    <duration>1958</duration>
  </abChangesSubscription>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/subscriptions/abChanges/987654321
</resourceURL>
  </abChangesSubscription>
  <abChangesSubscription>
    <anyContacts/>
    <callbackReference>
      <notifyURL>http://application.example.com/notifications/contacts</notifyURL>
      <callbackData>54321</callbackData>
```

```

</callbackReference>
<clientCorrelator>456</clientCorrelator>
<applicationTag>myApp</applicationTag>
<duration>2641</duration>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/subscriptions/abChanges/123456789
</resourceURL>
</abChangesSubscription>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/subscriptions/abChanges</resourceURL>
</ab:abChangesSubscriptionCollection>

```

6.15.4 PUT

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET, POST' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.15.5 POST

This operation is used for creation of a new subscription.

The notifyURL in the callbackReference either contains the Client-side Notification URL (as defined by the client) or the Server-side Notification URL (as obtained during the creation of the Notification Channel [REST_NetAPI_NotificationChannel]).

6.15.5.1 Example 1: Create new subscription for list changes notification using 'tel' URI (Informative)

6.15.5.1.1 Request

```

POST /exampleAPI/addressbook/v1/tel%3A%2B19585550100/subscriptions/abChanges HTTP/1.1
Accept: application/xml
Host: example.com
Content-Type: application/xml
Content-Length: nnnn

```

```

<?xml version="1.0" encoding="UTF-8"?>
<ab:abChangesSubscription xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <listId>1234</listId>
  <callbackReference>
    <notifyURL>http://application.example.com/notifications/lists/1234</notifyURL>
    <callbackData>12345</callbackData>
  </callbackReference>
  <clientCorrelator>123</clientCorrelator>
  <applicationTag>myApp</applicationTag>
  <duration>7200</duration>
</ab:abChangesSubscription>

```

6.15.5.1.2 Response

```

HTTP/1.1 201 Created
Date: Fri, 10 Dec 2010 21:33:52 GMT
Location: http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/subscriptions/abChanges/987654321
Content-Type: application/xml
Content-Length: nnnn

```

```

<?xml version="1.0" encoding="UTF-8"?>
<ab:abChangesSubscription xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <listId>1234</listId>

```

```

<callbackReference>
  <notifyURL>http://application.example.com/notifications/lists/1234</notifyURL>
  <callbackData>12345</callbackData>
</callbackReference>
<clientCorrelator>123</clientCorrelator>
<applicationTag>myApp</applicationTag>
<duration>7200</duration>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/te%3A%2B19585550100/subscriptions/abChanges/987654321
</resourceURL>
</ab:abChangesSubscription>

```

6.15.5.2 Example 2: Create new subscription for list changes notification using 'acr' URI (Informative)

6.15.5.2.1 Request

```

POST /exampleAPI/addressbook/v1/acr%3A%2B19585550100/subscriptions/abChanges HTTP/1.1
Accept: application/xml
Host: example.com
Content-Type: application/xml
Content-Length: nnnn

```

```

<?xml version="1.0" encoding="UTF-8"?>
<ab:abChangesSubscription xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <listId>1234</listId>
  <callbackReference>
    <notifyURL>http://application.example.com/notifications/lists/1234</notifyURL>
    <callbackData>12345</callbackData>
  </callbackReference>
  <clientCorrelator>123</clientCorrelator>
  <applicationTag>myApp</applicationTag>
  <duration>7200</duration>
</ab:abChangesSubscription>

```

6.15.5.2.2 Response

```

HTTP/1.1 201 Created
Date: Fri, 10 Dec 2010 21:33:52 GMT
Location: http://example.com/exampleAPI/addressbook/v1/acr%3A%2B19585550100/subscriptions/abChanges/987654321
Content-Type: application/xml
Content-Length: nnnn

```

```

<?xml version="1.0" encoding="UTF-8"?>
<ab:abChangesSubscription xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <listId>1234</listId>
  <callbackReference>
    <notifyURL>http://application.example.com/notifications/lists/1234</notifyURL>
    <callbackData>12345</callbackData>
  </callbackReference>
  <clientCorrelator>123</clientCorrelator>
  <applicationTag>myApp</applicationTag>
  <duration>7200</duration>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/acr%3A%2B19585550100/subscriptions/abChanges/987654321
</resourceURL>
</ab:abChangesSubscription>

```

6.15.6 DELETE

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET, POST' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.16 Resource: Individual list changes subscription

The resource used is:

`http://{serverRoot}/addressbook/{apiVersion}/{userId}/subscriptions/abChanges/{subscriptionId}`

This resource is used to retrieve or remove an individual list changes subscription.

6.16.1 Request URL variables

The following request URL variables are common for all HTTP methods:

Name	Description
serverRoot	Server base url: hostname+port+base path. Port and base path are OPTIONAL. Example: example.com/exampleAPI
apiVersion	Version of the API client wants to use. The value of this variable is defined in section 5.1.
userId	User identifier. Examples: tel:+19585550100, acr:pseudonym123
subscriptionId	Identifier associated with this specific subscription

See section 6 for a statement on the escaping of reserved characters in URL variables.

6.16.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

For Policy Exception and Service Exception fault codes applicable to the RESTful Address Book API, see section 7.

6.16.3 GET

This operation is used for retrieval of a specific list changes subscription.

6.16.3.1 Example: Retrieve individual list changes subscription (Informative)

Retrieve a specific list changes subscription.

6.16.3.1.1 Request

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/subscriptions/abChanges/987654321 HTTP/1.1
Accept: application/xml
Host: example.com
```

6.16.3.1.2 Response

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 21:34:52 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:abChangesSubscription xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <listId>1234</listId>
  <callbackReference>
    <notifyURL>http://application.example.com/notifications/lists/1234</notifyURL>
```

```

    <callbackData>12345</callbackData>
  </callbackReference>
  <clientCorrelator>123</clientCorrelator>
  <applicationTag>myApp</applicationTag>
  <duration>6817</duration>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/subscriptions/abChanges/987654321
</resourceURL>
</ab:abChangesSubscription>

```

6.16.4 PUT

This operation is used to update and/or to extend the duration of a subscription.

6.16.4.1 Example: Update/Extend duration of subscription (Informative)

6.16.4.1.1 Request

```

PUT /exampleAPI/addressbook/v1/tel%3A%2B19585550100/subscriptions/abChanges/987654321 HTTP/1.1
Host: example.com
Accept: application/xml
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:abChangesSubscription xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <listId>1234</listId>
  <callbackReference>
    <notifyURL>http://application.example.com/notifications/lists/1234</notifyURL>
    <callbackData>12345</callbackData>
  </callbackReference>
  <clientCorrelator>123</clientCorrelator>
  <applicationTag>myApp</applicationTag>
  <duration>7200</duration>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/subscriptions/abChanges/987654321
</resourceURL>
</ab:abChangesSubscription>

```

6.16.4.1.2 Response

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length : nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:abChangesSubscription xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <listId>1234</listId>
  <callbackReference>
    <notifyURL>http://application.example.com/notifications/lists/1234</notifyURL>
    <callbackData>12345</callbackData>
  </callbackReference>
  <clientCorrelator>123</clientCorrelator>
  <applicationTag>myApp</applicationTag>
  <duration>7200</duration>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/subscriptions/abChanges/987654321
</resourceURL>
</ab:abChangesSubscription>
```

6.16.5 POST

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET, DELETE' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.16.6 DELETE

This operation deletes a subscription to list changes.

6.16.6.1 Example: Delete a list changes subscription (Informative)

6.16.6.1.1 Request

```
DELETE /exampleAPI/addressbook/v1/tel%3A%2B19585550100/subscriptions/abChanges/987654321 HTTP/1.1
Accept: application/xml
Host: example.com
```

6.16.6.1.2 Response

```
HTTP/1.1 204 No Content
Date: Fri, 10 Dec 2010 12:53:23 GMT
```

6.17 Resource: Client resource for list changes notifications

This resource is a callback URL provided by the client for notification about outbound message delivery status. The RESTful Address Book API does not make any assumption about the structure of this URL. If this URL is a Client-side Notification URL, the server will POST notifications directly to it. If this URL is a Server-side Notification URL, the server uses it to determine the address of the Notification Server to which the notifications will subsequently be POSTed. The way the server determines the address of the Notification Server is out of scope of this specification.

Note: In the case when the client has set up a Notification Channel to obtain the notifications, the client needs to use the mechanisms described in [REST_NetAPI_NotificationChannel], instead of the mechanism described below in section 6.17.5.

A notification SHALL be generated by the system in the following occasions:

Type of notification	Value of ResourceStatus	Generated in the following occasions:
Update number of contacts or members	Active	A contact is added/removed to/from the contact collection or a member is added/removed to/from a list
Remove contacts or members	Active	A contact is removed from the contact collection or a member is removed from a list
Update contact or member attributes	Active	A contact's or a member's attributes are updated (attribute added, changed or removed)
Update contact collection or list attributes	Active	A contact collection's or a list's attributes are updated (attribute added, changed or removed)
Final notification	TerminatedTimeout	The subscription has expired (time indicated by 'duration' has elapsed). Note: A request to delete the subscription does not generate a new notification.
	TerminatedNoResource	The subscription has been terminated since the resource (e.g. specified list) has been removed.
	TerminatedOther	The subscription has been terminated for an unknown reason.

- to indicate that the subscription has been terminated by the server.
(ResourceStatus=TerminatedTimeout/TerminatedNoResource/TerminatedOther)

6.17.1 Request URL variables

Client provided.

6.17.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

6.17.3 GET

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: POST' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.17.4 PUT

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: POST' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.17.5 POST

This operation is used to send notification about list change to the application.

6.17.5.1 Example 1: Notification for subscription with sendFullListContent=true (default) (Informative)

6.17.5.1.1 Request

```
POST /notifications/lists/1234 HTTP/1.1
Accept: application/xml
Host: application.example.com
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:abChangesNotification xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <callbackData>12345</callbackData>
  <resourceStatus>Active</resourceStatus>
  <duration>3480</duration>
  <link rel="Member" href="http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/
    members/sip%3Aalice@example.com"/>
  <link rel="AbChangesSubscription"
href="http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/subscriptions/abChanges/987654321"/>
</ab:abChangesNotification>
```

6.17.5.1.2 Response

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
```

6.17.5.2 Example 2: Notification for contact change subscription (Informative)

6.17.5.2.1 Request

```
POST /notifications/contacts HTTP/1.1
Accept: application/xml
Host: application.example.com
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:abChangesNotification xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <callbackData>54321</callbackData>
  <resourceStatus>Active</resourceStatus>
  <duration>4217</duration>
  <link rel="Contact" href="http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/ole"/>
  <link rel="AbChangesSubscription"
href="http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/subscriptions/abChanges/123456789"/>
</ab:abChangesNotification>
```

6.17.5.2.2 Response

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
```

6.17.5.3 Example 3: Notification for expired contact subscription (Informative)

6.17.5.3.1 Request

```
POST /notifications/contacts HTTP/1.1
Accept: application/xml
Host: application.example.com
Content-Type: application/xml
Content-Length: nnnn
```

```
<?xml version="1.0" encoding="UTF-8"?>
<ab:abChangesNotification xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <callbackData>54321</callbackData>
  <resourceStatus>TerminatedTimeout</resourceStatus>
  <link rel="AbChangesSubscription" href="http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/subscriptions/abChanges/123456789"/>
</ab:abChangesNotification>
```

6.17.5.3.2 Response

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
```

6.17.6 DELETE

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: POST' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.18 Resource: Collection of contacts shared by other user

The resource used is:

http://{serverRoot}/addressbook/{apiVersion}/{userId}/shared/{otherUserId}/contacts

This resource is used to retrieve contacts shared by user identified by otherUserId.

6.18.1 Request URL variables

The following request URL variables are common for all HTTP methods:

Name	Description
serverRoot	Server base url: hostname+port+base path. Port and base path are OPTIONAL. Example: example.com/exampleAPI
apiVersion	Version of the API client wants to use. The value of this variable is defined in section 5.1.
userId	Requesting user identifier. Examples: tel:+19585550105, acr:pseudonym456
otherUserId	Sharing user identifier. Examples: tel:+19585550100, acr:pseudonym123

See section 6 for a statement on the escaping of reserved characters in URL variables.

6.18.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

For Policy Exception and Service Exception fault codes applicable to the RESTful Address Book API, see section 7.

6.18.3 GET

This operation is used for retrieval of all contacts shared by user identified by otherUserId.

Supported parameters in the query string of the Request URL are:

Name	Type/Values	Optional	Description
indivFilter	xsd:string	Yes	<p>Defines the level of information related to a contact in a contact collection, returned in a GET response body.</p> <p>The syntax of this query parameter is: indivFilter = indivFilterValue, where indivFilterValue can take one of the values specified below.</p> <p>If indivFilter is absent, GET response body SHALL include all contact sub-elements, plus all contact attributes (default behaviour).</p> <p>If indivFilterValue = Contact attribute name (e.g. name1), GET response body SHALL include all contact sub-elements, plus only selected contact attributes (i.e. name1). Any number of indivFilter = indivFilterValue pairs separated by & are allowed.</p> <p>If indivFilterValue = ~noAttr, GET response body SHALL include all contact sub-elements and none of the contact attributes.</p> <p>If indivFilterValue = ~none, GET response body SHALL include none of the contact information (contact structure to be omitted).</p> <p>No other indivFilterValue is supported.</p>

6.18.3.1 Example 1: Retrieve contacts shared by a user identified by otherUserId with all contact attributes (default) (Informative)

6.18.3.1.1 Request

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/contacts HTTP/1.1
Accept: application/xml
Host: example.com
```

6.18.3.1.2 Response

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:contactCollection xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <contact>
    <contactId>alice</contactId>
    <sharedIdentity>
      <sharedId>sip:alice@example.com</sharedId>
    </sharedIdentity>
    <attributeList>
      <attribute>
        <name>display-name</name>
        <value>Alice</value>
      </attribute>
```

```

<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/contacts/
sip%3Aalice@example.com/attributes
</resourceURL>
</attributeList>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/contacts
/sip%3Aalice@example.com</resourceURL>
</contact>
<contact>
  <contactId>ole</contactId>
  <sharedIdentity>
    <sharedId>mailto:ole@example.com</sharedId>
  </sharedIdentity>
  <attributeList>
    <attribute>
      <name>display-name</name>
      <value>Ole</value>
    </attribute>
  </attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/contacts/
mailto%3Aole@example.com/
attributes</resourceURL>
  </attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/contacts/
mailto%3Aole@example.com
</resourceURL>
  <link rel="Member" href="http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/shared/lists/6789/members/
mailto%3Aole@example.com"/>
</contact>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/contacts
</resourceURL>
</ab:contactCollection>

```

6.18.3.2 Example 2: Retrieve contacts shared by a user identified by otherUserId without contacts attributes (Informative)

6.18.3.2.1 Request

```

GET /exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/contacts}?indivFilter=-noAttr HTTP/1.1
Accept: application/xml
Host: example.com

```

6.18.3.2.2 Response

```

HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:contactCollection xmlns:ab="urn:oma+xml:rest:netapi:addressbook:1">
  <contact>
    <contactId>alice</contactId>
    <sharedIdentity>
      <sharedId>sip:alice@example.com</sharedId>
    </sharedIdentity>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/contacts/

```

```

sip%3Aalice@example.com</resourceURL>
</contact>
<contact>
  <contactId>ole</contactId>
  <sharedIdentity>
    <sharedId>mailto:ole@example.com</sharedId>
  </sharedIdentity>
</resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/contacts/
mailto%3Aole@example.com</resourceURL>
  <link rel="Member" href="http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/shared/lists/6789/members/
mailto%3Aole@example.com"/>
</contact>
</resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/contacts
</resourceURL>
</ab:contactCollection>

```

6.18.4 PUT

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the ‘Allow: GET’ field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.18.5 POST

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the ‘Allow: GET’ field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.18.6 DELETE

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the ‘Allow: GET’ field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.19 Resource: Individual shared contact

The resource used is:

http://{serverRoot}/addressbook/{apiVersion}/{userId}/shared/{otherUserId}/contacts/{sharedIdentity}

This resource is used to retrieve a contact shared by user identified by otherUserId.

6.19.1 Request URL variables

The following request URL variables are common for all HTTP methods:

Name	Description
serverRoot	Server base url: hostname+port+base path. Port and base path are OPTIONAL. Example: example.com/exampleAPI
apiVersion	Version of the API client wants to use. The value of this variable is defined in section 5.1.
userId	Requesting user identifier. Examples: tel:+19585550105, acr:pseudonym456
otherUserId	Sharing user identifier. Examples: tel:+19585550100, acr:pseudonym123
sharedIdentity	Identifier of the shared contact. Examples: alice, mailto:alice@example.com

See section 6 for a statement on the escaping of reserved characters in URL variables.

6.19.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

For Policy Exception and Service Exception fault codes applicable to the RESTful Address Book API, see section 7.

6.19.3 GET

This resource is used to retrieve individual data about the shared contact.

Supported parameters in the query string of the Request URL are:

Name	Type/Values	Optional	Description
indivFilter	xsd:string	Yes	<p>Defines the level of information related to a contact in a contact collection, returned in a GET response body.</p> <p>The syntax of this query parameter is: indivFilter = indivFilterValue, where indivFilterValue can take one of the values specified below.</p> <p>If indivFilter is absent, GET response body SHALL include all contact sub-elements, plus all contact attributes (default behaviour).</p> <p>If indivFilterValue = Contact attribute name (e.g. name1), GET response body SHALL include all contact sub-elements, plus only selected contact attributes (i.e. name1). Any number of indivFilter = indivFilterValue pairs separated by & are allowed.</p> <p>If indivFilterValue = ~noAttr, GET response body SHALL include all contact sub-elements and none of the member attributes.</p> <p>If indivFilterValue = ~none, GET response body SHALL include none of the contact information (contact structure to be omitted).</p> <p>No other indivFilterValue is supported.</p>

6.19.3.1 Example 1: Retrieve information about individual shared contact using contactId (Informative)

In this example the contactId is known to the requestor.

6.19.3.1.1 Request

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/contacts/alice HTTP/1.1
Accept: application/xml
Host: example.com
```

6.19.3.1.2 Response

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:contact xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <contactId>alice</contactId>
  <attributeList>
    <attribute>
      <name>display-name</name>
      <value>Alice</value>
    </attribute>
```

```

<attribute>
  <name>cellphone</name>
  <value>tel:+19585550109</value>
</attribute>
<attribute>
  <name>state</name>
  <value>California</value>
</attribute>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/contacts/
alice/attributes</resourceURL>
</attributeList>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/contacts/alice
</resourceURL>
  <link rel="Member"
href="http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/
1234/members/tel%3A%2B19585550122"/>
</ab:contact>

```

6.19.3.2 Example 2: Retrieve information about individual shared contact using sharedIdentity (Informative)

In this example the requestor uses the publicly known address (sharedIdentity) of the shared contact to be retrieved.

6.19.3.2.1 Request

```

GET /exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/contacts/mailto%3Aalice@example.com
HTTP/1.1
Accept: application/xml
Host: example.com

```

6.19.3.2.2 Response

```

HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:contact xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <contactId>alice</contactId>
  <attributeList>
<attribute>
  <name>display-name</name>
  <value>Alice</value>
</attribute>
<attribute>
  <name>cellphone</name>
  <value>tel:+19585550109</value>
</attribute>
<attribute>
  <name>state</name>
  <value>California</value>
</attribute>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/contacts/
alice/attributes</resourceURL>

```

```

</attributeList>

<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/contacts/alic
e
</resourceURL>
<link rel="Member"
href="http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/members/
tel%3A%2B19585550122"/>
</ab:contact>

```

6.19.3.3 Example 3: Retrieve information about individual shared contact, with selected contact attributes (default) (Informative)

6.19.3.3.1 Request

```

GET /exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/contacts/alice?indivFilter=cellphone
HTTP/1.1
Accept: application/xml
Host: example.com

```

6.19.3.3.2 Response

```

HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:contact xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <contactId>alice</contactId>
  <attributeList>
<attribute>
  <name>cellphone</name>
  <value>tel:+19585550109</value>
</attribute>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/contacts/
alice/attributes</resourceURL>
</attributeList>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/contacts/alic
e
</resourceURL>
  <link rel="Member"
href="http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/members/tel
%3A%2B19585550122"/>
</ab:contact>

```

6.19.4 PUT

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.19.5 POST

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.19.6 DELETE

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.20 Resource: Collection of shared lists

The resource used is:

`http://{serverRoot}/addressbook/{apiVersion}/{userId}/shared/{otherUserId}/lists`

This resource is used to retrieve lists shared by user identified by otherUserId.

6.20.1 Request URL variables

The following request URL variables are common for all HTTP methods:

Name	Description
serverRoot	Server base url: hostname+port+base path. Port and base path are OPTIONAL. Example: example.com/exampleAPI
apiVersion	Version of the API client wants to use. The value of this variable is defined in section 5.1.
userId	Requesting user identifier. Examples: tel:+19585550105, acr:pseudonym456
otherUserId	Sharing user identifier. Examples: tel:+19585550100, acr:pseudonym123

See section 6 for a statement on the escaping of reserved characters in URL variables.

6.20.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

For Policy Exception and Service Exception fault codes applicable to the RESTful Address Book API, see section 7.

6.20.3 GET

This operation is used for retrieval of all lists shared by user identified by otherUserId.

Supported parameters in the query string of the Request URL are:

Name	Type/Values	Optional	Description
listFilter	xsd:string	Yes	<p>Defines the level of information related to a list, returned in a GET response body.</p> <p>The syntax of this query parameter is: listFilter = listFilterValue, where listFilterValue can take one of the values specified below.</p> <p>If listFilter is absent, GET response body SHALL include all the list sub-elements, plus all list attributes (default behaviour).</p> <p>If listFilterValue = List attribute name (e.g. name1), GET response body SHALL include all list sub-elements, plus only selected list attributes (i.e. name1). Any number of listFilter = listFilterValue pairs separated by & are allowed.</p> <p>If listFilterValue = ~noAttr, GET response body SHALL include all the list sub-elements and none of the list attributes.</p> <p>No other listFilterValue is supported.</p>
indivFilter	xsd:string	Yes	Defines the level of information related to a member in a list,

		<p>returned in a GET response body.</p> <p>The syntax of this query parameter is: indivFilter = indivFilterValue, where indivFilterValue can take one of the values specified below.</p> <p>If indivFilter is absent, GET response body SHALL include all member sub-elements, plus all member attributes (default behaviour).</p> <p>If indivFilterValue = Member attribute name (e.g. name1), GET response body SHALL include all member sub-elements, plus only selected member attributes (i.e. name1). Any number of indivFilter = indivFilterValue pairs separated by & are allowed.</p> <p>If indivFilterValue = ~noAttr, GET response body SHALL include all member sub-elements and none of the member attributes.</p> <p>If indivFilterValue = ~none, GET response body SHALL include none of the member information (member structure to be omitted).</p> <p>No other indivFilterValue is supported.</p>
--	--	--

6.20.3.1 Example 1: Retrieve lists shared by a user identified by otherUserId with all list attributes and all member attributes (default) (Informative)

6.20.3.1.1 Request

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists HTTP/1.1
Accept: application/xml
Host: example.com
```

6.20.3.1.2 Response

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:listCollection xmlns:ab="urn:oma+xml:rest:netapi:addressbook:1">
  <list>
    <listId>1234</listId>
    <memberCollection>
      <member>
        <memberId>sip:alice@example.com</memberId>
        <attributeList>
          <attribute>
            <name>display-name</name>
            <value>Alice</value>
          </attribute>
        </attributeList>
        <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/members/sip%3Aalice@example.com/attributes</resourceURL>
      </member>
    </memberCollection>
  </list>
</ab:listCollection>
```

```

    </member>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/me
mbers</resourceURL>
</memberCollection>
<category>URIList</category>
<sharedListIdentity>
  <sharedId>sip:bob@example.com;list=1234</sharedId>
</sharedListIdentity>
<attributeList>
  <attribute>
    <name>display-name</name>
    <value>Friends</value>
  </attribute>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/
attributes</resourceURL>
</attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234
</resourceURL>
</list>
<list>
  <listId>5678</listId>
  <memberCollection>
    <member>
      <memberId>mailto:liza@example.com</memberId>
      <attributeList>
        <attribute>
          <name>display-name</name>
          <value>Wife</value>
        </attribute>
        <attribute>
          <name>age</name>
          <value>42</value>
        </attribute>
      </attributeList>
      <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/5678/me
mbers/mailto%3Aliza@example.com/
attributes</resourceURL>
    </attributeList>
    <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/5678/me
mbers/mailto%3Aliza@example.com
  </resourceURL>
  </member>
  <member>
    <memberId>mailto:serezha@example.com</memberId>
    <attributeList>
      <attribute>
        <name>display-name</name>
        <value>Son</value>
      </attribute>
      <attribute>
        <name>phone</name>
        <value>tel:+19585550105</value>
      </attribute>
    </attributeList>
    <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/5678/me
mbers/mailto%3ASerezha@example.com/attributes</resourceURL>
  </attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/5678/me

```

```

members/mailto%3Aserezha@example.com
</resourceURL>
</member>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/5678/me
members</resourceURL>
</memberCollection>
<attributeList>
<attribute>
<name>display-name</name>
<value>Family</value>
</attribute>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/5678/
attributes</resourceURL>
</attributeList>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/5678
</resourceURL>
</list>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists
</resourceURL>
</ab:listCollection>

```

6.20.3.2 Example 2: Retrieve lists shared by a user identified by otherUserId without lists attributes, but with selected member attributes (Informative)

6.20.3.2.1 Request

```

GET /exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists?listFilter=-noAttr&indivFilter=phone
HTTP/1.1
Accept: application/xml
Host: example.com

```

6.20.3.2.2 Response

```

HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:listCollection xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
<list>
<listId>1234</listId>
<memberCollection>
<member>
<memberId>sip.alice@example.com</memberId>

<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/me
members/sip%3Aalice@example.com
</resourceURL>
</member>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/me
members</resourceURL>
</memberCollection>
<category>URList</category>
<sharedListIdentity>

```

```

    <sharedId>sip:bob@example.com;list=1234</sharedId>
  </sharedListIdentity>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234
</resourceURL>
</list>
<list>
  <listId>5678</listId>
  <memberCollection>
    <member>
      <memberId>mailto:liza@example.com</memberId>
    <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/5678/me
members/mailto%3Aliza@example.com
    </resourceURL>
    </member>
    <member>
      <memberId>mailto:serezha@example.com</memberId>
      <attributeList>
        <attribute>
          <name>phone</name>
          <value>tel:+19585550105</value>
        </attribute>
      <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/5678/me
members/mailto%3Aserezha@example.com/
attributes</resourceURL>
      </attributeList>
    <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/5678/me
members/mailto%3Aserezha@example.com
    </resourceURL>
    </member>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/5678/me
members</resourceURL>
  </memberCollection>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/5678
</resourceURL>
</list>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists
</resourceURL>
</ab:listCollection>

```

6.20.4 PUT

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.20.5 POST

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.20.6 DELETE

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.21 Resource: Individual shared list

The resource used is:

http://{serverRoot}/addressbook/{apiVersion}/{userId}/shared/{otherUserId}/lists/{sharedListIdentity}

This resource is used to retrieve individual list identified by sharedListIdentity shared by user identified by otherUserId with user identified by userId.

6.21.1 Request URL variables

The following request URL variables are common for all HTTP methods:

Name	Description
serverRoot	Server base url: hostname+port+base path. Port and base path are OPTIONAL. Example: example.com/exampleAPI
apiVersion	Version of the API client wants to use. The value of this variable is defined in section 5.1.
userId	Requesting user identifier. Examples: tel:+19585550105, acr:pseudonym456
otherUserId	Sharing user identifier. Examples: tel:+19585550100, acr:pseudonym123
sharedListIdentity	Shared list identifier. Example: myList

See section 6 for a statement on the escaping of reserved characters in URL variables.

6.21.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

For Policy Exception and Service Exception fault codes applicable to the RESTful Address Book API, see section 7.

6.21.3 GET

This operation is used for retrieval of all individual shared list information for a given user identity.

Supported parameters in the query string of the Request URL are:

Name	Type/Values	Optional	Description
listFilter	xsd:string	Yes	<p>Defines the level of information related to a list, returned in a GET response body.</p> <p>The syntax of this query parameter is: listFilter = listFilterValue, where listFilterValue can take one of the values specified below.</p> <p>If listFilter is absent, GET response body SHALL include all the list sub-elements, plus all list attributes (default behaviour).</p> <p>If listFilterValue = List attribute name (e.g. name1), GET response body SHALL include all list sub-elements, plus only selected list attributes (i.e. name1). Any number of listFilter = listFilterValue pairs separated by & are allowed.</p> <p>If listFilterValue = ~noAttr, GET response body SHALL include all the list sub-elements and none of the list attributes.</p> <p>No other listFilterValue is supported.</p>
indivFilter	xsd:string	Yes	<p>Defines the level of information related to a member in a list, returned in a GET response body.</p> <p>The syntax of this query parameter is: indivFilter = indivFilterValue, where indivFilterValue can take one of the values specified below.</p> <p>If indivFilter is absent, GET response body SHALL include all</p>

			<p>member sub-elements, plus all member attributes (default behaviour).</p> <p>If indivFilterValue = Member attribute name (e.g. name1), GET response body SHALL include all member sub-elements, plus only selected member attributes (i.e. name1). Any number of indivFilter = indivFilterValue pairs separated by & are allowed.</p> <p>If indivFilterValue = ~noAttr, GET response body SHALL include all member sub-elements and none of the member attributes.</p> <p>If indivFilterValue = ~none, GET response body SHALL include none of the member information (member structure to be omitted).</p> <p>No other indivFilterValue is supported.</p>
--	--	--	--

6.21.3.1 Example 1: Retrieve individual list shared by a user identified by otherUserId, with all list attributes and all member attributes (default) (Informative)

6.21.3.1.1 Request

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234 HTTP/1.1
Accept: application/xml
Host: example.com
```

6.21.3.1.2 Response

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:list xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <listId>1234</listId>
  <memberCollection>
    <member>
      <memberId>sip:alice@example.com</memberId>
      <attributeList>
        <attribute>
          <name>display-name</name>
          <value>Alice</value>
        </attribute>
      <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/members/sip%3Aalice@example.com/attributes</resourceURL>
    </attributeList>
      <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/members/sip%3Aalice@example.com</resourceURL>
    </member>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/members</resourceURL>
  </memberCollection>
  <category>URLList</category>
  <sharedListIdentity>
```

```

    <sharedId>sip:bob@example.com;list=1234</sharedId>
  </sharedListIdentity>
</attributeList>
  <attribute>
    <name>display-name</name>
    <value>Friends</value>
  </attribute>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/
attributes</resourceURL>
</attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234
</resourceURL>
</ab:list>

```

6.21.3.2 Example 2: Retrieve individual list shared by a user identified by otherUserId, with all list attributes and no member attributes (default) (Informative)

6.21.3.2.1 Request

```

GET /exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234?indivFilter=~noAttr HTTP/1.1
Accept: application/xml
Host: example.com

```

6.21.3.2.2 Response

```

HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:list xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <listId>1234</listId>
  <memberCollection>
    <member>
      <memberId>sip:alice@example.com</memberId>

      <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/
members/sip%3Aalice@example.com</resourceURL>
    </member>

    <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/
members</resourceURL>
  </memberCollection>
  <category>URIList</category>
  <sharedListIdentity>
    <sharedId>sip:bob@example.com;list=1234</sharedId>
  </sharedListIdentity>
  <attributeList>
    <attribute>
      <name>display-name</name>
      <value>Friends</value>
    </attribute>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/

```



```

attributes</resourceURL>
  </attributeList>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234
</resourceURL>
</ab:list>

```

6.21.4 PUT

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.21.5 POST

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.21.6 DELETE

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.22 Resource: Members in a shared list

The resource used is:

http://{serverRoot}/addressbook/{apiVersion}/{userId}/shared/{otherUserId}/lists/{sharedListIdentity}/members

This resource is used to retrieve all members in the list identified by sharedListIdentity shared by user identified by otherUserId with user identified by userId.

6.22.1 Request URL variables

The following request URL variables are common for all HTTP methods:

Name	Description
serverRoot	Server base url: hostname+port+base path. Port and base path are OPTIONAL. Example: example.com/exampleAPI
apiVersion	Version of the API client wants to use. The value of this variable is defined in section 5.1.
userId	Requesting user identifier. Examples: tel:+19585550105, acr:pseudonym456
otherUserId	Sharing user identifier. Examples: tel:+19585550100, acr:pseudonym123
sharedListIdentity	Shared list identifier. Example: myList

See section 6 for a statement on the escaping of reserved characters in URL variables.

6.22.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

For Policy Exception and Service Exception fault codes applicable to the RESTful Address Book API, see section 7.

6.22.3 GET

This operation is used for retrieval of all members of a shared list for a given user identity.

Supported parameters in the query string of the Request URL are:

Name	Type/Values	Optional	Description
indivFilter	xsd:string	Yes	<p>Defines the level of information related to a member in a list, returned in a GET response body.</p> <p>The syntax of this query parameter is: indivFilter = indivFilterValue, where indivFilterValue can take one of the values specified below.</p> <p>If indivFilter is absent, GET response body SHALL include all member sub-elements, plus all member attributes (default behaviour).</p> <p>If indivFilterValue = Member attribute name (e.g. name1), GET response body SHALL include all member sub-elements, plus only selected member attributes (i.e. name1). Any number of indivFilter = indivFilterValue pairs separated by & are allowed.</p> <p>If indivFilterValue = ~noAttr, GET response body SHALL include all member sub-elements and none of the member attributes.</p> <p>If indivFilterValue = ~none, GET response body SHALL include none of the member information (member structure to be omitted).</p> <p>No other indivFilterValue is supported.</p>

6.22.3.1 Example: Retrieve all members for a shared list belonging to a user with all attributes (default) (Informative)

6.22.3.1.1 Request

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/members HTTP/1.1
Accept: application/xml
Host: example.com
```

6.22.3.1.2 Response

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:memberCollection xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <member>
    <memberId>mailto:alice@example.com</memberId>
    <attributeList>
      <attribute>
        <name>display-name</name>
        <value>Alice</value>
      </attribute>
    </attributeList>
  </member>
</ab:memberCollection>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/members/
```

```

mailto%3Aalice@example.com/attributes</resourceURL>
  </attributeList>

<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/me
mbers/
mailto%3Aalice@example.com
  </resourceURL>
</member>
<member>
  <memberId>tel:+19585550124</memberId>
  <attributeList>
    <attribute>
      <name>display-name</name>
      <value>Bob</value>
    </attribute>
  </attributeList>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/me
mbers/
tel%3A%2B19585550124/attributes</resourceURL>
  </attributeList>

<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/me
mbers/
tel%3A%2B19585550124
  </resourceURL>
</member>

<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/me
mbers</resourceURL>
</ab:memberCollection>

```

6.22.4 PUT

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.22.5 POST

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.22.6 DELETE

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.23 Resource: Individual member information from shared list

The resource used is:

http://{serverRoot}/addressbook/{apiVersion}/{userId}/lists/sharedBy/{otherUserId}/{sharedListId}/members/{sharedMemberId}

This resource is used to retrieve individual member information from the list shared by user identified by otherUserId.

6.23.1 Request URL variables

The following request URL variables are common for all HTTP methods:

Name	Description
serverRoot	Server base url: hostname+port+base path. Port and base path are OPTIONAL. Example: example.com/exampleAPI
apiVersion	Version of the API client wants to use. The value of this variable is defined in section 5.1.
userId	Requesting user identifier. Examples: tel:+19585550105, acr:pseudonym456
otherUserId	Other user identifier. Examples: tel:+19585550100, acr:pseudonym123
sharedListIdentity	Shared list identifier. Examples: myList
memberId	List member identifier. Example: mailto:alice@example.com

See section 6 for a statement on the escaping of reserved characters in URL variables.

6.23.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

For Policy Exception and Service Exception fault codes applicable to the RESTful Address Book API, see section 7.

6.23.3 GET

This operation is used for retrieval of all information about a member in a shared list.

Supported parameters in the query string of the Request URL are:

Name	Type/Values	Optional	Description
indivFilter	xsd:string	Yes	<p>Defines the level of information related to a member in a list, returned in a GET response body.</p> <p>The syntax of this query parameter is: indivFilter = indivFilterValue, where indivFilterValue can take one of the values specified below.</p> <p>If indivFilter is absent, GET response body SHALL include all member sub-elements, plus all member attributes (default behaviour).</p> <p>If indivFilterValue = Member attribute name (e.g. name1), GET response body SHALL include all member sub-elements, plus only selected member attributes (i.e. name1). Any number of indivFilter = indivFilterValue pairs separated by & are allowed.</p> <p>No other indivFilterValue is supported.</p>

6.23.3.1 Example 1: Retrieve all member attributes about user identified as memberId from the list shared by a user identified by otherUserId (default)(Informative)

6.23.3.1.1 Request

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/members/
sip%3Aalice@example.com HTTP/1.1
Accept: application/xml
Host: example.com
```

6.23.3.1.2 Response

```

HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:member xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <memberId>sip:alice@example.com</memberId>
  <attributeList>
    <attribute>
      <name>display-name</name>
      <value>Alice</value>
    </attribute>
    <attribute>
      <name>cellphone</name>
      <value>19585550105</value>
    </attribute>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/members/sip%3Aalice@example.com
</resourceURL>
</attributeList>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/members/sip%3Aalice@example.com
</resourceURL>
</ab:member>

```

6.23.3.2 Example 2: Retrieve selected member attributes about user identified as memberId from the list shared by a user identified by otherUserId (default) (Informative)

6.23.3.2.1 Request

```

GET /exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/members/sip%3Aalice@example.com?indivFilter=cellphone HTTP/1.1
Accept: application/xml
Host: example.com

```

6.23.3.2.2 Response

```

HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:member xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <memberId>sip:alice@example.com</memberId>
  <attributeList>
    <attribute>
      <name>cellphone</name>
      <value>tel:+19585550105</value>
    </attribute>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/members/sip%3Aalice@example.com/
</resourceURL>
</ab:member>

```

```

attributes</resourceURL>
  </attributeList>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/me
mbers/sip%3Aalice@example.com
</resourceURL>
</ab:member>

```

6.23.4 PUT

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the ‘Allow: GET’ field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.23.5 POST

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the ‘Allow: GET’ field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.23.6 DELETE

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the ‘Allow: GET’ field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.24 Resource: Authorization rules

The resource used is:

http://{serverRoot}/addressbook/{apiVersion}/{userId}/authorizationRules

This resource is used to retrieve rules for access to shared lists, as well as for the creation of new authorization rules.

6.24.1 Request URL variables

The following request URL variables are common for all HTTP methods:

Name	Description
serverRoot	Server base url: hostname+port+base path. Port and base path are OPTIONAL. Example: example.com/exampleAPI
apiVersion	Version of the API client wants to use. The value of this variable is defined in section 5.1.
userId	User identifier. Examples: tel:+19585550100, acr:pseudonym123

See section 6 for a statement on the escaping of reserved characters in URL variables.

6.24.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

For Policy Exception and Service Exception fault codes applicable to the RESTful Address Book API, see section 7.

6.24.3 GET

This operation is used for retrieval of all authorization rules.

6.24.3.1 Example: Retrieve all authorization rules

(Informative)

6.24.3.1.1 Request

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules HTTP/1.1
Accept: application/xml
Host: example.com
```

6.24.3.1.2 Response

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:ruleList xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <rule>
    <ruleName>allowAllContacts</ruleName>
    <clientCorrelator>123</clientCorrelator>
    <applicationTag>myApp</applicationTag>
    <applToContacts>
      <allContacts/>
    </applToContacts>
    <authorizedTo>
      <listId>1234</listId>
    </authorizedTo>
    <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules/rule1</resourceURL>
  </rule>
  <rule>
    <ruleName>allowOwnContact</ruleName>
    <clientCorrelator>456</clientCorrelator>
    <applicationTag>myApp</applicationTag>
    <applToContacts>
      <contactId>bob</contactId>
    </applToContacts>
    <authorizedTo>
      <allSharedIdentities/>
    </authorizedTo>
    <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules/rule2</resourceURL>
  </rule>
  <rule>
    <ruleName>allowFriendsList</ruleName>
    <clientCorrelator>789</clientCorrelator>
    <applicationTag>myApp</applicationTag>
    <applToLists>
      <listId>1234</listId>
    </applToLists>
    <authorizedTo>
      <listId>1234</listId>
    </authorizedTo>
    <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules/rule3</resourceURL>
  </rule>
```

```
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules</resourceURL>
</ab:ruleList>
```

6.24.4 PUT

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET, POST' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.24.5 POST

This operation is used for creation of a new authorization rule.

6.24.5.1 Example: Create new rule for list and referenced contacts (Informative)

This rule allows users in the specified list (authorizedTo element) to retrieve the members in the same list and also the contacts that have references to the members in the list.

6.24.5.1.1 Request

```
POST /exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules HTTP/1.1
Accept: application/xml
Host: example.com
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:rule xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <ruleName>combinedRule</ruleName>
  <clientCorrelator>135</clientCorrelator>
  <applicationTag>myApp</applicationTag>
  <applToListsAndContacts>
    <listId>5678</listId>
  </applToListsAndContacts>
  <authorizedTo>
    <listId>5678</listId>
  </authorizedTo>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules/rule3</resourceURL>
</ab:rule>
```

6.24.5.1.2 Response

```
HTTP/1.1 201 Created
Date: Fri, 10 Dec 2010 21:33:52 GMT
Location: http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules/rule3
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:rule xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <ruleName>combinedRule</ruleName>
  <clientCorrelator>135</clientCorrelator>
  <applicationTag>myApp</applicationTag>
  <applToListsAndContacts>
    <listId>5678</listId>
  </applToListsAndContacts>
  <authorizedTo>
    <listId>5678</listId>
  </authorizedTo>
```



```
</authorizedTo>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules/rule3</resourceURL>
</ab:rule>
```

6.24.6 DELETE

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET, POST' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.25 Resource: Individual authorization rule

The resource used is:

http://{serverRoot}/addressbook/{apiVersion}/{userId}/authorizationRules/{ruleId}

This resource is used to retrieve an individual authorization rule for access to shared lists.

6.25.1 Request URL variables

The following request URL variables are common for all HTTP methods:

Name	Description
serverRoot	Server base url: hostname+port+base path. Port and base path are OPTIONAL. Example: example.com/exampleAPI
apiVersion	Version of the API client wants to use. The value of this variable is defined in section 5.1.
userId	User identifier. Examples: tel:+19585550100, acr:pseudonym123
ruleId	Rule identifier: Example: 987654321

See section 6 for a statement on the escaping of reserved characters in URL variables.

6.25.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

For Policy Exception and Service Exception fault codes applicable to the RESTful Address Book API, see section 7.

6.25.3 GET

This operation is used for retrieval of an individual authorization rule.

6.25.3.1 Example: Retrieve an authorization rule

(Informative)

6.25.3.1.1 Request

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules/rule1 HTTP/1.1
Accept: application/xml
Host: example.com
```

6.25.3.1.2 Response

```

HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:rule xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <ruleName>allowAllContacts</ruleName>
  <clientCorrelator>123</clientCorrelator>
  <applicationTag>myApp</applicationTag>
  <applToContacts>
    <allContacts/>
  </applToContacts>
  <authorizedTo>
    <listId>1234</listId>
  </authorizedTo>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules/rule1</resourceURL>
</ab:rule>

```

6.25.4 PUT

This operation is used to update an individual authorization rule.

6.25.4.1 Example: Update an existing authorization rule (Informative)

6.25.4.1.1 Request

```

PUT /exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules/rule1 HTTP/1.1
Accept: application/xml
Host: example.com
Content-Type: application/xml
Content-Length : nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:rule xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <ruleName>allowAllContacts</ruleName>
  <clientCorrelator>123</clientCorrelator>
  <applicationTag>myApp</applicationTag>
  <applToContacts>
    <allContacts/>
  </applToContacts>
  <authorizedTo>
    <listId>1234</listId>
    <listId>5678</listId>
  </authorizedTo>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules/rule1</resourceURL>
</ab:rule>

```

6.25.4.1.2 Response

```

HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length : nnnn

```

```
<?xml version="1.0" encoding="UTF-8"?>
<ab:rule xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <ruleName>allowAllContacts</ruleName>
  <clientCorrelator>123</clientCorrelator>
  <applicationTag>myApp</applicationTag>
  <applToContacts>
    <allContacts/>
  </applToContacts>
  <authorizedTo>
    <listId>1234</listId>
    <listId>5678</listId>
  </authorizedTo>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules/rule1</resourceURL>
</ab:rule>
```

6.25.5 POST

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.25.6 DELETE

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: GET' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.25.6.1.1 Request

```
DELETE /exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules/rule2 HTTP/1.1
Accept: application/xml
Host: example.com
```

6.25.6.1.2 Response

```
HTTP/1.1 204 No Content
Date: Fri, 10 Dec 2010 12:53:23 GMT
```

6.26 Resource: Individual authorization rule data

The resource used is:

http://{serverRoot}/addressbook/{apiVersion}/{userId}/authorizationRules/{ruleId}/[ResourceRelPath]

This resource is used to retrieve an individual authorization rule for access to shared lists.

This Light-weight Resource is used to manage authorized identities in an existing authorization rule, which include creation, update, retrieval, and delete operations.

6.26.1 Request URL variables

The following request URL variables are common for all HTTP methods:

Name	Description
serverRoot	Server base url: hostname+port+base path. Port and base path are OPTIONAL. Example: example.com/exampleAPI
apiVersion	Version of the API client wants to use. The value of this variable is defined in section 5.1.
userId	User identifier. Examples: tel:+19585550100, acr:pseudonym123
ruleId	Rule identifier: Example: 987654321
[ResourceRelPath]	Light-weight relative resource path. The allowed string for this Light-weight Resource is defined in the [ResourceRelPath] column in table 5.2.2.19.

See section 6 for a statement on the escaping of reserved characters in URL variables.

6.26.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

For Policy Exception and Service Exception fault codes applicable to the RESTful Address Book API, see section 7.

6.26.3 GET

This operation is used for retrieval of authorized identity in an individual authorization rule. It is typically used to verify if it already exists.

6.26.3.1 Example: Retrieve data from an authorization rule (Informative)

6.26.3.1.1 Request

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules/rule1/lists/1234 HTTP/1.1
Accept: application/xml
Host: example.com
```

6.26.3.1.2 Response

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:listId xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">1234</ab:listId>
```

6.26.4 PUT

This operation is used to add an authorized identity to individual authorization rule.

6.26.4.1 Example: Authorize user by updating an existing authorization rule (Informative)

6.26.4.1.1 Request

```
PUT /exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules/rule2/users/mailto%3Aalice@example.com HTTP/1.1
Accept: application/xml
Host: example.com
Content-Type: application/xml
Content-Length : nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:userId xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">mailto:alice@example.com</ab:userId>
```

6.26.4.1.2 Response

```
HTTP/1.1 201 Created
Date: Fri, 10 Dec 2010 12:51:59 GMT
Location: /exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules/rule2/users/mailto%3Aalice@example.com
Content-Type: application/xml
Content-Length : nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:userId xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">mailto:alice@example.com</ab:userId>
```

6.26.5 POST

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the ‘Allow: GET, PUT, DELETE’ field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.26.6 DELETE

This operation removes a previously authorized identity from an authorization rule.

6.26.6.1 Example: Delete an authorized identity (Informative)

6.26.6.1.1 Request

```
DELETE /exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules/rule2/users/mailto%3Aalice@example.com
HTTP/1.1
Accept: application/xml
Host: example.com
```

6.26.6.1.2 Response

```
HTTP/1.1 204 No Content
Date: Fri, 10 Dec 2010 12:53:23 GMT
```

6.27 Resource: Individual member transfer

The resource used is:

http://{serverRoot}/addressbook/{apiVersion}/{userId}/lists/{listId}/members/{memberId}/transfer

This resource is used to transfer a member from one list to another list.

6.27.1 Request URL variables

The following request URL variables are common for all HTTP methods:

Name	Description
serverRoot	Server base url: hostname+port+base path. Port and base path are OPTIONAL. Example: example.com/exampleAPI
apiVersion	Version of the API client wants to use. The value of this variable is defined in section 5.1.
userId	User identifier. Examples: tel:+19585550100, acr:pseudonym123
listId	List identifier. Example: allFriends

See section 6 for a statement on the escaping of reserved characters in URL variables.

6.27.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

For Policy Exception and Service Exception fault codes applicable to the RESTful Address Book API, see section 7.

6.27.3 GET

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: POST' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.27.4 PUT

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: POST' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

6.27.5 POST

This operation is used to transfer a member from one list to another list. In case of successful transfer, "303 See Other" SHALL be returned, providing a Location header and a resourceReference root element with the location representing the member in the destination list.

6.27.5.1 Example: Transfer a member from one list to another (Informative)

6.27.5.1.1 Request

```
POST /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/allFriends/members/tel%3A%2B19585550199/transfer
HTTP/1.1Accept: application/xml
Host: example.com
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:memberTransferParameters xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <destination>http://exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/blockedContacts</destination>
</ab:memberTransferParameters>
```

6.27.5.1.2 Response

```
HTTP/1.1 303 See Other
Date: Fri, 10 Dec 2010 12:53:23 GMT
Location:
http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/blockedContacts/members/tel%3A%2B19585550199
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<common:resourceReference xmlns:common="urn:oma:xml:rest:netapi:common:1">
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/blockedContacts/members/
tel%3A%2B19585550199</resourceURL>
</common:resourceReference>
```

6.27.6 DELETE

Method not allowed by the resource. The returned HTTP error status is 405. The server should also include the 'Allow: POST' field in the response as per sections 6.5.5 and 7.4.1 of [RFC7231].

7. Fault definitions

7.1 Service Exceptions

For common Service Exceptions refer to [REST_NetAPI_Common]. The following additional Service Exception codes are defined for the RESTful Address Book API

7.1.1 SVC0240: Key property changes not allowed

Name	Description
MessageID	SVC0240
Text	Key property changes not allowed: key property %1
Variables	%1 Key property
HTTP status code(s)	403 Forbidden

7.2 Policy Exceptions

For common Policy Exceptions refer to [REST_NetAPI_Common]. The following additional Policy Exception codes are defined for the RESTful Address Book API.

7.2.1 POL0210: Too many members in group

Name	Description
MessageID	POL0210
Text	Attempt to exceed maximum number of members in a group. Maximum number allowed is %1
Variables	%1 Maximum number allowed by Service Policy
HTTP status code(s)	403 Forbidden

7.2.2 POL0211: Subgroups not supported

Name	Description
MessageID	POL0211
Text	Attempted to add a group to an existing group. Subgroups are not supported
Variables	None
HTTP status code(s)	403 Forbidden

7.2.3 POL0212: Group name too long

Name	Description
MessageID	POL0212
Text	Group name is too long. Maximum length allowed is %1
Variables	%1 Maximum length allowed by Service Policy
HTTP status code(s)	403 Forbidden

7.2.4 POL0213: Group already exists

Name	Description
MessageID	POL0213
Text	Group URI %1 already exists. Group not created
Variables	%1 Group URI
HTTP status code(s)	403 Forbidden

7.2.5 POL0214: Too many resources

Name	Description
MessageID	POL0214
Text	Maximum number of permitted resources exceeded
Variables	None
HTTP status code(s)	403 Forbidden

Appendix A. Change History

(Informative)

A.1 Approved Version History

Reference	Date	Description
n/a	n/a	No prior version

A.2 Draft/Candidate Version 1.0 History

Document Identifier	Date	Sections	Description
Draft version: REST_NetAPI_AddressBook-V1_0	03 May 2011	Many	Structural changes to fit the OMA RESTful Network API release. This version inherits the technical content of OMA-TS-ParlayREST_AddressListManagement-V1_0-20110111-C and applies changes according to ARC INP 30R01, 98R02, 155R01,156R01, 167R02, 172R01, 175R01, 186, 187r02, and 167R04 (which also includes the fix equivalent of OMA-REST-M-2011- 2011-0009R01-CR_ALM_ParlayX_fix).
	27 May 2011	Many	Implemented CR: OMA-ARC-REST-NetAPI-2011-0028R03-CR_ALM_TS_Evolution_to_agreed_new_template
	06 Jun 2011	Many	Implemented AI: REST-NetAPI-2011-A025
	22 Jun 2011	Section 5.2.2.7	Implemented CR: OMA-ARC-REST-NetAPI-2011-0054-CR_ALM_TS_fix_value_type_in_Attribute
	28 Jun 2011	Many	Implemented CR OMA-ARC-REST-NetAPI-2011-0053-CR_ALM_address_issue_15_in_ParlayREST_issue_list
	23 Jul 2011	Many	Implemented: OMA-ARC-REST-NetAPI-2011-0126R03-CR_ALM_fix_examples_telURI, OMA-ARC-REST-NetAPI-2011-0148R01-CR_ALM_new_resource_for_member_transfer, editorials
	28 Jul 2011	Many	Implemented: OMA-ARC-REST-NetAPI-2011-0160-CR_ALM_Notif_Channel_changes
	03 Aug 2011	Many	Implemented: OMA-ARC-REST-NetAPI-2011-0168-CR_LW_resource_keys_as_elements_ALM_TS_NetAPI_mirror_of_REST_M_0021, OMA-ARC-REST-NetAPI-2011-0174-CR_ALM_Appendix_C_link_to_section_6 and REST-NetAPI-2011-A090
	11 Aug 2011	Many	Implemented: OMA-ARC-REST-NetAPI-2011-0188-CR_ALM_address_issues_5_and_7_from_ParlayREST_list
	24 Aug 2011	Many	Implemented: OMA-ARC-REST-NetAPI-2011-0190-CR_ALM_resourceURL
	01 Sep 2011	Many	Implemented: OMA-ARC-REST-NetAPI-2011-0200R04-CR_ALM_ACR
	23 Sep 2011	Many	Implemented: OMA-ARC-REST-NetAPI-2011-0214R02-CR_ALM_TS_opaque_vCard, OMA-ARC-REST-NetAPI-2011-0235-CR_ALM_vCard_example
	04 Oct 2011	Many	Implemented: OMA-ARC-REST-NetAPI-2011-0268-CR_ALM_prep_for_CONR
	25 Oct 2011	Many	Implemented: OMA-ARC-REST-NetAPI-2011-0270R02-CR_ALM_TS_changes_for_alignment_with_CAB
	01 Nov 2011	Many	Implemented: OMA-ARC-REST-NetAPI-2011-0333-CR_ALM_implement_CR_326_versioning_blueprint
	09 Nov 2011	Many	Implemented: OMA-ARC-REST-NetAPI-2011-0351-CR_AB_resourceURL_in_examples_and_other_agreed_fixes, OMA-ARC-REST-NetAPI-2011-0353-CR_AB_CR325_resourceURL_blueprint
	16 Nov 2011	Many	Implemented: OMA-ARC-REST-NetAPI-2011-0378R02-CR_AB_TS_prep_for_CONR, OMA-ARC-REST-NetAPI-2011-0379-CR_B_TS_change_SCRs_to_mandatory
08 Dec 2011	Many	Implemented: OMA-ARC-REST-NetAPI-2011-0381R01-CR_AB_TS_Appendix_G and editorials	
13 Dec 2011	Many	Implemented: OMA-ARC-REST-NetAPI-2011-0441R01-CR_AddressBook_acr_Autho	
10 Jan 2012	Many	Implemented: OMA-ARC-REST-NetAPI-2012-0001R01-CR_AddressBook_CONR_comments_resolution_1	
13 Jan 2012	Many	No content changes – it is a re-issue of the last draft that had many tables formatting issues. For visibility, all previous changes were preserved. Also reversed to Word 2003 format (.doc)	

Document Identifier	Date	Sections	Description
	25 Jan 2012	Many	Implemented: OMA-ARC-REST-NetAPI-2012-0020R03-CR_AddressBook_resolve_CONR_A019
	26 Jan 2012	Many	Implemented: OMA-ARC-REST-NetAPI-2012-0030R01-CR_AddressBook_Fix_CONR_A035, editorials
	30 Jan 2012	6.12, 6.27	Changed resource URLs to be all bold. Editorial changes
Candidate version: REST_NetAPI_AddressBook-V1_0	07 Feb 2012	n/a	Status changed to Candidate by TP TP Ref # OMA-TP-2012-0029- INP_REST_NetAPI_AddressBook_1_0_ERP_and_ETR_for_Candidate_Approval
Draft versions: REST_NetAPI_AddressBook-V1_0	13 Aug 2012	5.3, 5.3.3, 6.19.3.1.2, 6.19.3.2.2, 6.19.3.3.2, D.31	Incorporated CRs; OMA-ARC-REST-NetAPI-2012-0133-CR_AddressBook_POST_or_NOTIFY OMA-ARC-REST-NetAPI-2012-0172R01-CR_AB_example_fixes Editorial changes
	21 Aug 2012	5.2.2.12, 5.2.2.15, C.1, C.2	Incorporate CR; OMA-ARC-REST-NetAPI-2012-0222R02-CR_AB_clientCorrelator_resolution Editorial changes
	22 Aug 2012	5, 6.1.1, 6.2.1, 6.3.1, 6.4.1, 6.5.1, 6.6.1, 6.7.1, 6.8.1., 6.9.1, 6.10.1, 6.11.1, 6.12.1, 6.13.1, 6.14.1, 6.15.1, 6.16.1, 6.18.1, 6.19.1, 6.20.1, 6.21.1, 6.22.1, 6.23.1, 6.24.1, 6.25.1, 6.26.1, 6.27.1, 7, 7.2	Incorporate CR; OMA-ARC-REST-NetAPI-2012-0170R01-CR_AddressBook_TS_Adding_Section7_A054 Editorial changes
	02 Oct 2012	3.2, 3.3, 5, 5.2.2, 5.2.2.2, 5.2.2.5, 5.2.2.6, 5.2.2.7, 5.2.2.9, 5.2.2.12, 5.2.2.15, 5.3.1, 5.3.2, 5.3.3, 5.3.4, 5.3.5, 6, 6.1.1, 6.1.3, 6.2.1, 6.2.3, 6.3.1, 6.4, 6.4.1, 6.5.1, 6.5.3, 6.6.1, 6.6.3, 6.7.1, 6.8.1, 6.9.1, 6.9.3, 6.10.1, 6.10.3, 6.11.1, 6.12, 6.12.1, 6.13.1, 6.14, 6.14.1, 6.15.1, 6.16.1, 6.17, 6.18.1, 6.18.3, 6.19.1, 6.19.3, 6.20.1, 6.20.3, 6.21.1, 6.21.3, 6.22.1, 6.22.3, 6.23.1, 6.23.3, 6.24.1, 6.25.1, 6.26, 6.26.1, 6.27.1, 7.1.1, 7.2.5, B, C.1, C.2, C.3, F	Incorporated CR: OMA-ARC-REST-NetAPI-2012-0234-CR_ApplyingNewTemplate_AddressBook, with comments R&A Ref : REST-NetAPI-12-026. Editorial changes

Document Identifier	Date	Sections	Description
	22 Oct 2012	5.2.2.3, 6.1.3, 6.2.3, 6.4.3.2.2, 6.5.3, 6.6.3, 6.9.3, 6.10.3, 6.12.3.2.2, 6.14.3.2.2, 6.18.3, 6.19.3, 6.20.3, 6.21.3, 6.22.3, 6.23.3, D.19, F	Incorporated CR: OMA-ARC-REST-NetAPI-2012-0268R01- CR_AddressBook_minor_bug_fixes Template change to OMA-Template-Spec-RESTNetAPI-20120813-I Editorial changes
	17 Dec 2012	2.2, 3.2, 4.1, 5, 5.3.3, 6, 6.17, G.1.2	Incorporated CR: OMA-ARC-REST-NetAPI-2012-0294- CR_Messaging_apply_blueprints_for_auth_and_longpolling Editorial changes
	08 Feb 2013	all	Template updated.
Candidate version: REST_NetAPI_AddressBook- V1_0	12 Feb 2013	n/a	Status changed to Candidate by TP TP Ref # OMA-TP-2013-0053- INP_REST_NetAPI_AddressBook_V1_0_Candidate_ERP_for_Notification
Draft versions: REST_NetAPI_AddressBook- V1_0	14 Oct 2014	2.1, 6	Incorporated CR: OMA-ARC-REST-NetAPI-2014-0072-CR_ACR_reference_in_TS_AB Editorial changes
	04 Mar 2015	2.1, 6.1.4, 6.1.5, 6.1.6, 6.2.5, 6.3.4, 6.3.5, 6.3.6, 6.4.5, 6.5.4, 6.5.5, 6.5.6, 6.6.5, 6.7.4, 6.7.5, 6.7.6, 6.8.5, 6.9.4, 6.9.5, 6.9.6, 6.10.5, 6.11.4, 6.11.5, 6.11.6, 6.12.5, 6.13.4, 6.13.5, 6.13.6, 6.14.5, 6.15.4, 6.15.6, 6.16.5, 6.17.3, 6.17.4, 6.17.6, 6.18.4, 6.18.5, 6.18.6, 6.19.4, 6.19.5, 6.19.6, 6.20.4, 6.20.5, 6.20.6, 6.21.4, 6.21.5, 6.21.6, 6.22.4, 6.22.5, 6.22.6, 6.23.4, 6.23.5, 6.23.6, 6.24.4, 6.24.6, 6.25.5, 6.25.6, 6.26.5, 6.27.3, 6.27.4, 6.27.6, D, G.1.2	Incorporated CR: OMA-ARC-REST-NetAPI-2015-0022- CR_ABook_TS_updating_references Editorial changes
Candidate version: REST_NetAPI_AddressBook- V1_0	23 Oct 2015	n/a	Status changed to Candidate by TP TP Ref # OMA-TP-2015-0166- INP_REST_NetAPI_AddressBook_V1_0_ERP_for_Notification

Appendix B. Static Conformance Requirements (Normative)

The notation used in this appendix is specified in [SCRRULES].

B.1 SCR for REST.AB Server

Item	Function	Reference	Requirement
REST-AB-SUPPORT-S-001-M	Support for the RESTful AB API	5, 6	
REST-AB-SUPPORT-S-002-M	Support for the XML request & response format	6	
REST-AB-SUPPORT-S-003-M	Support for the JSON request & response format	6	
REST-AB-SUPPORT-S-004-O	Support for the application/x-form-urlencoded format	Appendix C	

B.1.1 SCR for REST.AB.ContactCollection Server

Item	Function	Reference	Requirement
REST-AB-CONTACT-COL-S-001-M	Support contact collection with all of user's contacts	6.1	
REST-AB-CONTACT-COL-S-002-M	This operation retrieves all contacts in the contact collection - GET	6.1.3	

B.1.2 SCR for REST.AB.IndividualContact Server

Item	Function	Reference	Requirement
REST-AB-CONTACT-IND--S-001-M	Support individual contact in contact collection	6.2	
REST-AB-CONTACT-IND-S-002-M	This operation retrieves information of a contact in the contact collection - GET	6.2.3	
REST-AB-CONTACT-IND-S-003-M	This operation adds or updates a contact in the contact collection - PUT	6.2.4	
REST-AB-CONTACT-IND-S-004-M	This operation deletes a contact in the contact collection - DELETE	6.2.6	

B.1.3 SCR for REST.AB.AttributesForAContact Server

Item	Function	Reference	Requirement
REST-AB-ATTRIB-CONTACT-S-001-M	Supports retrieval of all attributes of a contact	6.3	
REST-AB-CONTACT-S-002-M	This operation retrieves all attributes for a contact – GET	6.3.3	

B.1.4 SCR for REST.AB.IndividualAttributeForAContact Server

Item	Function	Reference	Requirement
REST-AB-IND-ATTRIB-CONTACT-S-001-M	Support for management (create, update, retrieve and delete) of a contact's single attribute.	6.4	
REST-AB-IND-ATTRIB-CONTACT-S-002-M	This operation returns the value of the attribute for a member – GET	6.4.3	
REST-AB-IND-ATTRIB-CONTACT-S-003-M	This operation creates or updates an attribute for a member – PUT	6.4.4	
REST-AB-IND-ATTRIB-CONTACT-S-004-M	This operation removes an attribute for a member - DELETE	6.4.6	

B.1.5 SCR for REST.AB.Lists Server

Item	Function	Reference	Requirement
REST-AB- MEM-LS-S-001-M	Support for retrieving all lists belonging to a user.	6.5	
REST-AB- MEM-LS-S-002-M	This operation retrieves all lists the user has created - GET	6.5.3	

B.1.6 SCR for REST.AB.IndividualList Server

Item	Function	Reference	Requirement
REST-AB-IND-MEM-LS-001-M	Support for management (create, update, retrieve and delete) of an individual list.	6.6	
REST-AB-IND-MEM-LS-002-M	This operation retrieves the list - GET	6.6.3	
REST-AB-IND-MEM-LS-003-M	This operation creates or updates the entire list - PUT	6.6.4	
REST-AB-IND-MEM-LS-004-M	This operation removes the list including attributes and members - DELETE	6.6.6	

B.1.7 SCR for REST.AB.AttributesForAList Server

Item	Function	Reference	Requirement
REST-AB-ATTRIB-MEM-LS-S-001-O	Support for retrieving all attributes for a given list belonging to a user.	6.7	REST-AB-ATTRIB-MEM-LS-S-002-O
REST-AB-ATTRIB-MEM-LS-S-002-O	This operation returns all attributes for a list - GET	6.7.3	

B.1.8 SCR for REST.AB.IndividualAttributeForAList Server

Item	Function	Reference	Requirement
REST-AB-IND-ATTRIB-MEM-LS-MGT-001-O	Support for management (create, update, retrieve and delete) of individual attributes for a list.	6.8	REST-AB-IND-ATTRIB-MEM-LS-MGT-002-O AND REST-AB-IND-ATTRIB-MEM-LS-MGT-003-O AND REST-AB-IND-ATTRIB-MEM-LS-MGT-004-O
REST-AB-IND-ATTRIB-MEM-LS-MGT-002-O	This operation returns the value of the list attribute -GET	6.8.3	
REST-AB-IND-ATTRIB-MEM-LS-MGT-003-O	This operation creates or updates an attribute - PUT	6.8.4	
REST-AB-IND-ATTRIB-MEM-LS-MGT-004-O	This operation deletes an attribute - DELETE	6.8.6	

B.1.9 SCR for REST.AB.MemberInAList Server

Item	Function	Reference	Requirement
REST-AB-MBR-MEM-LS-S-001-O	Supports retrieval of all members of a list belonging to a user	6.9	REST-AB-MBR-MEM-LS-S-002-O
REST-AB-MBR-MEM-LS-S-002-O	This operation retrieves the members in the list - GET	6.9.3	

B.1.10 SCR for REST.AB.IndividualMemberInAList Server

Item	Function	Reference	Requirement
REST-AB-IND-MBR-MEM-LS-S-001-O	Support for management (create, update, retrieve and delete) of members on individual list.	6.10	REST-AB-IND-MBR-MEM-LS-S-002-O REST-AB-IND-MBR-MEM-LS-S-003-O REST-AB-IND-MBR-MEM-LS-S-004-O
REST-AB-IND-MBR-MEM-LS-S-002-O	This operation retrieves a user from a list - GET	6.10.3	
REST-AB-IND-MBR-MEM-LS-S-003-O	This operation creates and updates an entry in the list - PUT	6.10.4	
REST-AB-IND-MBR-MEM-LS-S-004-O	This operation removes the member from the list - DELETE	6.10.6	

B.1.11 SCR for REST.AB.AttributesForAMemberInAList Server

Item	Function	Reference	Requirement
REST-AB-ATTRIB-MBR-MEM-LS-S-001-O	Supports retrieval of all attributes of a member of a list belonging to a user	6.11	REST-AB-ATTRIB-MBR-MEM-LS-S-002-O
REST-AB-ATTRIB-MBR-MEM-LS-S-002-O	This operation returns all attributes for a member – GET	6.11.3	

B.1.12 SCR for REST.AB.IndividualAttributeForAMemberInAList Server

Item	Function	Reference	Requirement
REST-AB-IND-ATTRIB-MEM-LS-S-001-O	Support for management (create, update, retrieve and delete) of member attributes on individual list.	6.12	REST-AB-IND-ATTRIB-MEM-LS-S-002-O AND REST-AB-IND-ATTRIB-MEM-LS-S-003-O AND REST-AB-IND-ATTRIB-MEM-LS-S-004-O
REST-AB-IND-ATTRIB-MEM-LS-S-002-O	This operation returns the value of the attribute for a member – GET	6.12.3	
REST-AB-IND-ATTRIB-MEM-LS-S-003-O	This operation creates or updates an attribute for a member – PUT	6.12.4	
REST-AB-IND-ATTRIB-MEM-LS-S-004-O	This operation removes an attribute for a member - DELETE	6.12.6	

B.1.13 SCR for REST.AB.ListReferences Server

Item	Function	Reference	Requirement
REST-AB-MEM-LS-REF-S-001-O	Supports retrieval of a list of references for all nested lists.	6.13	REST-AB-MEM-LS-REF-S-002-O
REST-AB-MEM-LS-REF-S-002-O	This operation returns a list of references to other lists. – GET	6.13.3	

B.1.14 SCR for REST.AB.IndivListReference Server

Item	Function	Reference	Requirement
REST-AB-IND-MEM-LS-REF-S-001-O	Supports retrieval of a list of references for all nested lists.	6.14	REST-AB-IND-MEM-LS-REF-S-002-O AND REST-AB-IND-MEM-LS-REF-S-003-O AND REST-AB-IND-MEM-LS-REF-S-004-O
REST-AB-IND-MEM-LS-REF-S-002-O	This operation returns an individual list reference to another list – GET	6.14.3	
REST-AB-IND-MEM-LS-REF-S-003-O	This operation creates or updates an individual reference to another list. – PUT	6.14.4	
REST-AB-IND-MEM-LS-REF-S-004-O	This operation deletes an individual reference to another list. – DELETE	6.14.6	

B.1.15 SCR for REST.AB.List.Subscr Server

Item	Function	Reference	Requirement
REST-AB-SUBSCR-S-001-M	Support subscriptions for address book changes notifications	6.15	
REST-AB-SUBSCR-S-002-M	This operation retrieves a list of subscriptions - GET	6.15.3	
REST-AB-SUBSCR-S-003-M	This operation creates a subscription for list or contact collection change notifications – POST (XML or JSON)	6.15.5	
REST-AB-SUBSCR-S-004-O	This operation creates a subscription for list or contact collection change notifications – POST (application/x-www-form-urlencoded)	C.1	

B.1.16 SCR for REST.AB.Individual.Subscr Server

Item	Function	Reference	Requirement
REST-AB-IND-SUBSCR-S-001-M	Support for managing an individual subscription for list or contact collection change notifications	6.16	
REST-AB-IND-SUBSCR-S-002-M	This operation retrieves an individual subscription for list or contact collection change notifications - GET	6.16.3	
REST-AB-IND-SUBSCR-S-003-M	This operation updates an individual subscription for list or contact collection change notifications - PUT	6.16.4	
REST-AB-IND-SUBSCR-S-004-M	This operation deletes an individual subscription for list or contact collection change notifications - DELETE	6.16.6	

B.1.17 SCR for REST.AB.Notif Server

Item	Function	Reference	Requirement
REST-AB-NOTIF-S-001-M	Support for notifying application about list or contact collection changes	6.17	
REST-AB-NOTIF-S-002-M	This operation notifies the application about list or contact collection changes - POST	6.17.5	

B.1.18 SCR for REST.AB.Shared.ContactCollection Server

Item	Function	Reference	Requirement
REST-AB-SHAREDCONCOLL-S-001-O	Support shared contact collection	6.18	REST-AB-SHAREDCONCOLL-S-002-O
REST-AB-SHAREDCONCOLL-S-002-O	This operation retrieves the collection of shared contacts by one user with another user - GET	6.18.3	

B.1.19 SCR for REST.AB.Individual.Shared.Contact Server

Item	Function	Reference	Requirement
REST-AB-IND-SHAREDCON-S-001-O	Support individual shared contact	6.19	REST-AB-IND-SHAREDCON-S-002-O
REST-AB-IND-SHAREDCON-S-002-O	This operation retrieves an individual shared contact by one user with another user - GET	6.19.3	

B.1.20 SCR for REST.AB.Shared.Lists Server

Item	Function	Reference	Requirement
REST-AB-SHAREDLISTS-S-001-O	Support shared lists	6.20	REST-AB-SHAREDLISTS-S-002-O
REST-AB-SHAREDLISTS-S-002-O	This operation retrieves a collection of all shared lists by one user with another user - GET	6.20.3	

B.1.21 SCR for REST.AB.Individual.Shared.List Server

Item	Function	Reference	Requirement
REST-AB-IND-SHAREDLIST-S-001-O	Support individual shared list	6.21	REST-AB-IND-SHAREDLIST-S-002-O
REST-AB-IND-SHAREDLIST-S-002-O	This operation retrieves an individual shared list by one user with another user - GET	6.21.3	

B.1.22 SCR for REST.AB.Members.Ind.Shared.List Server

Item	Function	Reference	Requirement
REST-AB-MEM-IND-SHAREDLIST-S-001-O	Support list of members in individual shared list	6.22	REST-AB-MEM-IND-SHAREDLIST-S-002-O
REST-AB-MEM-IND-SHAREDLIST-S-002-O	This operation retrieves a list of members in an individual shared list by one user with another user - GET	6.22.3	

B.1.23 SCR for REST.AB.Member.Shared.List Server

Item	Function	Reference	Requirement
REST-AB-MEMBER-SHAREDLIST-S-001-O	Support individual member in shared list	6.23	REST-AB-MEMBER-SHAREDLIST-S-002-O
REST-AB-MEMBER-SHAREDLIST-S-002-O	This operation retrieves information of an individual member in a shared list - GET	6.23.3	

B.1.24 SCR for REST.AB.Authorization.RuleList Server

Item	Function	Reference	Requirement
REST-AB-AUTH-RULE-LS-S-001-O	Support authorization rules for sharing lists or contacts	6.24	REST-AB-AUTH-RULE-LS-S-002-O AND REST-AB-AUTH-RULE-LS-S-003-O
REST-AB-AUTH-RULE-LS-S-002-O	This operation retrieves all authorization rules owned by a given user - GET	6.24.3	
REST-AB-AUTH-RULE-LS-S-003-O	This operation creates a new authorization rule – POST (XML or JSON)	6.24.5	
REST-AB-AUTH-RULE-LS-S-004-O	This operation creates a new authorization rule – POST (application/x-www-form-urlencoded)	C.2	

B.1.25 SCR for REST.AB.Indiv.AuthorizationRule Server

Item	Function	Reference	Requirement
REST-AB-IND-AUTH-RULE-S-001-O	Support individual authorization rule	6.25	REST-AB-IND-AUTH-RULE-S-002-O AND REST-AB-IND-AUTH-RULE-S-003-O AND REST-AB-IND-AUTH-RULE-S-004-O
REST-AB-IND-AUTH-RULE-S-002-O	This operation retrieves an individual authorization rule - GET	6.25.3	
REST-AB-IND-AUTH-RULE-S-003-O	This operation updates an individual authorization rule - PUT	6.25.4	
REST-AB-IND-AUTH-RULE-S-004-O	This operation deletes an individual authorization rule - DELETE	6.25.6	

B.1.26 SCR for REST.AB.Indiv.AuthorizationRuleData Server

Item	Function	Reference	Requirement
REST-AB-IND-AUTH-RULE-DATA-S-001-O	Support individual authorization rule data	6.26	REST-AB-IND-AUTH-RULE-DATA-S-002-O AND REST-AB-IND-AUTH-RULE-DATA-S-003-O AND REST-AB-IND-AUTH-RULE-DATA-S-004-O
REST-AB-IND-AUTH-RULE-DATA-S-002-O	This operation retrieves an individual authorization rule specific data - GET	6.26.3	
REST-AB-IND-AUTH-RULE-DATA-S-003-O	This operation updates an individual authorization rule specific data - PUT	6.26.4	
REST-AB-IND-AUTH-RULE-DATA-S-004-O	This operation deletes an individual authorization rule specific data - DELETE	6.26.6	

B.1.27 SCR for REST.AB.IndividualMemberTransfer Server

Item	Function	Reference	Requirement
REST-AB-IND-MEM-TRANS-S-001-M	Supports for transferring a member to another list	6.27	
REST-AB-IND-MEM-TRANS-S-002-M	Transferring a member to another list – POST (XML or JSON)	6.27.5	
REST-AB-IND-MEM-TRANS-S-003-O	Transferring a member to another list – POST (application/x-www-form-urlencoded)	C.3	

Appendix C. Application/x-www-form-urlencoded Request Format for POST Operations (Normative)

This section defines a format for RESTful Address Book API requests where the body of the request is encoded using the application/x-www-form-urlencoded MIME type.

Note: only the request body is encoded as application/x-www-form-urlencoded, the response is still encoded as XML or JSON depending on the preference of the client and the capabilities of the server. Names and values MUST follow the application/x-www-form-urlencoded character escaping rules from [W3C_URLENC].

The encoding is defined below for the following Address Book REST operations which are based on POST requests:

- Create a subscription for list changes notification
- Create an authorization rule
- Transfer a member from one list to another list

C.1 Create a subscription for list changes notifications

This operation is used to create a new subscription for list changes notifications, see section 6.15.5.

This REST operation is used by the application to start the list changes notifications. It MUST use the HTTP POST operation. If the operation was successful, it returns an HTTP Status of “201 Created”.

The notifyURL either contains the Client-side Notification URL (as defined by the client) or the Server-side Notification URL (as obtained during the creation of the Notification Channel [REST_NetAPI_NotificationChannel]).

The following parameters are defined:

Name	Type/Values	Optional	Description
anyContacts	xsd:boolean	Choice	Indicates a subscription for changes about any contacts in the 'ContactCollection'.
listId	xsd:anyURI	Choice	Indicates a subscription for changes about the specified list.
notifyURL	xsd:anyURI	No	Notification endpoint definition. For the use of Client-side Notification URLs and Server-side Notification URLs in this parameter, see sections 6.15 and 6.15.5.
callbackData	xsd:string	Yes	Data the application can register with the server when subscribing to notifications, and that are passed back unchanged in each of the related notifications.
clientCorrelator	xsd:string	Yes	A correlator that the client can use to tag this particular resource representation during a request to create a resource on the server. This field MAY be present. Note: this allows the client to recover from communication failures during resource creation and therefore avoids duplicate subscription creation in such situations. In case the field is present, the server SHALL not alter its value, and SHALL provide it as part of the representation of this resource. In case the field is not present, the server SHALL NOT generate it.
applicationTag	xsd:string	Yes	A tag that the client MAY use to tag this particular resource on the server. In case the field is present, the server SHALL not alter its value, and SHALL provide it as part of the representation of this resource. In case the field is not present, the server SHALL NOT generate it.
duration	xsd:int	Yes	Subscription duration in seconds. Server would expire subscription after specified number of seconds after subscription creation. If not specified – default value assigned by the server.
notificationFormat	xsd:string	Yes	Default: XML Application can specify format of the resource representation in notifications that are related to this subscription. The choice is between {XML, JSON}

Note: “choice” indicates an optional selection of either anyContacts or listId.

C.1.1 Example using 'tel' URI

(Informative)

C.1.1.1 Request

```
POST /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/subscriptions/abChanges HTTP/1.1
Accept: application/xml
Host: example.com
Content-Type: application/x-www-form-urlencoded
Content-Length: nnnn

listId=1234&
notifyURL=http://application.example.com/notifications/lists/1234&
callbackData=12345&
clientCorrelator=123&
```

```
applicationTag=myApp&
duration=7200&
```

C.1.1.2 Response

```
HTTP/1.1 201 Created
Date: Fri, 10 Dec 2010 21:33:52 GMT
Location: http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/subscriptions/abChanges/987654321
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:abChangesSubscription xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <listId>1234</listId>
  <callbackReference>
    <notifyURL>http://application.example.com/notifications/lists/1234</notifyURL>
    <callbackData>12345</callbackData>
  </callbackReference>
  <clientCorrelator>123</clientCorrelator>
  <applicationTag>myApp</applicationTag>
  <duration>7200</duration>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/subscriptions/abChanges/987654321
</resourceURL>
</ab:abChangesSubscription>
```

C.1.2 Example using 'acr' URI

(Informative)

C.1.2.1 Request

```
POST /exampleAPI/addressbook/v1/acr%3A%2B19585550100/subscriptions HTTP/1.1
Accept: application/xml
Host: example.com
Content-Type: application/x-www-form-urlencoded
Content-Length: nnnn

listId=1234&
notifyURL=http://application.example.com/notifications/lists/1234&
callbackData=12345&
clientCorrelator=123&
applicationTag=myApp&
duration=7200&
```

C.1.2.2 Response

```
HTTP/1.1 201 Created
Date: Fri, 10 Dec 2010 21:33:52 GMT
Location: http://example.com/exampleAPI/addressbook/v1/acr%3A%2B19585550100/subscriptions/abChanges/987654321
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:abChangesSubscription xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <listId>1234</listId>
  <callbackReference>
    <notifyURL>http://application.example.com/notifications/lists/1234</notifyURL>
```



```
<callbackData>12345</callbackData>
</callbackReference>
<clientCorrelator>123</clientCorrelator>
<applicationTag>myApp</applicationTag>
<duration>7200</duration>
<resourceURL>http://example.com/exampleAPI/addressbook/v1/acr%3A pseudonym123/subscriptions/abChanges/987654321
</resourceURL>
</ab:abChangesSubscription>
```

C.2 Create an authorization rule

This operation is used to create an authorization rule, see section 6.24.5. It MUST use the HTTP POST operation. If the operation was successful, it returns an HTTP Status of “201 Created”.

The following parameters are defined:

Name	Type/Values	Optional	Description
ruleName	xsd:ID	No	A name associated with the rule. It is a key property of the rule and when included in the Light-weight Resource URL then it SHALL NOT be altered.
clientCorrelator	xsd:string	Yes	A correlator that the client can use to tag this particular resource representation during a request to create a resource on the server. This field SHOULD be present. Note: this allows the client to recover from communication failures during resource creation and therefore avoids duplicate subscription creation in such situations. In case the field is present, the server SHALL not alter its value, and SHALL provide it as part of the representation of this resource. In case the field is not present, the server SHALL NOT generate it.
applicationTag	xsd:string	Yes	A tag that the client MAY use to tag this particular resource on the server. In case the field is present, the server SHALL not alter its value, and SHALL provide it as part of the representation of this resource. In case the field is not present, the server SHALL NOT generate it.
appItoContacts	xsd:anyURI [0..unbounded]	Choice1	The rule applies to the list of specified 'contactId' that are in the 'ContactCollection'.
appItoAllContacts	xsd:boolean	Choice1	The rule applies to all contacts.
appItoLists	xsd:anyURI [0..unbounded]	Choice2	The rule applies to the specified list of 'listId'.
appItoAllLists	xsd:boolean	Choice2	The rule applies to all lists.
appItoListsAndContacts	xsd:anyURI [0..unbounded]	Choice3	The rule applies to the specified list. The rule applies also to contacts that are referenced from the specified list.
appItoAllListsAndContacts	xsd:boolean	Choice3	The rule applies for all lists and referenced contacts.
authorizedToUserId	xsd:string [0..unbounded]	Choice4	User is authorized to access a resource for which the rule is applicable to.
authorizedToAllSharedIdentities	xsd:boolean	Choice4	All contacts with shared identities are authorized to access a resource for which the rule is applicable to.
authorizedToListId	xsd:anyURI [0..unbounded]	Choice4	Users within the list are authorized to access a resource for which the rule is applicable to.
authorizedToAllLists	xsd:boolean	Choice4	Users within all lists are authorized to access a resource for which the rule is applicable to.
authorizedToExternalList	xsd:anyURI [0..unbounded]	Choice4	Users within the list (owned by another user) are authorized to access a resource for which the rule is applicable to.
authorizedToDomainName	xsd:string [0..unbounded]	Choice4	Users within the domain are authorized to access a resource for which the rule is applicable to.
authorizedToOtherUser	xsd:boolean	Choice4	Any user is authorized to access a resource for which the rule is applicable to.
listFilter	xsd:string [0..unbounded]	Yes	Filter for list attributes (section 6.5) the retrieving user is allowed to see. An empty filter means that the user has access to all attributes.
indivFilter	xsd:string	Yes	Filter for member and contact attributes (section 6.1 and

	[0..unbounded]		6.9) the retrieving user is allowed to see. An empty filter means that the user has access to all attributes.
--	----------------	--	--

Note:

- “choice1” indicates an optional selection of either applicableToContacts or applicableToAllContacts
- “choice2” indicates an optional selection of either applicableToLists or applicableToAllLists
- “choice3” indicates an optional selection of either applicableToListsAndContacts or applicableToAllListsAndContacts
- “choice4” indicates an optional selection of either authorizedToUserId or authorizedToAllSharedIdentities or authorizedToListId or authorizedToAllLists or authorizedToApplicableToContacts or applicableToAllContacts

C.2.1 Example

(Informative)

C.2.1.1 Request

```
POST /exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules HTTP/1.1
Accept: application/xml
Host: example.com
Content-Type: application/x-www-form-urlencoded
Content-Length: nnnn

ruleName=combinedRule&
clientCorrelator=135&
applicationTag=myApp&
applToListsAndContacts=5678&
authorizedToListId=5678
```

C.2.1.2 Response

```
HTTP/1.1 201 Created
Date: Fri, 10 Dec 2010 21:33:52 GMT
Location: http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules/rule3
Content-Type: application/xml
Content-Length: nnnn

<?xml version="1.0" encoding="UTF-8"?>
<ab:rule xmlns:ab="urn:oma:xml:rest:netapi:addressbook:1">
  <ruleName>combinedRule</ruleName>
  <clientCorrelator>135</clientCorrelator>
  <applicationTag>myApp</applicationTag>
  <applToListsAndContacts>
    <listId>5678</listId>
  </applToListsAndContacts>
  <authorizedTo>
    <listId>5678</listId>
  </authorizedTo>
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules/rule3</resourceURL>
</ab:rule>
```

C.3 Transfer a member from one list to another

This operation is used to transfer a member from one list to another, see section 6.27.5.

The following parameters are defined:

Name	Type/Values	Optional	Description
destination	xsd:anyURI	No	Contains a relative URI representing the list where the member is to be transferred.

C.3.1 Example: (Informative)

C.3.1.1 Request

```
POST /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/allFriends/members/tel%3A%2B19585550199/transfer HTTP/1.1
```

```
Accept: application/xml
Host: example.com
Content-Type: application/x-www-form-urlencoded
Content-Length: nnnn
```

```
destination=
http%3A%2F%2Fexample.com%2FexampleAPI%2F1%2Faddressbook%2Ftel%3A%2B19585550100%2Flists%2FblockedContacts
```

C.3.1.2 Response

```
HTTP/1.1 303 See Other
Date: Fri, 10 Dec 2010 21:33:52 GMT
Location:
http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/blockedContacts/members/tel%3A%2B19585550199
Content-Type: application/xml
Content-Length: nnnn
```

```
<?xml version="1.0" encoding="UTF-8"?>
<common:resourceReference xmlns:common="urn:oma:xml:rest:netapi:common:1">
  <resourceURL>http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/blockedContacts/members/
tel%3A%2B19585550199</resourceURL>
</common:resourceReference>
```

Appendix D. JSON examples (Informative)

JSON (JavaScript Object Notation) is a light-weight, text-based, language-independent data interchange format. It provides a simple means to represent basic name-value pairs, arrays and objects. JSON is relatively trivial to parse and evaluate using standard JavaScript libraries, and hence is suited for invocations from browsers or other processors with JavaScript engines. Further information on JSON can be found at [RFC7159].

The following examples show the request and response for various operations using a JSON binding. The examples follow the XML to JSON serialization rules in [REST_NetAPI_Common]. A JSON response can be obtained by using the content type negotiation mechanism specified in [REST_NetAPI_Common].

For full details on the operations themselves please refer to the section number indicated.

D.1 Retrieve all contacts with all attributes (default) (section 6.1.3.1)

Request:

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/json
Content-Length: nnnn

{"contactCollection": {
  "contact": [
    {
      "attributeList": {"attribute": [
        {
          "name": "display-name",
          "value": "Alice"
        },
        {
          "name": "cellphone",
          "value": "tel:+19585550109"
        },
        {
          "name": "state",
          "value": "California"
        }
      ]
    },
    "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/alice/attributes"
  ],
  "contactId": "alice",
  "link": {
    "href":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/tel%3A%2B19585550122",
    "rel": "Member"
  },
  "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/alice"
},
{
```

```

    "attributeList": {"attribute": [
      {
        "name": "display-name",
        "value": "Sam"
      },
      {
        "name": "cellphone",
        "value": "tel:+19585550108"
      },
      {
        "name": "state",
        "value": "New Jersey"
      }
    ]},
    "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/sam/attributes"
  },
  "contactId": "sam",
  "link": [
    {
      "href":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/tel%3A%2B19585550121",
      "rel": "Member"
    },
    {
      "href":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/members/tel%3A%2B19585550121",
      "rel": "Member"
    }
  ],
  "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/sam",
  "sharedIdentity": {"sharedId": "tel:+19585550121"}
}
],
"resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts"
}}

```

D.2 Retrieve a contact with all attributes (default) (section 6.2.3.1)

Request:

```

GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/alice HTTP/1.1
Accept: application/json
Host: example.com

```

Response:

```

HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/json
Content-Length: nnnn

```

```

{"contact": {
  "attributeList": {"attribute": [
    {

```

```

    "name": "display-name",
    "value": "Alice"
  },
  {
    "name": "cellphone",
    "value": "tel:+19585550109"
  },
  {
    "name": "state",
    "value": "California"
  }
],
"resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/alice/attributes"
},
"contactId": "alice",
"link": {
  "href": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/tel%3A%2B19585550122",
  "rel": "Member"
},
"resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/alice"
}}

```

D.3 Retrieve a contact with only vCard2.1 as selected attribute (section 6.2.3.3)

Request:

```

GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/alice HTTP/1.1
Accept: application/json
Host: example.com

```

Response:

```

HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/json
Content-Length: nnnn

{"contact": {
  "attributeList": {"attribute": [
    {
      "name": "vCard2.1",
      "objectValue":
"QKVH5U46VknBUKQNCIZFUINJT046Mi4xDQpOOkd1bXA7Rm9ycmVzdA0KRk46Rm9ycmVzdCBHdW1wDQpPUkc6QnViYmEgR3Vtc
CBTaHJpbXAgQ28uDQpUSVRMRTpTaHJpbXAgTWFuDQpURUw7V09SSztWT0IDRTooMTEExKSA1NTUuMTIxMg0KVEVMO0hPTUU7
Vk9JQ0U6KDQwNCKgNTU1LTEyMTINCKfEUjtXT1JLOjs7MTAwfDhdGVycyBFZGdlO0JheXRvd247TEE7MzAzMTQ7VW5pdGVkIFN
0YXRlcyBvZiBBbWVyaWNhDQpMQUJFTDxtXT1JLO0VOQ09ESU5HPVFVT1RFRC1QUklOVEFCTEU6MTAwfDhdGVycyBFZGdlPTBE
PTBBQmF5dG93biwgTEEgMzAzMTQ9MEQ9MEFVbml0ZWQgU3RhdGVzIG9mIEFtZXJpY2ENCkFEUjItT01FOjs7NDIlgUGxhbnRhdGlv
biBTdC47QmF5dG93bjtMQTszMDMxNDIvbmI0ZWQgU3RhdGVzIG9mIEFtZXJpY2ENCkxvQkVMO0hPTUU7RU5DT0RJTkc9UVVPVE
VELVBSSU5UQUJMRT0mIBQbGFudGF0aW9uIFN0Lj0wRD0wQUJheXRvd24sIExBIDMwMzE0PTBEPTBBVW5pdGVkIFN0YXRlcyBv
ZiBBbWVyaWNhDQpFTUfJTDtQUkVGO0IOVEVSTkVUOmZvcnJlc3RndW1wQGv4YW1wbGUuY29tDQpSRVY6MjAwODAMjRUMTK
1MjQzWg0KRU5EOIZDQVJE"
    }
  ]
}
"resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/alice/attributes"

```

```

    },
    "contactId": "alice",
    "link": {
      "href": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/tel%3A%2B19585550122",
      "rel": "Member"
    },
    "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/alice"
  }}

```

D.4 Create a new contact (section 6.2.4.1)

Request:

```

PUT /exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/maria HTTP/1.1
Content-Type: application/json
Accept: application/json
Content-Length : nnnn
Host: example.com

```

```

{"contact": {
  "attributeList": {"attribute": {
    "name": "cellphone",
    "value": "tel:+19585550106"
  }},
  "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/maria/attributes"
},
"contactId": "maria",
"resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/maria"
}}

```

Response:

```

HTTP/1.1 201 Created
Date: Fri, 10 Dec 2010 12:51:59 GMT
Location: http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/maria
Content-Type: application/json
Content-Length: nnnn

```

```

{"contact": {
  "attributeList": {"attribute": {
    "name": "cellphone",
    "value": "tel:+19585550106"
  }},
  "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/maria/attributes"
},
"contactId": "maria",
"resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/maria"
}}

```


D.5 Retrieve all attributes of a contact (section 6.3.3.1)

Request:

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/maria/attributes HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/json
Content-Length: nnnn

{"attributeList": {
  "attribute": {
    "name": "cellphone",
    "value": "tel:+19585550106"
  },
  "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/maria/attributes"
}}
```

D.6 Retrieve a contact's attribute (section 6.4.3.1)

Request:

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/alice/attributes/cellphone HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/json
Content-Length: nnnn

{"attribute": {
  "name": "cellphone",
  "value": "tel:+19585550109"
}}
```

D.7 Create or update a contact's attribute (section 6.4.4.1)

Request:

```
PUT /exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/alice/attributes/married HTTP/1.1
Accept: application/json
Host: example.com
Content-Type: application/json
Content-Length : nnnn

{"attribute": {
  "name": "married",
  "value": "true"
}}
```

```
}}
```

Response:

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/json
Content-Length: nnnn
```

```
{"attribute": {
  "name": "married",
  "value": "true"
}}
```

D.8 Retrieve specific lists attributes and specific member attributes (section 6.5.3.3)

Request:

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists?listFilter=display-name&indivFilter=display-name&indivFilter=phone
HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/json
Content-Length: nnnn

{"listCollection": {"list": [
  {
    "attributeList": {"attribute": {
      "name": "display-name",
      "value": "Friends"
    }},
    "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/attributes"
  },
  "category": "URList",
  "memberCollection": {"member": {
    "attributeList": {"attribute": {
      "name": "display-name",
      "value": "Alice"
    }},
    "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/sip%3Aalice@example.com/attributes"
  }},
  "memberId": "sip:alice@example.com",
  "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/sip%3Aalice@example.com"
  },
  "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members"
  },
  "listId": "1234",
```

```

"resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234",
"sharedListIdentity": {"sharedId": "sip:bob@example.com;list=1234"}
},
{
"attributeList": {"attribute": {
"name": "display-name",
"value": "Family"
}},
"resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/attributes"
},
"memberCollection": {"member": [
{
"attributeList": {"attribute": {
"name": "display-name",
"value": "Wife"
}},
"resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/mailto%3Aliza@example.com/attributes"
},
"memberId": "mailto:liza@example.com",
"resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/mailto%3Aliza@example.com"
},
{
"attributeList": {"attribute": [
{
"name": "display-name",
"value": "Son"
}},
{
"name": "phone",
"value": "tel:+19585550105"
}}
]},
"resourceURL":
http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/members/mailto%3Aserezha@exampl
e.com/
attributes
},
"memberId": "mailto:serezha@example.com",
"resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/members/mailto%3Aserezha@example.com"
}
],
"resourceURL": http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678/members
},
"listId": "5678",
"resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678"
}
]],
"resourceURL": http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists
}

```

D.9 Retrieve a list with all attributes and all member attributes (default) (section 6.6.3.1)

Request:

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234 HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/json
Content-Length: nnnn

{"list": {
  "attributeList": {"attribute": {
    "name": "display-name",
    "value": "Friends"
  }},
  "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/attributes"
},
"memberCollection": {"member": {
  "attributeList": {"attribute": {
    "name": "display-name",
    "value": "Alice"
  }},
  "resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/sip%3Aalice@example.com/attributes"
},
  "memberId": "sip:alice@example.com",
  "resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/sip%3Aalice@example.com"
}},
"listId": "1234",
"resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234"
}}
```

D.10 Retrieve a non existing list (section 6.6.3.4)

Request:

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/4321 HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/json
Content-Length: nnnn

{"requestError": {
  "link": {
```

```

    "href": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/4321",
    "rel": "List"
  },
  "serviceException": {
    "messageId": "SVC0002",
    "text": "Invalid input value for message part %1",
    "variables": "listId"
  }
}
}}

```

D.11 Create a list (section 6.6.4.1)

Request:

```

PUT /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/bobPublic HTTP/1.1
Accept: application/json
Host: example.com
Content-Type: application/json
Content-Length: nnnn

{"list": {
  "memberCollection": {
    "member": {
      "memberId": "mailto:alice@example.com",
      "resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/bobPublic/members/mailto%3Aalice@example.com"
    },
    "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/bobPublic/members"
  },
  "listId": "bobPublic",
  "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/bobPublic"
}}

```

Response:

```

HTTP/1.1 201 Created
Date: Fri, 10 Dec 2010 12:51:59 GMT
Location: http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/bobPublic
Content-Type: application/json
Content-Length: nnnn

{"list": {
  "memberCollection": {
    "member": {"memberId": "mailto:alice@example.com",
      "resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/bobPublic/members/mailto%3Aalice@example.com"
    },
    "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/bobPublic/members"
  },
  "listId": "bobPublic",
  "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/bobPublic"
}}

```

D.12 Retrieve all attributes for a list belonging to Bob (section 6.7.3.1)

Request:

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/attributes HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/json
Content-Length: nnnn

{"attributeList": {
  "attribute": [
    {
      "name": "display-name",
      "value": "Friends"
    },
    {
      "name": "date-created",
      "value": "Fri, 10 Dec 2010 11:28:34 GMT"
    }
  ]
},
"resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/attributes"
}}
```

D.13 Retrieve an attribute value (section 6.8.3.1)

Request:

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/attributes/date-created HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/json
Content-Length: nnnn

{"attribute": {
  "name": "date-created",
  "value": "Fri, 10 Dec 2010 11:28:34 GMT"
}}
```

D.14 Create an attribute (section 6.8.4.1)

Request:

```
PUT /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/attributes/display-name HTTP/1.1
Accept: application/json
Host: example.com
Content-Type: application/json
Content-Length: nnnn

{"attribute": {
  "name": "display-name",
  "value": "Close friends"
}}
```

Response:

```
HTTP/1.1 201 Created
Date: Fri, 10 Dec 2010 12:51:59 GMT
Location: http://{serverRoot}/addressbook/{apiVersion}/tel%3A%2B19585550100/lists/{listId}
Content-Type: application/json
Content-Length: nnnn

{"attribute": {
  "name": "display-name",
  "value": "Close friends"
}}
```

D.15 Retrieve all members for a list belonging to a user with all attributes (default) (section 6.9.3.1)

Request:

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/json
Content-Length: nnnn

{"memberCollection": {
  "member": [
    {
      "attributeList": {"attribute": {
        "name": "display-name",
        "value": "Alice"
      }},
      "resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/mailto%3Aalice@example.com/attributes"
    },

```

```

    "memberId": "mailto:alice@example.com",
    "resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/mailto%3Aalice@example.com"
  },
  {
    "attributeList": {"attribute": {
      "name": "display-name",
      "value": "Bob"
    }},
    "resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/tel%3A%2B19585550124/attributes"
  },
  "memberId": "tel:+19585550124",
  "resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/tel%3A%2B19585550124"
}
],
"resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members"
}}

```

D.16 Retrieve a member and selected attributes (section 6.10.3.2)

Request:

```

GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/sip%3Aalice@example.com?indivFilter=cellphone
Accept: application/json
Host: example.com

```

Response:

```

HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/json
Content-Length: nnnn

{"member": {
  "attributeList": {"attribute": {
    "name": "cellphone",
    "value": "tel:+19585550155"
  }},
  "resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/mailto%3Aalice@example.com"
},
  "memberId": "sip:alice@example.com",
  "resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/mailto%3Aalice@example.com"
}}

```


D.17 Create a member without a link to the contact (section 6.10.4.1)

Request:

```
PUT /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/6789/members/mailto%3Aole@example.com HTTP/1.1
Accept: application/json
Host: example.com
Content-Type: application/json
Content-Length : nnnn

{"member": {
  "attributeList": {"attribute": {
    "name": "display-name",
    "value": "Ole"
  }},
  "resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/6789/members/mailto%3Aole@example.com/attributes"
},
  "memberId": "mailto:ole@example.com",
  "resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/6789/members/mailto%3Aole@example.com"
}}
```

Response:

```
HTTP/1.1 201 Created
Date: Fri, 10 Dec 2010 12:51:59 GMT
Location: http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/6789/members/mailto%3Aole@example.com
Content-Type: application/json
Content-Length: nnnn

{"member": {
  "attributeList": {"attribute": {
    "name": "display-name",
    "value": "Ole"
  }},
  "resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/6789/members/mailto%3Aole@example.com/attributes"
},
  "memberId": "mailto:ole@example.com",
  "resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/6789/members/mailto%3Aole@example.com"
}}
```

D.18 Retrieve all attributes of a member of a list (section 6.11.3.1)

Request:

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/6789/members/mailto%3Aalice@example.com/attributes HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```

HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/json
Content-Length: nnnn

{"attributeList": {
  "attribute": [
    {
      "name": "display-name",
      "value": "Alice"
    },
    {
      "name": "cellphone",
      "value": "tel:+19585550155"
    }
  ],
  "resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234/members/mailto%3Aalice@example.com/attributes"
}}
```

D.19 Retrieve a member's non existing attribute (section 6.12.3.2)

Request:

```

GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/6789/members/sip%3Aalice@example.com/attributes/pet
Accept: application/json
Host: example.com
```

Response:

```

HTTP/1.1 404 Not Found
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/json
Content-Length: nnnn

{"requestError": {"serviceException": {
  "messageId": "SVC0002",
  "text": "Invalid input value for message part %1",
  "variables": "pet"
}}}

```

D.20 Create a member's attribute (section 6.12.4.1)

Request:

```

PUT /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/6789/members/sip%3Aalice@example.com/attributes/born HTTP/1.1
Accept: application/json
Host: example.com
Content-Type: application/json
Content-Length: nnnn

{"attribute": {
  "name": "born",
```

```
"value": "1984"
}}
```

Response:

```
HTTP/1.1 201 Created
Date: Fri, 10 Dec 2010 12:51:59 GMT
Location:http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/6789/members/sip%3Aalice@example.com/attributes/born
Content-Type: application/json
Content-Length: nnnn

{"attribute": {
  "name": "born",
  "value": "1984"
}}
```

D.21 Retrieve all list references in a list (section 6.13.3.1)

Request:

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/allFriends/listReferences HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/json
Content-Length: nnnn

{"listReferenceCollection": {
  "link": [
    {
      "href": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234",
      "rel": "List"
    },
    {
      "href": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678",
      "rel": "List"
    }
  ],
  "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/friends/listReferences"
}}
```

D.22 Retrieve a list reference (section 6.14.3.1)

Request:

```
GET
/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/allFriends/listReferences/http%3A/example.com/exampleAPI/addressbook/
v1/tel%3A%2B19585550100/lists/1234 HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/json
Content-Length: nnnn

{"link": {
  "href": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/1234",
  "rel": "List"
}}
```

D.23 Create a list reference (section 6.14.4.1)

Request:

```
PUT
/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/allFriends/listReferences/http%3A//example.com/exampleAPI/addressbook/v
1/tel%3A%2B19585550100/lists/5678 HTTP/1.1
Content-Type: application/json
Accept: application/json
Host: example.com
Content-Length: nnnn

{"link": {
  "href": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678",
  "rel": "List"
}}
```

Response:

```
HTTP/1.1 201 Created
Date: Fri, 10 Dec 2010 12:51:59 GMT
Location: http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/allFriends/listReferences/
http%3A//example.com/exampleAPI/addressbook/v1/tel%3A%2B 19585550100/lists/5678
Content-Type: application/json
Content-Length: nnnn

{"link": {
  "href": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/5678",
  "rel": "List"
}}
```

D.24 Retrieve all list changes subscriptions (section 6.15.3.1)

Request:

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/subscriptions/abChanges HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```

HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/json
Content-Length: nnnn

{"abChangesSubscriptionCollection": {
  "abChangesSubscription": [
    {
      "applicationTag": "myApp",
      "callbackReference": {
        "callbackData": "12345",
        "notifyURL": "http://application.example.com/notifications/lists/1234"
      },
      "clientCorrelator": "123",
      "duration": "1958",
      "listId": "1234",
      "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/subscriptions/abChanges/987654321"
    },
    {
      "anyContacts": null,
      "applicationTag": "myApp",
      "callbackReference": {
        "callbackData": "54321",
        "notifyURL": "http://application.example.com/notifications/contacts"
      },
      "clientCorrelator": "456",
      "duration": "2641",
      "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/subscriptions/abChanges/123456789"
    }
  ],
  "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/subscriptions/abChanges"
}}

```

D.25 Create new subscription for list changes notification using 'tel' URI (section 6.15.5.1)

Request:

```

POST /exampleAPI/addressbook/v1/tel%3A%2B19585550100/subscriptions/abChanges HTTP/1.1
Accept: application/json
Host: example.com
Content-Type: application/json
Content-Length: nnnn

{"abChangesSubscription": {
  "applicationTag": "myApp",
  "callbackReference": {
    "callbackData": "12345",
    "notifyURL": "http://application.example.com/notifications/lists/1234"
  },
  "clientCorrelator": "123",
  "duration": "7200",
  "listId": "1234"
}}

```

```
}}
```

Response:

```
HTTP/1.1 201 Created
Date: Fri, 10 Dec 2010 21:33:52 GMT
Location: http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/subscriptions/abChanges/987654321
Content-Type: application/json
Content-Length: nnnn

{"abChangesSubscription": {
  "applicationTag": "myApp",
  "callbackReference": {
    "callbackData": "12345",
    "notifyURL": "http://application.example.com/notifications/lists/1234"
  },
  "clientCorrelator": "123",
  "duration": "7200",
  "listId": "1234",
  "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/subscriptions/abChanges/987654321"
}}
```

D.26 Create new subscription for list changes notification using 'acr' URI (section 6.15.5.2)

Request:

```
POST /exampleAPI/addressbook/v1/acr%3A%2B19585550100/subscriptions/abChanges HTTP/1.1
Accept: application/json
Host: example.com
Content-Type: application/json
Content-Length: nnnn

{"abChangesSubscription": {
  "applicationTag": "myApp",
  "callbackReference": {
    "callbackData": "12345",
    "notifyURL": "http://application.example.com/notifications/lists/1234"
  },
  "clientCorrelator": "123",
  "duration": "7200",
  "listId": "1234"
}}
```

Response:

```
HTTP/1.1 201 Created
Date: Fri, 10 Dec 2010 21:33:52 GMT
Location: http://example.com/exampleAPI/addressbook/v1/acr%3A%2B19585550100/subscriptions/abChanges/987654321
Content-Type: application/json
Content-Length: nnnn

{"abChangesSubscription": {
  "applicationTag": "myApp",
  "callbackReference": {
```

```
"callbackData": "12345",
"notifyURL": "http://application.example.com/notifications/lists/1234
},
"clientCorrelator": "123",
"duration": "7200",
"listId": "1234",
"resourceURL": "http://example.com/exampleAPI/addressbook/v1/acr%3A%2B19585550100/subscriptions/abChanges/987654321"
}}
```

D.27 Retrieve individual list changes subscription (section 6.16.3.1)

Request:

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/subscriptions/abChanges/987654321 HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/json
Content-Length: nnnn

{"abChangesSubscription": {
  "applicationTag": "myApp",
  "callbackReference": {
    "callbackData": "12345",
    "notifyURL": "http://application.example.com/notifications/lists/1234"
  },
  "clientCorrelator": "123",
  "duration": "6817",
  "listId": "1234",
  "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/subscriptions/abChanges/987654321"
}}
```

D.28 Update/Extend duration of subscription (section 6.16.4.1)

Request:

```
PUT /exampleAPI/addressbook/v1/tel%3A%2B19585550100/subscriptions/abChanges/987654321 HTTP/1.1
Accept: application/json
Host: example.com
Content-Type: application/json
Content-Length: nnnn

{"abChangesSubscription": {
  "applicationTag": "myApp",
  "callbackReference": {
    "callbackData": "12345",
    "notifyURL": "http://application.example.com/notifications/lists/1234"
  },
  "clientCorrelator": "123",
  "duration": "7200",
```

```

"listId": "1234",
"resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/subscriptions/abChanges/987654321"
}}

```

Response:

```

HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/json
Content-Length: nnnn

{"abChangesSubscription": {
  "applicationTag": "myApp",
  "callbackReference": {
    "callbackData": "12345",
    "notifyURL": "http://application.example.com/notifications/lists/1234"
  },
  "clientCorrelator": "123",
  "duration": "7200",
  "listId": "1234",
  "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/subscriptions/abChanges/987654321"
}}

```

D.29 Notification for contact change subscription (section 6.17.5.2)

Request:

```

POST /notifications/contacts HTTP/1.1
Accept: application/json
Host: application.example.com
Content-Type: application/json
Content-Length: nnnn

{"abChangesNotification": {
  "callbackData": "54321",
  "duration": "4217",
  "link": [
    {
      "href": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/contacts/ole",
      "rel": "Contact"
    },
    {
      "href": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/subscriptions/abChanges/123456789",
      "rel": "AbChangesSubscription"
    }
  ],
  "resourceStatus": "Active"
}}

```

Response:

```

HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT

```


D.30 Retrieve contacts shared by a user identified by otherUserId with all contact attributes (section 6.18.3.1)

Request:

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/contacts HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/json
Content-Length: nnnn

{"contactCollection": {
  "contact": [
    {
      "attributeList": {"attribute": {
        "name": "display-name",
        "value": "Alice"
      }},
      "resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/contacts/sip%3Aalice@example.com/attributes"
    },
    "contactId": "alice",
    "resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/contacts/sip%3Aalice@example.com",
    "sharedIdentity": {"sharedId": "sip:alice@example.com"}
  },
  {
    "attributeList": {"attribute": {
      "name": "display-name",
      "value": "Ole"
    }},
    "resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/contacts/mailto%3Aole@example.com/attributes"
  },
  "contactId": "ole",
  "link": {
    "href":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/shared/lists/6789/members/mailto%3Aole@example.com",
    "rel": "Member"
  },
  "resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/contacts/mailto%3Aole@example.com",
  "sharedIdentity": {"sharedId": "mailto:ole@example.com"}
  }
  ],
  "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/contacts"
}}
```

D.31 Retrieve information about individual shared contact using contactId (section 6.19.3.1)

Request:

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/contacts/alice HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/json
Content-Length: nnnn

{"contact": {
  "attributeList": {"attribute": [
    {
      "name": "display-name",
      "value": "Alice"
    },
    {
      "name": "cellphone",
      "value": "tel:+19585550109"
    },
    {
      "name": "state",
      "value": "California"
    }
  ]},
  "resourceURL":
  "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/contacts/alice/attributes",
  "contactId": "alice",
  "link": {
    "href":
    "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/members/
    tel%3A%2B19585550122",
    "rel": "Member"
  },
  "resourceURL":
  "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/contacts/alice"
}}
```

D.32 Retrieve lists shared by a user identified by otherUserId without lists attributes, but with selected member attributes (section 6.20.3.2)

Request:

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists?listFilter=-noAttr& indivFilter=phone
HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/json
Content-Length: nnnn

{"listCollection": {"list": [
  {
    "category": "URIList",
    "memberCollection": {"member": {
      "memberId": "sip:alice@example.com",
      "resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/members/
sip%3Aalice@example.com"
    }},
    "resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/members"
  },
  "listId": "1234",
  "resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234",
  "sharedListIdentity": {"sharedId": "sip:bob@example.com;list=1234"}
},
  {
    "memberCollection": {"member": [
      {
        "memberId": "mailto:liza@example.com",
        "resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/5678/members/
mailto%3Aliza@example.com"
      },
      {
        "attributeList": {"attribute": {
          "name": "phone",
          "value": "tel:+19585550105"
        }},
        "resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/5678/members/
mailto%3Aserezha@example.com/attributes"
      },
      "memberId": "mailto:serezha@example.com",
      "resourceURL":
```

```

"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/5678/members/
mailto%3Aserezha@example.com"
  }
],
  "resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/5678/members"
},
  "listId": "5678",
  "resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/5678"
}
]],
  "resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists"
}

```

D.33 Retrieve an individual list shared by a user identified by otherUserId, with all list attributes and all member attributes (section 6.21.3.1)

Request:

```

GET /exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234 HTTP/1.1
Accept: application/json
Host: example.com

```

Response:

```

HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/json
Content-Length: nnnn

{"list": {
  "attributeList": {"attribute": {
    "name": "display-name",
    "value": "Friends"
  }},
  "resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/attributes"
},
  "category": "URIList",
  "memberCollection": {"member": {
    "attributeList": {"attribute": {
      "name": "display-name",
      "value": "Alice"
    }},
    "resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/members/
sip%3Aalice@example.com/attributes"
  }},
  "memberId": "sip:alice@example.com",
  "resourceURL":

```

```

"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/members/
sip%3Aalice@example.com"
  },
  "listId": "1234",
  "resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234",
  "sharedListIdentity": {"sharedId": "sip:bob@example.com;list=1234"}
}

```

D.34 Retrieve all members for a shared list with all attributes (default) (section 6.22.3.1)

Request:

```

GET /exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/members HTTP/1.1
Accept: application/json
Host: example.com

```

Response:

```

HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/json
Content-Length: nnnn

{"memberCollection": {
  "member": [
    {
      "attributeList": {"attribute": {
        "name": "display-name",
        "value": "Alice"
      }},
      "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/
tel%3A%2B19585550100/lists/1234/members/mailto%3Aalice@example.com/
attributes"
    },
    "memberId": "mailto:alice@example.com",
    "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/
tel%3A%2B19585550100/lists/1234/members/mailto%3Aalice@example.com"
  },
  {
    "attributeList": {"attribute": {
      "name": "display-name",
      "value": "Bob"
    }},
    "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/
tel%3A%2B19585550100/lists/1234/members/tel%3A%2B19585550124/attributes"
  },
  "memberId": "tel:+19585550124",
  "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/
tel%3A%2B19585550100/lists/1234/members/tel%3A%2B19585550124"
}
  ],
  "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/
tel%3A%2B19585550100/lists/1234/members"
}

```

```
}}
```

D.35 Retrieve selected member attributes about user identified as memberId from the list shared by a user identified by otherUserId (section 6.23.3.2)

Request:

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/members/
sip%3Aalice@example.com?indivFilter=cellphone HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:53:23 GMT
Content-Type: application/json
Content-Length: nnnn

{"member": {
  "attributeList": {"attribute": {
    "name": "cellphone",
    "value": "tel:+19585550105"
  }},
  "resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/members/
sip%3Aalice@example.com/attributes"
},
  "memberId": "sip:alice@example.com",
  "resourceURL":
"http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550105/shared/tel%3A%2B19585550100/lists/1234/members/
sip%3Aalice@example.com"
}}
```

D.36 Retrieve all authorization rules (section 6.24.3.1)

Request:

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/json
Content-Length: nnnn

{"ruleList": {
  "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules",
  "rule": [
    {
```

```

    "appToContacts": {"allContacts": null},
    "applicationTag": "myApp",
    "authorizedTo": {"listId": "1234"},
    "clientCorrelator": "123",
    "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules/rule1",
    "ruleName": "allowAllContacts"
  },
  {
    "appToContacts": {"contactId": "bob"},
    "applicationTag": "myApp",
    "authorizedTo": {"allSharedIdentities": null},
    "clientCorrelator": "456",
    "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules/rule2",
    "ruleName": "allowOwnContact"
  },
  {
    "appToLists": {"listId": "1234"},
    "applicationTag": "myApp",
    "authorizedTo": {"listId": "1234"},
    "clientCorrelator": "789",
    "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules/rule3",
    "ruleName": "allowFriendsList"
  }
]
}}

```

D.37 Create new rule for list and referenced contacts (section 6.24.5.1)

Request:

```

POST /exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules HTTP/1.1
Accept: application/json
Host: example.com
Content-Type: application/json
Content-Length: nnnn

{"rule": {
  "appToListsAndContacts": {"listId": "5678"},
  "applicationTag": "myApp",
  "authorizedTo": {"listId": "5678"},
  "clientCorrelator": "135",
  "ruleName": "combinedRule"
}}

```

Response:

```

HTTP/1.1 201 Created
Date: Fri, 10 Dec 2010 21:33:52 GMT
Location: http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules/rule3
Content-Type: application/json
Content-Length: nnnn

{"rule": {
  "appToListsAndContacts": {"listId": "5678"},

```

```
"applicationTag": "myApp",
"authorizedTo": {"listId": "5678"},
"clientCorrelator": "135",
"resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules/rule3",
"ruleName": "combinedRule"
}}
```

D.38 Retrieve an authorization rule (section 6.25.3.1)

Request:

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules/rule1 HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/json
Content-Length: nnnn

{"rule": {
  "applToContacts": {"allContacts": null},
  "applicationTag": "myApp",
  "authorizedTo": {"listId": "1234"},
  "clientCorrelator": "123",
  "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules/rule1",
  "ruleName": "allowAllContacts"
}}
```

D.39 Update an existing authorization rule (section 6.25.4.1)

Request:

```
PUT /exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules/rule1 HTTP/1.1
Accept: application/json
Host: example.com
Content-Type: application/json
Content-Length : nnnn

{"rule": {
  "applToContacts": {"allContacts": null},
  "applicationTag": "myApp",
  "authorizedTo": {"listId": [
    "1234",
    "5678"
  ]},
  "clientCorrelator": "123",
  "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules/rule1",
  "ruleName": "allowAllContacts"
}}
```


Response:

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:51:59 GMT
Content-Type: application/json
Content-Length: nnnn

{"rule": {
  "applToContacts": {"allContacts": null},
  "applicationTag": "myApp",
  "authorizedTo": {"listId": [
    "1234",
    "5678"
  ]},
  "clientCorrelator": "123",
  "resourceURL": "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules/rule1",
  "ruleName": "allowAllContacts"
}}
```

D.40 Retrieve data from an authorization rule (section 6.26.3.1)

Request:

```
GET /exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules/rule1/lists/1234 HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 200 OK
Date: Fri, 10 Dec 2010 12:55:59 GMT
Content-Type: application/json
Content-Length: nnnn

{"listId": "1234"}
```

D.41 Authorize user by updating an existing authorization rule (section 6.26.4.1)

Request:

```
PUT /exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules/rule2/users/mailto%3Aalice@example.com HTTP/1.1
Accept: application/json
Host: example.com
Content-Type: application/json
Content-Length : nnnn

{"userId": "mailto:alice@example.com"}
```

Response:

```
HTTP/1.1 201 Created
Date: Fri, 10 Dec 2010 12:55:59 GMT
Location: /exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules/rule2/users/mailto%3Aalice@example.com
Content-Type: application/json
Content-Length: nnnn

{"userId": "mailto:alice@example.com"}
```

D.42 Delete an authorized identity (section 6.26.6.1)

Request:

```
DELETE /exampleAPI/addressbook/v1/tel%3A%2B19585550100/authorizationRules/rule2/users/mailto%3Aalice@example.com
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 204 No Content
Date: Fri, 10 Dec 2010 12:55:59 GMT
```

D.43 Transfer a member from one list to another (section 6.27.5.1)

Request:

```
POST /exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/allFriends/members/tel%3A%2B19585550200/transfer HTTP/1.1
Accept: application/json
Host: example.com
Content-Type: application/json
Content-Length: nnnn

{"memberTransferParameters": {
  "destination": "http://exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/blockedContacts"
}}
```

Response:

```
HTTP/1.1 303 See Other
Date: Fri, 10 Dec 2010 12:55:59 GMT
Location:
http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/blockedContacts/members/tel%3A%2B19585550199
Content-Type: application/json
Content-Length: nnnn

{"resourceReference": {
  "resourceURL":
  "http://example.com/exampleAPI/addressbook/v1/tel%3A%2B19585550100/lists/blockedContacts/members/tel%3A%2B19585550199"
}}
```

Appendix E. Parlay X operations mapping (Informative)

The table below illustrates the mapping between REST resources/methods and Parlay X [3GPP 29.199-13] equivalent operations.

REST Resource	REST Method	REST Section reference	Parlay X equivalent operation
Lists	GET	6.5.3	getOwnersGroups
Individual list	DELETE	6.6.6	deleteGroup
Attributes for a list	GET	6.7.3	queryGroupAttributes
Individual attribute for a list	DELETE	6.8.6	deleteGroupAttribute
Members in a list	GET	6.9.3	queryMembers
Individual member in a list	DELETE	6.10.6	deleteMember
Attributes for a member in a list	GET	6.11.3	queryGroupMemberAttributes
Individual attribute for a member in a list	DELETE	6.12.6	deleteGroupMemberAttribute

Table 1: Parlay X operations mapping

Appendix F. Light-weight Resources (Informative)

The following table lists all Address Book data structure elements that can be accessed individually as Light-weight Resources. For each Light-weight Resource there are listed: corresponding root element name, root element type and [ResourceRelPath] string.

Type of Light-weight Resources (and references to data structures)	Element/attribute that can be accessed as Light-weight Resource	Root element name for the Light-weight Resource	Root element type for the Light-weight Resource	[ResourceRelPath] string that needs to be appended to the corresponding Heavy-weight Resource URL
Attributes (5.2.2.6)	attribute	attribute	Attribute	{name}
List references (5.2.2.10)	link	link	common:Link	{href}
Authorization (5.2.2.19)	userId	userId	xsd:anyURI	users/{userId}
	listId	listId	xsd:anyURI	lists/{listId}
	link	link	common:Link	externalLists/{href}
	domainName	domainName	xsd:string	domains/{domainName}

Table 2: Light-weight Resources for Address Book

Note: When appending [ResourceRelPath] string to its Heavy-weight Resource URL, all variables within curly brackets “{ }” such as: “name”, “userId”, “listId”, “href”, and “domainName” have to be replaced by their real values.

Appendix G. Authorization aspects (Normative)

This appendix specifies how to use the RESTful Address Book API in combination with some authorization frameworks.

G.1 Use with OMA Authorization Framework for Network APIs

The RESTful Address Book API MAY support the authorization framework defined in [Autho4API_10].

A RESTful Address Book API supporting [Autho4API_10]:

- SHALL conform to section D.1 of [REST_NetAPI_Common];
- SHALL conform to this section G.1.

G.1.1 Scope values

G.1.1.1 Definitions

In compliance with [Autho4API_10], an authorization server serving clients requests for getting authorized access to the resources exposed by the RESTful Address Book API:

- SHALL support the scope values defined in the table below;
- MAY support scope values not defined in this specification.

Scope value	Description	For one-time access token
oma_rest_addressbook.all_{apiVersion}	Provide access to all defined operations on the resources in this version of the API. The {apiVersion} part of this identifier SHALL have the same value as the “apiVersion” URL variable which is defined in section 5.1. This scope value is the union of the other scope values listed in next rows of this table.	No
oma_rest_addressbook.contacts	Provide access to all defined operations on contacts.	No
oma_rest_addressbook.lists	Provide access to all defined operations on lists.	No
oma_rest_addressbook.subscr	Provide access to all defined operations on subscriptions.	No
oma_rest_addressbook.shared	Provide access to all defined operations on shared contacts/lists.	No
oma_rest_addressbook.rules	Provide access to all defined operations on authorization rules for shared contacts/lists.	No

Table 3: Scope values for RESTful Address Book API

G.1.1.2 Downscoping

In the case where the client requests authorization for “oma_rest_addressbook.all_{apiVersion}” scope, the authorization server and/or resource owner MAY restrict the granted scope to some of the following scope values:

- “oma_rest_addressbook.contact”
- “oma_rest_addressbook.list”
- “oma_rest_addressbook.subscr”

G.1.1.3 Mapping with resources and methods

Tables in this section specify how the scope values defined in section G.1.1.1 for the RESTful Address Book API map to the REST resources and methods of this API. In these tables, the root “oma_rest_addressbook.” of scope values is omitted for readability reasons.

Resource	URL Base URL: http://{serverRoot}/addressbook/{apiVersion}	Section reference	HTTP verbs			
			GET	PUT	POST	DELETE
Collection of contacts	/{userId}/contacts	6.1	all_{apiVersion} } or contact	n/a	n/a	n/a
Individual contact	/{userId}/contacts/{contactId}	6.2	all_{apiVersion} } or contact	all_{apiVersion} } or contact	n/a	all_{apiVersion} } or contact
Attributes for a contact	/{userId}/contacts/{contactId}/attributes	6.3	all_{apiVersion} } or contact	n/a	n/a	n/a
Individual attribute for a contact	/{userId}/contacts/{contactId}/attributes/[ResourceRelPath]	6.4	all_{apiVersion} } or contact	all_{apiVersion} } or contact	n/a	all_{apiVersion} } or contact
Collection of shared contacts	/{userId}/shared/{otherUserId}/contacts	6.18	all_{apiVersion} } or contact	n/a	n/a	n/a
Individual shared contact	/{userId}/shared/{otherUserId}/contacts/{sharedIdentity}	6.19	all_{apiVersion} } or contact	n/a	n/a	n/a

Table 4: Required scope values for: managing contacts

Resource	URL Base URL: http://{serverRoot}/addressbook/{apiVersion}	Section reference	HTTP verbs			
			GET	PUT	POST	DELETE
Lists	/{userId}/lists	6.5	all_{apiVersion} } or list	n/a	n/a	n/a
Individual list	/{userId}/lists/{listId}	6.6	all_{apiVersion} } or list	all_{apiVersion} } or list	n/a	all_{apiVersion} } or list

Resource	URL Base URL: http://{{serverRoot}}/addressbook/{{apiVersion}}	Section reference	HTTP verbs			
			GET	PUT	POST	DELETE
Attributes for a list	/{userId}/lists/{listId}/attributes	6.7	all_{{apiVersion}} or list	n/a	n/a	n/a
Individual attribute for a list	/{userId}/lists/{listId}/attributes/[ResourceRelPath]	6.8	all_{{apiVersion}} or list	all_{{apiVersion}} or list	n/a	all_{{apiVersion}} or list
Members in a list	/{userId}/lists/{listId}/members	6.9	all_{{apiVersion}} or list	all_{{apiVersion}} or list	n/a	n/a
Individual member in a list	/{userId}/lists/{listId}/members/{memberId}	6.10	all_{{apiVersion}} or list	all_{{apiVersion}} or list	n/a	all_{{apiVersion}} or list
Attributes for a member in a list	/{userId}/lists/{listId}/members/{memberId}/attributes	6.11	all_{{apiVersion}} or list	n/a	n/a	n/a
Individual attribute for a member in a list	/{userId}/lists/{listId}/members/{memberId}/attributes/[ResourceRelPath]	6.12	all_{{apiVersion}} or list	all_{{apiVersion}} or list	n/a	all_{{apiVersion}} or list
Individual member transfer	/{userId}/lists/{listId}/members/{memberId}/transfer	6.27	n/a	n/a	all_{{apiVersion}} or list	n/a
List references	/{userId}/lists/{listId}/listReferences	6.13	all_{{apiVersion}} or list	n/a	n/a	n/a
Individual list reference	/{userId}/lists/{listId}/listReferences/[ResourceRelPath]	6.14	all_{{apiVersion}} or list	all_{{apiVersion}} or list	n/a	all_{{apiVersion}} or list
Collection of shared lists	/{userId}/shared/{otherUserId}/lists	6.20	all_{{apiVersion}} or list	n/a	n/a	n/a

Resource	URL Base URL: http://{serverRoot}/addressbook/{apiVersion}	Section reference	HTTP verbs			
			GET	PUT	POST	DELETE
Individual shared list	/{userId}/shared/{otherUserId}/lists/{sharedListIdentity}	6.21	all_{apiVersion} or list	n/a	n/a	n/a
Individual member information from shared list	/{userId}/shared/lists/{otherUserId}/{sharedListIdentity}/{memberId}	6.23	all_{apiVersion} or list	n/a	n/a	n/a

Table 5: Required scope values for: managing lists and members in a list

Resource	URL Base URL: http://{serverRoot}/addressbook/{apiVersion}	Section reference	HTTP verbs			
			GET	PUT	POST	DELETE
Address Book changes subscriptions	/{userId}/subscriptions/abChanges	6.15	all_{apiVersion} or subscr	n/a	all_{apiVersion} or subscr	n/a
Individual address book changes subscription	/{userId}/subscriptions/abChanges/{subscriptionId}	6.16	all_{apiVersion} or subscr	all_{apiVersion} or subscr	n/a	all_{apiVersion} or subscr

Table 6: Required scope values for: managing subscriptions to notifications about contacts and/or lists changes

Resource	URL Base URL: http://{serverRoot}/addressbook/{apiVersion}	Section reference	HTTP verbs			
			GET	PUT	POST	DELETE
Authorization rules	{userId}/authorizationRules	6.24	all_{apiVersion} or contact or list	n/a	all_{apiVersion} or contact or list	n/a
Individual authorization rule	{userId}/authorizationRules/{ruleId}	6.25	all_{apiVersion} or contact or list	all_{apiVersion} or contact or list	all_{apiVersion} or contact or list	all_{apiVersion} or contact or list
Individual authorization rule data	{userId}/authorizationRules/{ruleId}/[ResourceRelPath]	6.26	all_{apiVersion} or contact or list	all_{apiVersion} or contact or list	n/a	all_{apiVersion} or contact or list

Table 7: Required scope values for: managing authorization rules for shared contacts/lists/members

G.1.2 Use of 'acr:auth'

This section specifies the use of 'acr:auth' in place of an end user identifier in a resource URL path.

An 'acr' URI of the form 'acr:auth', where 'auth' is a reserved keyword MAY be used to avoid exposing a real end user identifier in the resource URL path.

A client MAY use 'acr:auth' in a resource URL in place of the {endUserId} resource URL variable in the resource URL path, when the RESTful AddressBook API is used in combination with [Autho4API_10].

In the case the RESTful Payment supports [Autho4API_10], the server:

- SHALL accept 'acr:auth' as a valid value for the resource URL variable {endUserId}.
- SHALL conform to [REST_NetAPI_Common] section 5.8.1.1 regarding the processing of 'acr:auth'.

Appendix H. Overview of data types (Informative)

The section provides an overview of the relation between the data types used for contacts, members and lists.

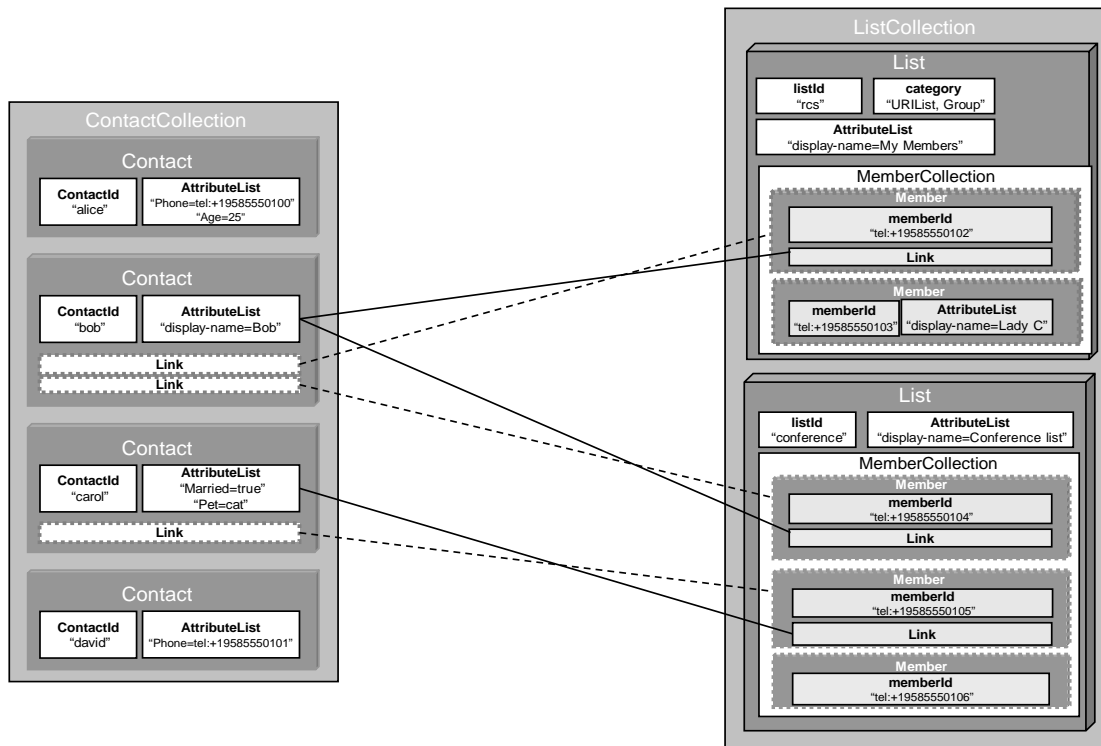


Figure 7 Data types for contacts, members and lists