



RESTful Network API for
Terminal Status
Approved Version 1.0 – 17 Dec 2013

Open Mobile Alliance
OMA-TS-REST_NetAPI_TerminalStatus-V1_0-20131217-A

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.

© 2013 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	10
2. REFERENCES	11
2.1 NORMATIVE REFERENCES	11
2.2 INFORMATIVE REFERENCES	11
3. TERMINOLOGY AND CONVENTIONS	12
3.1 CONVENTIONS	12
3.2 DEFINITIONS	12
3.3 ABBREVIATIONS	12
4. INTRODUCTION	14
4.1 VERSION 1.0	14
5. TERMINAL STATUS API DEFINITION	15
5.1 RESOURCES SUMMARY	15
5.2 DATA TYPES	21
5.2.1 XML Namespaces.....	21
5.2.2 Structures	21
5.2.2.1 Type: <i>TerminalStatusCollectionList</i>	21
5.2.2.2 Type: <i>TerminalStatusCollection</i>	21
5.2.2.3 Type: <i>AccessibilityStatusForCollection</i>	22
5.2.2.4 Type: <i>RoamingStatusForCollection</i>	22
5.2.2.5 Type: <i>ConnectionTypeForCollection</i>	22
5.2.2.6 Type: <i>TerminalAccessibilityStatusList</i>	23
5.2.2.7 Type: <i>TerminalAccessibilityStatus</i>	23
5.2.2.8 Type: <i>TerminalRoamingStatusList</i>	23
5.2.2.9 Type: <i>TerminalRoamingStatus</i>	24
5.2.2.10 Type: <i>TerminalConnectionTypeList</i>	24
5.2.2.11 Type: <i>TerminalConnectionType</i>	25
5.2.2.12 Type: <i>NotificationSubscriptionList</i>	25
5.2.2.13 Type: <i>StatusCollectionChangeSubscription</i>	25
5.2.2.14 Type: <i>AccessibilityChangeSubscription</i>	28
5.2.2.15 Type: <i>RoamingChangeSubscription</i>	30
5.2.2.16 Type: <i>ConnectionChangeSubscription</i>	31
5.2.2.17 Type: <i>StatusCollectionChangeNotification</i>	33
5.2.2.18 Type: <i>AccessibilityChangeNotification</i>	34
5.2.2.19 Type: <i>RoamingChangeNotification</i>	34
5.2.2.20 Type: <i>ConnectionChangeNotification</i>	35
5.2.2.21 Type: <i>SubscriptionCancellationNotification</i>	35
5.2.2.22 Type: <i>MobileCountryNetworkCode</i>	36
5.2.2.23 Type: <i>MobileServingNetworkNode</i>	36
5.2.3 Enumerations	36
5.2.3.1 Enumeration: <i>AccessibilityStatus</i>	36
5.2.3.2 Enumeration: <i>RoamingStatus</i>	36
5.2.3.3 Enumeration: <i>ConnectionType</i>	36
5.2.3.4 Enumeration: <i>ServingNetworkNodeType</i>	37
5.2.4 Values of the Link “rel” attribute	37
5.3 SEQUENCE DIAGRAMS	38
5.3.1 Status collection query	39
5.3.2 Accessibility status query	40
5.3.3 Accessibility status change notification.....	41
5.3.4 Roaming status change notification	42
6. DETAILED SPECIFICATION OF THE RESOURCES	44
6.1 RESOURCE: TERMINAL STATUS COLLECTION	44
6.1.1 Request URL variables	45
6.1.2 Response Codes and Error Handling	45
6.1.3 GET.....	45
6.1.3.1 Example1: <i>Get status collection of multiple terminal addresses (Informative)</i>	45

6.1.3.1.1	Request.....	45
6.1.3.1.2	Response.....	45
6.1.3.2	<i>Example 2: Get status collection with unauthorized requester (Informative)</i>	46
6.1.3.2.1	Request.....	46
6.1.3.2.2	Response.....	46
6.1.4	PUT.....	47
6.1.5	POST.....	47
6.1.6	DELETE.....	47
6.2	RESOURCE: TERMINAL ACCESSIBILITY STATUS	47
6.2.1	Request URL variables	47
6.2.2	Response Codes and Error Handling	47
6.2.3	GET.....	48
6.2.3.1	<i>Example 1: Get accessibility status of single terminal address (Informative)</i>	48
6.2.3.1.1	Request.....	48
6.2.3.1.2	Response.....	48
6.2.3.2	<i>Example 2: Get accessibility status of multiple terminal addresses (Informative)</i>	49
6.2.3.2.1	Request.....	49
6.2.3.2.2	Response.....	49
6.2.3.3	<i>Example 3: Get accessibility status (invalid input value) (Informative)</i>	49
6.2.3.3.1	Request.....	49
6.2.3.3.2	Response.....	49
6.2.4	PUT.....	50
6.2.5	POST.....	50
6.2.6	DELETE.....	50
6.3	RESOURCE: TERMINAL ROAMING STATUS.....	50
6.3.1	Request URL variables	50
6.3.2	Response Codes and Error Handling	50
6.3.3	GET.....	51
6.3.3.1	<i>Example 1: Get roaming status of single terminal address (Informative)</i>	51
6.3.3.1.1	Request.....	51
6.3.3.1.2	Response.....	51
6.3.3.2	<i>Example 2: Get roaming status of multiple terminal addresses (Informative)</i>	52
6.3.3.2.1	Request.....	52
6.3.3.2.2	Response.....	52
6.3.3.3	<i>Example 3: Get roaming status (invalid input value) (Informative)</i>	52
6.3.3.3.1	Request.....	52
6.3.3.3.2	Response.....	52
6.3.4	PUT.....	53
6.3.5	POST.....	53
6.3.6	DELETE.....	53
6.4	RESOURCE: TERMINAL CONNECTION TYPE.....	53
6.4.1	Request URL variables	53
6.4.2	Response Codes and Error Handling	53
6.4.3	GET.....	54
6.4.3.1	<i>Example 1: Get connection type of single terminal address (Informative)</i>	54
6.4.3.1.1	Request.....	54
6.4.3.1.2	Response.....	54
6.4.3.2	<i>Example 2: Get connection type of multiple terminal addresses (Informative)</i>	54
6.4.3.2.1	Request.....	54
6.4.3.2.2	Response.....	55
6.4.3.3	<i>Example 3: Get connection type (invalid input value) (Informative)</i>	55
6.4.3.3.1	Request.....	55
6.4.3.3.2	Response.....	55
6.4.4	PUT.....	56
6.4.5	POST.....	56
6.4.6	DELETE.....	56
6.5	RESOURCE: STATUS COLLECTION CHANGE NOTIFICATION SUBSCRIPTIONS.....	56
6.5.1	Request URL variables	56
6.5.2	Response Codes and Error Handling	56
6.5.3	GET.....	57

- 6.5.3.1 *Example: Get status collection subscriptions (Informative)* 57
 - 6.5.3.1.1 Request 57
 - 6.5.3.1.2 Response 57
- 6.5.4 PUT 58
- 6.5.5 POST 58
 - 6.5.5.1 *Example 1: Create new status collection subscription, using tel URI (Informative)* 58
 - 6.5.5.1.1 Request 58
 - 6.5.5.1.2 Response 58
 - 6.5.5.2 *Example 2: Create new status collection subscription, using ACR (Informative)* 59
 - 6.5.5.2.1 Request 59
 - 6.5.5.2.2 Response 59
- 6.5.6 DELETE 60
- 6.6 RESOURCE: INDIVIDUAL STATUS COLLECTION CHANGE NOTIFICATION SUBSCRIPTION 60**
 - 6.6.1 Request URL variables 60
 - 6.6.2 Response Codes and Error Handling 60
 - 6.6.3 GET 60
 - 6.6.3.1 *Example: Read individual status collection subscription (Informative)* 61
 - 6.6.3.1.1 Request 61
 - 6.6.3.1.2 Response 61
 - 6.6.4 PUT 61
 - 6.6.4.1 *Example: Update individual status collection subscription (Informative)* 61
 - 6.6.4.1.1 Request 61
 - 6.6.4.1.2 Response 62
 - 6.6.5 POST 62
 - 6.6.6 DELETE 62
 - 6.6.6.1 *Example: Delete individual status collection subscription (Informative)* 62
 - 6.6.6.1.1 Request 62
 - 6.6.6.1.2 Response 62
- 6.7 RESOURCE: ACCESSIBILITY STATUS CHANGE NOTIFICATION SUBSCRIPTIONS 63**
 - 6.7.1 Request URL variables 63
 - 6.7.2 Response Codes and Error Handling 63
 - 6.7.3 GET 63
 - 6.7.3.1 *Example: Get accessibility status subscriptions (Informative)* 63
 - 6.7.3.1.1 Request 63
 - 6.7.3.1.2 Response 63
 - 6.7.4 PUT 64
 - 6.7.5 POST 64
 - 6.7.5.1 *Example: Create new accessibility status subscription (Informative)* 64
 - 6.7.5.1.1 Request 64
 - 6.7.5.1.2 Response 65
 - 6.7.6 DELETE 65
- 6.8 RESOURCE: INDIVIDUAL ACCESSIBILITY STATUS CHANGE NOTIFICATION SUBSCRIPTION 65**
 - 6.8.1 Request URL variables 66
 - 6.8.2 Response Codes and Error Handling 66
 - 6.8.3 GET 66
 - 6.8.3.1 *Example: Read individual accessibility status subscription (Informative)* 66
 - 6.8.3.1.1 Request 66
 - 6.8.3.1.2 Response 66
 - 6.8.4 PUT 67
 - 6.8.4.1 *Example: Update individual accessibility status subscription (Informative)* 67
 - 6.8.4.1.1 Request 67
 - 6.8.4.1.2 Response 67
 - 6.8.5 POST 67
 - 6.8.6 DELETE 68
 - 6.8.6.1 *Example: Delete individual accessibility status subscription (Informative)* 68
 - 6.8.6.1.1 Request 68
 - 6.8.6.1.2 Response 68
- 6.9 RESOURCE: ROAMING STATUS CHANGE NOTIFICATION SUBSCRIPTIONS 68**
 - 6.9.1 Request URL variables 68
 - 6.9.2 Response Codes and Error Handling 68

- 6.9.3 GET.....68
 - 6.9.3.1 *Example: Get roaming status subscriptions (Informative)*.....69
 - 6.9.3.1.1 Request.....69
 - 6.9.3.1.2 Response.....69
- 6.9.4 PUT.....69
- 6.9.5 POST.....69
 - 6.9.5.1 *Example: Create new roaming status subscription (Informative)*.....70
 - 6.9.5.1.1 Request.....70
 - 6.9.5.1.2 Response.....70
- 6.9.6 DELETE.....71
- 6.10 RESOURCE: INDIVIDUAL ROAMING STATUS CHANGE NOTIFICATION SUBSCRIPTION.....71**
 - 6.10.1 Request URL variables.....71
 - 6.10.2 Response Codes and Error Handling.....71
 - 6.10.3 GET.....71
 - 6.10.3.1 *Example: Read individual roaming status subscription (Informative)*.....71
 - 6.10.3.1.1 Request.....71
 - 6.10.3.1.2 Response.....71
 - 6.10.4 PUT.....72
 - 6.10.4.1 *Example: Update individual roaming status subscription (Informative)*.....72
 - 6.10.4.1.1 Request.....72
 - 6.10.4.1.2 Response.....72
 - 6.10.5 POST.....73
 - 6.10.6 DELETE.....73
 - 6.10.6.1 *Example: Delete individual roaming status subscription (Informative)*.....73
 - 6.10.6.1.1 Request.....73
 - 6.10.6.1.2 Response.....73
- 6.11 RESOURCE: CONNECTION TYPE CHANGE NOTIFICATION SUBSCRIPTIONS.....73**
 - 6.11.1 Request URL variables.....74
 - 6.11.2 Response Codes and Error Handling.....74
 - 6.11.3 GET.....74
 - 6.11.3.1 *Example: Get connection type subscriptions (Informative)*.....74
 - 6.11.3.1.1 Request.....74
 - 6.11.3.1.2 Response.....74
 - 6.11.4 PUT.....75
 - 6.11.5 POST.....75
 - 6.11.5.1 *Example: Create new connection type subscription (Informative)*.....75
 - 6.11.5.1.1 Request.....75
 - 6.11.5.1.2 Response.....76
 - 6.11.6 DELETE.....76
- 6.12 RESOURCE: INDIVIDUAL CONNECTION TYPE CHANGE NOTIFICATION SUBSCRIPTION.....76**
 - 6.12.1 Request URL variables.....76
 - 6.12.2 Response Codes and Error Handling.....76
 - 6.12.3 GET.....77
 - 6.12.3.1 *Example: Read individual connection type subscription (Informative)*.....77
 - 6.12.3.1.1 Request.....77
 - 6.12.3.1.2 Response.....77
 - 6.12.4 PUT.....77
 - 6.12.4.1 *Example: Update individual connection type subscription (Informative)*.....77
 - 6.12.4.1.1 Request.....77
 - 6.12.4.1.2 Response.....78
 - 6.12.5 POST.....78
 - 6.12.6 DELETE.....78
 - 6.12.6.1 *Example: Delete individual connection type subscription (Informative)*.....78
 - 6.12.6.1.1 Request.....78
 - 6.12.6.1.2 Response.....78
- 6.13 RESOURCE: CLIENT NOTIFICATION ABOUT TERMINAL STATUS CHANGES.....79**
 - 6.13.1 Request URL variables.....79
 - 6.13.2 Response Codes and Error Handling.....79
 - 6.13.3 GET.....79
 - 6.13.4 PUT.....79

6.13.5 POST.....79

6.13.5.1 Example1: Status collection change notification (Informative).....79

6.13.5.1.1 Request.....79

6.13.5.1.2 Response.....80

6.13.5.2 Example 2: Accessibility status change notification (one terminal) (Informative).....80

6.13.5.2.1 Request.....80

6.13.5.2.2 Response.....80

6.13.5.3 Example 3: Final accessibility status change notification (Informative).....81

6.13.5.3.1 Request.....81

6.13.5.3.2 Response.....81

6.13.5.4 Example 4: Accessibility status change subscription cancellation notification (Informative).....81

6.13.5.4.1 Request.....81

6.13.5.4.2 Response.....82

6.13.5.5 Example5: Roaming status change notification for a single terminal identified by MSISDN (informative).....82

6.13.5.5.1 Request.....82

6.13.5.5.2 Response.....82

6.13.5.6 Example 6: Roaming status change notification for a single terminal identified by IMSI (informative).....82

6.13.5.6.1 Request.....82

6.13.5.6.2 Response.....83

6.13.6 DELETE.....83

7. FAULT DEFINITIONS84

7.1 SERVICE EXCEPTIONS.....84

7.2 POLICY EXCEPTIONS84

7.2.1 POL0200: Busy criteria not supported.....84

APPENDIX A. CHANGE HISTORY (INFORMATIVE).....85

A.1 APPROVED VERSION HISTORY85

APPENDIX B. STATIC CONFORMANCE REQUIREMENTS (NORMATIVE).....86

B.1 SCR FOR REST.TERMINALSTATUS SERVER.....86

B.1.1 SCR for REST.TerminalStatus.StatusCollection Server.....86

B.1.2 SCR for REST.TerminalStatus.AccessibilityStatus Server86

B.1.3 SCR for REST.TerminalStatus.RoamingStatus Server.....86

B.1.4 SCR for REST.TerminalStatus.ConnectionType Server86

B.1.5 SCR for REST.TerminalStatus.StatusCollection.Subscr Server.....87

B.1.6 SCR for REST.TerminalStatus.Individual.StatusCollection.Subscr Server.....87

B.1.7 SCR for REST.TerminalStatus.AccessibilityStatus.Subscr Server.....87

B.1.8 SCR for REST.TerminalStatus.Individual.AccessibilityStatus.Subscr Server87

B.1.9 SCR for REST.TerminalStatus.RoamingStatus.Subscr Server88

B.1.10 SCR for REST.TerminalStatus.Individual.RoamingStatus.Subscr Server.....88

B.1.11 SCR for REST.TerminalStatus.ConnectionType.Subscr Server.....88

B.1.12 SCR for REST.TerminalStatus.Individual.ConnectionType.Subscr Server88

B.1.13 SCR for REST.TerminalStatus.ClientNotificationCallback Server.....89

APPENDIX C. APPLICATION/X-WWW-FORM-URLENCODED REQUEST FORMAT FOR POST OPERATIONS (NORMATIVE)90

C.1 CREATE STATUS COLLECTION SUBSCRIPTION90

C.1.1 Example 1, using tel URI (Informative)92

C.1.1.1 Request.....92

C.1.1.2 Response.....92

C.1.2 Example 2, using ACR (Informative).....92

C.1.2.1 Request.....92

C.1.2.2 Response.....93

C.2 CREATE ACCESSIBILITY STATUS SUBSCRIPTION93

C.2.1 Example (Informative).....95

C.2.1.1 Request.....95

C.2.1.2 Response.....95

C.3 CREATE ROAMING STATUS SUBSCRIPTION.....96

C.3.1 Example (Informative).....97

C.3.1.1 Request.....97

C.3.1.2 Response.....98

C.4	CREATE CONNECTION TYPE SUBSCRIPTION	98
C.4.1	Example (Informative).....	100
C.4.1.1	Request.....	100
C.4.1.2	Response.....	100
APPENDIX D.	JSON EXAMPLES (INFORMATIVE)	101
D.1	GET STATUS COLLECTION OF MULTIPLE TERMINAL ADDRESSES (SECTION 6.1.3.1)	101
D.2	GET STATUS COLLECTION WITH UNAUTHORIZED REQUESTER (SECTION 6.1.3.2).....	102
D.3	GET ACCESSIBILITY STATUS OF SINGLE TERMINAL ADDRESS (SECTION 6.2.3.1).....	102
D.4	GET ACCESSIBILITY STATUS OF MULTIPLE TERMINAL ADDRESSES (SECTION 6.2.3.2).....	103
D.5	GET ACCESSIBILITY STATUS (INVALID INPUT VALUE) (SECTION 6.2.3.3).....	103
D.6	GET ROAMING STATUS OF SINGLE TERMINAL ADDRESS (SECTION 6.3.3.1).....	104
D.7	GET ROAMING STATUS OF MULTIPLE TERMINAL ADDRESSES (SECTION 6.3.3.2).....	105
D.8	GET ROAMING STATUS (INVALID INPUT VALUE) (SECTION 6.3.3.3).....	105
D.9	GET CONNECTION TYPE OF SINGLE TERMINAL ADDRESS (SECTION 6.4.3.1).....	106
D.10	GET CONNECTION TYPE OF MULTIPLE TERMINAL ADDRESSES (SECTION 6.4.3.2).....	106
D.11	GET CONNECTION TYPE (INVALID INPUT VALUE) (SECTION 6.4.3.3).....	107
D.12	GET STATUS COLLECTION SUBSCRIPTIONS (SECTION 6.5.3.1).....	107
D.13	CREATE NEW STATUS COLLECTION SUBSCRIPTION USING TEL URI (SECTION 6.5.5.1)	108
D.14	CREATE NEW STATUS COLLECTION SUBSCRIPTION USING ACR (SECTION 6.5.5.2)	109
D.15	READ INDIVIDUAL STATUS COLLECTION SUBSCRIPTION (SECTION 6.6.3.1).....	110
D.16	UPDATE INDIVIDUAL STATUS COLLECTION SUBSCRIPTION (SECTION 6.6.4.1).....	110
D.17	DELETE INDIVIDUAL STATUS COLLECTION SUBSCRIPTION (SECTION 6.6.6.1).....	111
D.18	GET ACCESSIBILITY STATUS SUBSCRIPTIONS (SECTION 6.7.3.1)	111
D.19	CREATE NEW ACCESSIBILITY STATUS SUBSCRIPTION (SECTION 6.7.5.1)	112
D.20	READ INDIVIDUAL ACCESSIBILITY STATUS SUBSCRIPTION (SECTION 6.8.3.1)	113
D.21	UPDATE INDIVIDUAL ACCESSIBILITY STATUS SUBSCRIPTION (SECTION 6.8.4.1)	113
D.22	DELETE INDIVIDUAL ACCESSIBILITY STATUS SUBSCRIPTION (SECTION 6.8.6.1).....	114
D.23	GET ROAMING STATUS SUBSCRIPTIONS (SECTION 6.9.3.1)	114
D.24	CREATE NEW ROAMING STATUS SUBSCRIPTION (SECTION 6.9.5.1)	115
D.25	READ INDIVIDUAL ROAMING STATUS SUBSCRIPTION (SECTION 6.10.3.1)	116
D.26	UPDATE INDIVIDUAL ROAMING STATUS SUBSCRIPTION (SECTION 6.10.4.1)	116
D.27	DELETE INDIVIDUAL ROAMING STATUS SUBSCRIPTION (SECTION 6.10.6.1)	117
D.28	GET CONNECTION TYPE SUBSCRIPTIONS (SECTION 6.11.3.1)	117
D.29	CREATE NEW CONNECTION TYPE SUBSCRIPTION (SECTION 6.11.5.1)	118
D.30	READ INDIVIDUAL CONNECTION TYPE SUBSCRIPTION (SECTION 6.12.3.1)	119
D.31	UPDATE INDIVIDUAL CONNECTION TYPE SUBSCRIPTION (SECTION 6.12.4.1)	119
D.32	DELETE INDIVIDUAL CONNECTION TYPE SUBSCRIPTION (SECTION 6.12.6.1)	120
D.33	STATUS COLLECTION CHANGE NOTIFICATION (SECTION 6.13.5.1)	120
D.34	ACCESSIBILITY STATUS CHANGE NOTIFICATION (SECTION 6.13.5.2).....	121
D.35	FINAL ACCESSIBILITY STATUS CHANGE NOTIFICATION (SECTION 6.13.5.3)	121
D.36	ACCESSIBILITY STATUS CHANGE SUBSCRIPTION CANCELLATION NOTIFICATION (SECTION 6.13.5.4)	122
D.37	ROAMING STATUS CHANGE NOTIFICATION FOR A SINGLE TERMINAL IDENTIFIED BY MSISDN (SECTION 6.13.5.5)	123
D.38	ROAMING STATUS CHANGE NOTIFICATION FOR A SINGLE TERMINAL IDENTIFIED BY IMSI (SECTION 6.13.5.6)	123
APPENDIX E.	PARLAY X OPERATIONS MAPPING (INFORMATIVE)	125
APPENDIX F.	LIGHT-WEIGHT RESOURCES (INFORMATIVE)	126
APPENDIX G.	AUTHORIZATION ASPECTS (NORMATIVE)	127
G.1	USE WITH OMA AUTHORIZATION FRAMEWORK FOR NETWORK APIS.....	127
G.1.1	Scope values	127
G.1.1.1	Definitions.....	127
G.1.1.2	Downscoping	127
G.1.1.3	Mapping with resources and methods.....	128

Figures

Figure 1 Resource structure defined by this specification.....	16
Figure 2 Status collection query	39
Figure 3 Accessibility status query	40
Figure 4 Accessibility status change notification.....	41
Figure 5 Roaming status change notification	42

Tables

Table 1 Parlay X operations mapping	125
Table 2 Scope values for RESTful Terminal Status API.....	127
Table 3 Required scope values for: poll terminal status collection, poll terminal accessibility status, poll terminal roaming status, and poll connection type.....	129
Table 4 Required scope values for: status subscriptions	130

1. Scope

This specification defines a RESTful Terminal Status API using an HTTP protocol binding, based on the similar API defined in [3GPP 29.199-08].

2. References

2.1 Normative References

- [3GPP23.003] 3GPP Technical Specification, “Numbering, addressing and identification”, URL:<http://www.3gpp.org/>
- [3GPP29.199-08] 3GPP Technical Specification, “Open Service Access (OSA); Parlay X Web Services; Part 8: TerminalStatus (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/>
- [IETF_ACR_draft] “The acr URI for anonymous users”, S.Jakobsson, K.Smith, July 2011, URL: <http://tools.ietf.org/html/draft-uri-acr-extension-03>
- [ITU-T E.212] International Telecommunication Union, “E.212 : The international identification plan for public networks and subscriptions”, URL:<http://www.itu.int/>
- [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_NotificationChannel] RESTful Network API for Notification Channel”, Open Mobile Alliance™, OMA-TS-REST_NetAPI_NotificationChannel-V1_0, URL: <http://www.openmobilealliance.org/>
- [REST_SUP_TerminalStatus] “XML schema for the RESTful Network API for TerminalStatus”, Open Mobile Alliance™, OMA-SUP-XSD_rest_netapi_terminalstatus-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>
- [RFC2616] “Hypertext Transfer Protocol -- HTTP/1.1”, R. Fielding et. al, January 1999, URL:<http://www.ietf.org/rfc/rfc2616.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”, R. Fielding et. al, January 2005, URL:<http://www.ietf.org/rfc/rfc3986.txt>
- [RFC4627] “The application/json Media Type for JavaScript Object Notation (JSON)”, D. Crockford, July 2006, URL: <http://www.ietf.org/rfc/rfc4627.txt>
- [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 Recommendation, XML Schema Part 1: Structures Second Edition, URL: <http://www.w3.org/TR/xmlschema-1/>
- [XMLSchema2] W3C Recommendation, XML Schema Part 2: Datatypes Second Edition, URL: <http://www.w3.org/TR/xmlschema-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_TerminalStatus] “RESTful bindings for Parlay X Web Services – TerminalStatus”, Version 1.0, Open Mobile Alliance™, OMA-TS-ParlayREST_TerminalStatus-V1_0, URL: <http://www.openmobilealliance.org/>
- [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.
Notification Channel	A channel created on the request of the client and used to deliver notifications from a server to a client. 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. It identifies a Notification Channel that can be used by a client when subscribing to notifications.

3.3 Abbreviations

ACR	Anonymous Customer Reference
API	Application Programming Interface
CDMA	Code Division Multiple Access
EDGE	Enhanced Data rates for GSM Evolution
FQDN	Fully Qualified Domain Name
GPRS	General Packet Radio Service
GT	Global Title
HSDPA	High-Speed Downlink Packet Access
HSPA+	Evolved High-Speed Packet Access
HSUPA	High-Speed Uplink Packet Access
HTTP	HyperText Transfer Protocol
IMEI	International Mobile Equipment Identity
IMSI	International Mobile Subscriber Identity
ISDN	Integrated Services Digital Network
JSON	JavaScript Object Notation
LTE	Long Term Evolution
MCC	Mobile Country or Geographical Area Codes
MIME	Multipurpose Internet Mail Extensions
MME	Mobility Management Entity

MNC	Mobile Network Code
MNO	Mobile Network Operator
MSISDN	Mobile Subscriber ISDN Number
MVNO	Mobile Virtual Network Operator
OMA	Open Mobile Alliance
REST	REpresentational State Transfer
SCR	Static Conformance Requirements
SGSN	Serving GPRS Support Node
SIP	Session Initiation Protocol
SNR	Serial Number
TAC	Type Allocation Code
TD-SCDMA	Time Division Synchronous Code Division Multiple Access
TS	Technical Specification
URI	Uniform Resource Identifier
URL	Uniform Resource Locator
VLR	Visitor Location Register
WCDMA	Wideband Code Division Multiple Access
WiMAX	Worldwide Interoperability for Microwave Access
WLAN	Wireless Local Area Network
WP	White Paper
XML	Extensible Markup Language
XSD	XML Schema Definition

4. Introduction

The Technical Specification of the RESTful Network API for Terminal Status contains HTTP protocol bindings for [3GPP29.199-08] 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 Terminal Status V1.0 is a republication of the ParlayREST Terminal Status API V1.0 [ParlayREST_TerminalStatus] 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 Terminal Status keeps supporting the following operations:

- Retrieve the current terminal status collection
- Retrieve the current terminal accessibility status, roaming status and connection type respectively
- Manage client-specific subscriptions to status collection change notifications
- Manage client-specific subscriptions to accessibility status, roaming status and connection type change notifications respectively

The following new functionality has been introduced:

- 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

The following functionality has been extended:

- Roaming notifications now include additional information needed in an ecosystem that includes alternative roaming providers

5. Terminal Status API definition

This section is organized to support a comprehensive understanding of the Terminal Status 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 detailed specification for each of the resources. Each such subsection defines the resource, the request URL variables that are common for all HTTP commands, 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 operation 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.

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

Note: Throughout this document terminal and device can be used interchangeably.

5.1 Resources Summary

This section summarizes all the resources used by the RESTful Network API for Terminal Status.

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.

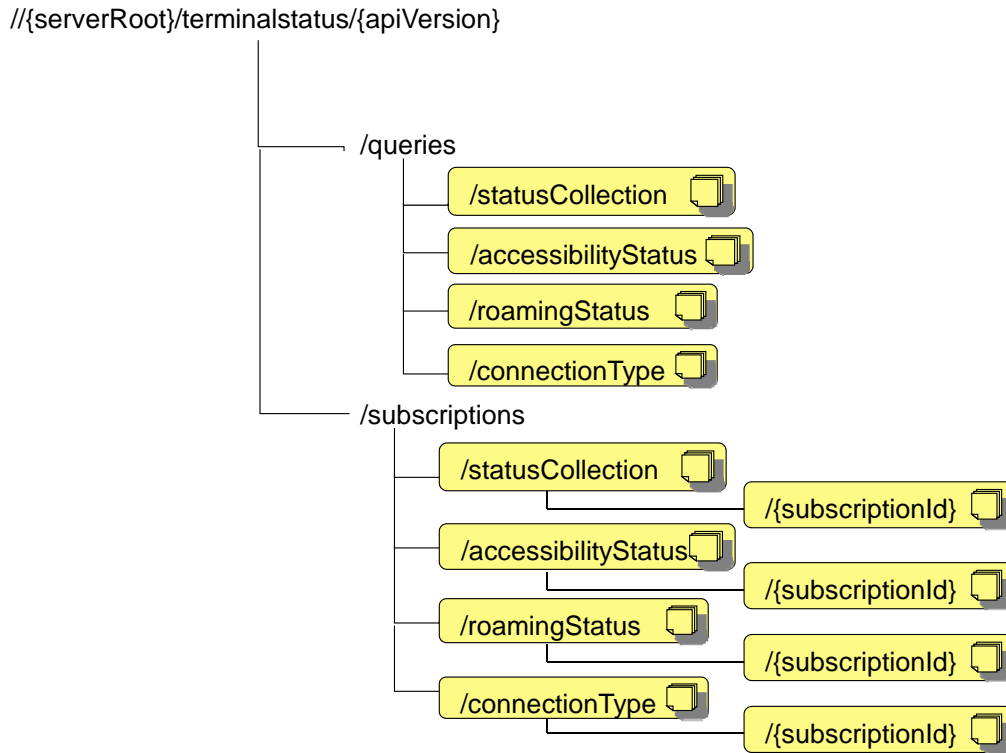


Figure 1 Resource structure defined by this specification

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 the client to retrieve terminal status collection, terminal accessibility status, roaming status, and connection type

Resource	URL Base URL: http://{serverRoot}/terminalstatus/{apiVersion}	Data Structures	HTTP verbs			
			GET	PUT	POST	DELETE
Terminal status collection	/queries/statusCollection	TerminalStatusCollectionList	return current accessibility status, roaming status, and connection type of the terminal or multiple terminals	no	no	no
Terminal accessibility status	/queries/accessibilityStatus	TerminalAccessibilityStatusList	return current accessibility status of the terminal or multiple terminals	no	no	no
Terminal roaming status	/queries/roamingStatus	TerminalRoamingStatusList	return current roaming status of the terminal or multiple terminals	no	no	no
Terminal connection type	/queries /connectionType	TerminalConnectionTypeList	return current connection type of the terminal or multiple terminals	no	no	no

Purpose: To allow the client to manage its subscriptions for terminal status change notifications

Resource	URL Base URL: http://{serverRoot}/terminalstatus/{apiVersion}	Data Structures	HTTP verbs			
			GET	PUT	POST	DELETE
Status collection change notification subscriptions	/subscriptions/statusCollection	NotificationSubscriptionList (used for GET) StatusCollectionChangeSubscription (used for POST) common:ResourceReference (optional alternative for POST response)	return all subscriptions	no	create new subscription	no
Individual status collection change notification subscription	/subscriptions/statusCollection/{subscriptionId}	StatusCollectionChangeSubscription (used for GET and PUT)	return one subscription	update subscription	no	delete one subscription
Accessibility status change notification subscriptions	/subscriptions/accessibilityStatus	NotificationSubscriptionList (used for GET) AccessibilityChangeSubscription (used for POST) common:ResourceReference (optional alternative for POST response)	return all subscriptions	no	create new subscription	no
Individual accessibility status change notification subscription	/subscriptions/accessibilityStatus/{subscriptionId}	AccessibilityChangeSubscription (used for GET and PUT)	return one subscription	update subscription	no	delete one subscription

Resource	URL Base URL: http://{serverRoot}/terminalstatus/{apiVersion}	Data Structures	HTTP verbs			
			GET	PUT	POST	DELETE
Roaming status change notification subscriptions	/subscriptions/roamingStatus	NotificationSubscriptionList (used for GET) RoamingChangeSubscription (used for POST) common:ResourceReference (optional alternative for POST response)	return all subscriptions	no	create new subscription	No
Individual roaming status change notification subscription	/subscriptions/roamingStatus/{subscriptionId}	RoamingChangeSubscription (used for GET and PUT)	return one subscription	update subscription	no	delete one subscription
Connection type change notification subscriptions	/subscriptions/connectionType	NotificationSubscriptionList (used for GET) ConnectionChangeSubscription (used for POST) common:ResourceReference (optional alternative for POST response)	return all subscriptions	no	create new subscription	no
Individual connection type change notification subscription	/subscriptions/connectionType/{subscriptionId}	ConnectionChangeSubscription (used for GET and PUT)	return one subscription	update subscription	no	delete one subscription

Purpose: To allow the server to inform the client about terminal status changes

Resource	URL	Data Structures	HTTP verbs			
			GET	PUT	POST	DELETE
Client notification about terminal status changes	{provided by client}	StatusCollectionChangeNotification AccessibilityChangeNotification RoamingChangeNotification ConnectionChangeNotification SubscriptionCancellationNotification	no	no	notification on terminal status change	no

5.2 Data Types

5.2.1 XML Namespaces

The XML namespace for the Terminal Status data types is:

urn:oma:xml:rest:netapi:terminalstatus:1

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

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

Applications following the RESTful Network API for Terminal Status V1.0 specification SHALL use the namespace urn:oma:xml:rest:netapi:terminalstatus:1.

Note: Server implementations can choose to also support the legacy namespace urn:oma:xml:rest:terminalstatus:1 for the Terminal Status data types, in order to allow backwards-compatibility with [ParlayREST_TerminalStatus] applications. Use of this legacy namespace is deprecated and support is foreseen to be withdrawn in future versions of this specification. In messages sent from the server to the application, the legacy namespace is suggested to be used by the server if it was used by a legacy application in the corresponding request or subscription message.

5.2.2 Structures

The subsections of this section define the data structures used in the Terminal Status API.

Some of the structures can be instantiated as so-called root elements.

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: TerminalStatusCollectionList

A type containing a list of terminal status collection.

Element	Type	Optional	Description
collection	TerminalStatusCollection [1..unbounded]	No	Collection of the terminal status collection.
resourceURL	xsd:anyURI	No	Self referring URL.

A root element named terminalStatusCollectionList of type TerminalStatusCollectionList is allowed in response bodies.

5.2.2.2 Type: TerminalStatusCollection

A type containing current terminal status collection.

Element	Type	Optional	Description
address	xsd:anyURI	No	Address of the terminal device (e.g. 'sip' URI, 'tel' URI, 'acr' URI) to which the status collection information applies
accessibility	AccessibilityStatusForCollection	Yes	Accessibility status of terminal.

roaming	RoamingStatusForCollection	Yes	Roaming status of terminal.
connectionType	ConnectionTypeForCollection	Yes	Connection type of terminal.

5.2.2.3 Type: AccessibilityStatusForCollection

A type containing current terminal accessibility status for collection.

Element	Type	Optional	Description
retrievalStatus	common:RetrievalStatus	No	Status of retrieval for this terminal address.
currentAccessibility	AccessibilityStatus	Yes	Accessibility status of terminal. Must be included when retrievalStatus=Retrieved.
homeMccMnc	MobileCountryNetworkCode	Yes	MobileCountryCode/ Mobile NetworkCode tuple for the home network.
errorInformation	common:ServiceError	Yes	Must be included when retrievalStatus=Error. This is the reason for the error.

5.2.2.4 Type: RoamingStatusForCollection

A type containing current terminal roaming status for collection.

Element	Type	Optional	Description
retrievalStatus	common:RetrievalStatus	No	Status of retrieval for this terminal address.
currentRoaming	RoamingStatus	Yes	Roaming status of terminal. Must be included when retrievalStatus=Retrieved.
servingMccMnc	MobileCountryNetworkCode	Yes	MobileCountryCode/ Mobile NetworkCode tuple for the serving network. Must be included when currentRoaming=DomesticRoaming or currentRoaming=InternationalRoaming.
errorInformation	common:ServiceError	Yes	Must be included when retrievalStatus=Error. This is the reason for the error.

5.2.2.5 Type: ConnectionTypeForCollection

A type containing current terminal connection type for collection.

Element	Type	Optional	Description
retrievalStatus	common:RetrievalStatus	No	Status of retrieval for this terminal address.

currentConnectionType	ConnectionType [0..unbounded]	Yes	Connection type of terminal. Must be included when retrievalStatus=Retrieved.
errorInformation	common:ServiceError	Yes	Must be included when retrievalStatus=Error. This is the reason for the error.

5.2.2.6 Type: TerminalAccessibilityStatusList

A type containing list of terminal accessibility status.

Element	Type	Optional	Description
accessibility	TerminalAccessibilityStatus [1..unbounded]	No	Collection of the terminal accessibility status.
resourceURL	xsd:anyURI	No	Self referring URL.

A root element named terminalAccessibilityStatusList of type TerminalAccessibilityStatusList is allowed in response bodies.

5.2.2.7 Type: TerminalAccessibilityStatus

A type containing current terminal accessibility status.

Element	Type	Optional	Description
address	xsd:anyURI	No	Address of the terminal device (e.g. 'sip' URI, 'tel' URI, 'acr' URI) to which the accessibility status information applies.
retrievalStatus	common:RetrievalStatus	No	Status of retrieval for this terminal device address.
currentAccessibility	AccessibilityStatus	Yes	Accessibility status of terminal. Must be included when retrievalStatus=Retrieved.
homeMccMnc	MobileCountryNetworkCode	Yes	MobileCountryCode/ Mobile NetworkCode tuple for the home network.
errorInformation	common:ServiceError	Yes	Must be included when retrievalStatus=Error. This is the reason for the error.

5.2.2.8 Type: TerminalRoamingStatusList

A type containing list of terminal roaming status.

Element	Type	Optional	Description
roaming	TerminalRoamingStatus [1..unbounded]	No	Collection of the terminal roaming status.
resourceURL	xsd:anyURI	No	Self referring URL.

A root element named terminalRoamingStatusList of type TerminalRoamingStatusList is allowed in response bodies.

5.2.2.9 Type: TerminalRoamingStatus

A type containing current terminal roaming status.

Element	Type	Optional	Description
address	xsd:anyURI	No	Address of the terminal device (e.g. 'sip' URI, 'tel' URI, 'acr' URI) to which the roaming status information applies.
subscriberId	xsd:string	Yes	The International Mobile Subscriber Identity (IMSI) to which the roaming status information applies. Must be included when the address of the terminal device is unknown i.e. 'tel:+000000000000'.
deviceId	xsd:string	Yes	The unique International Mobile Equipment Identity (IMEI) of this terminal device.
retrievalStatus	common:RetrievalStatus	No	Status of retrieval for this terminal device address.
retrievalTime	xsd:dateTime	Yes	Indicates the time when the status was retrieved
currentRoaming	RoamingStatus	Yes	Roaming status of terminal. Must be included when retrievalStatus=Retrieved.
servingMccMnc	MobileCountryNetworkCode	Choice	MobileCountryCode/ Mobile NetworkCode tuple for the serving network. Must be included when currentRoaming=DomesticRoaming or currentRoaming=InternationalRoaming.
servingNode	MobileServingNetworkNode	Choice	Address of the mobile network node serving the terminal device.
errorInformation	common:ServiceError	Yes	Must be included when retrievalStatus=Error. This is the reason for the error.

XSD modelling uses a “choice” to select either “servingMccMnc” or “servingNode” or none of them, but not both.

5.2.2.10 Type: TerminalConnectionTypeList

A type containing list of terminal connection type.

Element	Type	Optional	Description
connectionType	TerminalConnectionType	No	Collection of the terminal connection type.

	[1..unbounded]		
resourceURL	xsd:anyURI	No	Self referring URL.

A root element named terminalConnectionTypeList of type TerminalConnectionTypeList is allowed in response bodies.

5.2.2.11 Type: TerminalConnectionType

A type containing current connection type.

Element	Type	Optional	Description
address	xsd:anyURI	No	Address of the terminal device (e.g. 'sip' URI, 'tel' URI, 'acr' URI) to which the connection type information applies.
retrievalStatus	common:RetrievalStatus	No	Status of retrieval for this terminal device address.
currentConnectionType	ConnectionType [0..unbounded]	Yes	Connection type of terminal. Must be included when retrievalStatus=Retrieved.
errorInformation	common:ServiceError	Yes	Must be included when retrievalStatus=Error. This is the reason for the error.

5.2.2.12 Type: NotificationSubscriptionList

A type containing list of status collection accessibility, roaming and connection change notification subscription.

Element	Type	Optional	Description
collectionChangeSubscription	StatusCollectionChangeSubscription [0..unbounded]	Yes	Collection of StatusCollectionChangeSubscription elements.
accessibilityChangeSubscription	AccessibilityChangeSubscription [0..unbounded]	Yes	Collection of AccessibilityChangeSubscription elements.
roamingChangeSubscription	RoamingChangeSubscription [0..unbounded]	Yes	Collection of RoamingChangeSubscription elements.
connectionChangeSubscription	ConnectionChangeSubscription [0..unbounded]	Yes	Collection of ConnectionChangeSubscription elements.
resourceURL	xsd:anyURI	No	Self referring URL.

A root element named notificationSubscriptionList of type NotificationSubscriptionList is allowed in response bodies.

5.2.2.13 Type: StatusCollectionChangeSubscription

A type containing terminal status collection change notification subscription.

Element	Type	Optional	Description
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 element MAY be present.</p> <p>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 element is present, the server SHALL not alter its value, and SHALL provide it as part of the representation of this resource. In case the element is not present, the server SHALL NOT generate it.</p>
resourceURL	xsd:anyURI	Yes	<p>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.</p>
link	common:Link [0..unbounded]	Yes	<p>Link to other resources that are in relationship with the resource.</p>
callbackReference	common:CallbackReference	No	<p>Notification callback definition.</p>
requester	xsd:anyURI	Yes	<p>It identifies the entity that is requesting the information(e.g. 'sip' URI, 'tel' URI, 'acr' URI). The application invokes this operation on behalf of this entity. However, it does not imply that the application has authenticated the requester.</p> <p>If this element is not present, the requesting entity is the application itself.</p> <p>If this element is present, and the requester is not authorized to</p>

			retrieve status info, a policy exception will be returned.
address	xsd:anyURI [1..unbounded]	No	Addresses of terminals (e.g. 'sip' URI, 'tel' URI, 'acr' URI) to monitor.
accessibilityCriteria	AccessibilityStatus [0..unbounded]	Yes	List of accessibility status values to generate notifications for (these apply to all addresses specified). If this element is missing, a notification is requested to be generated for any change in accessibility status.
roamingCriteria	RoamingStatus [0..unbounded]	Yes	List of roaming status values to generate notifications for (these apply to all addresses specified). If this element is missing, a notification is requested to be generated for any change in roaming status.
connectionTypeCriteria	ConnectionType [0..unbounded]	Yes	List of connection type values to generate notifications for (these apply to all addresses specified). If this element is missing, a notification is requested to be generated for any change in connection type.
checkImmediate	xsd:boolean	No	Check status immediately after establishing notification.
frequency	xsd:int	No	Maximum frequency (in seconds) of notifications, expressed as minimum time between notifications.
duration	xsd:int	Yes	Period (in seconds) of time notifications are provided for. If set to "0" (zero), a default duration time, which is specified by the service policy, will be used. If the parameter is omitted, the notifications will continue until the maximum duration time, which is specified by the service policy, unless the notifications are stopped by deletion of subscription for notifications.
count	xsd:int	Yes	Maximum number of notifications per individual address. For no maximum, either do not include this element or specify a value of zero. Default value is 0.

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

Note that the clientCorrelator is used for purposes of error recovery as specified in [REST_TS_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. [REST_NetAPI_Common] provides a recommendation regarding the generation of the value of this field.

5.2.2.14 Type: AccessibilityChangeSubscription

A type containing terminal accessibility status change notification subscription.

Element	Type	Optional	Description
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 element MAY be present.</p> <p>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 element is present, the server SHALL not alter its value, and SHALL provide it as part of the representation of this resource. In case the element is not present, the server SHALL NOT generate it.</p>
resourceURL	xsd:anyURI	Yes	<p>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.</p>
link	common:Link [0..unbounded]	Yes	<p>Link to other resources that are in relationship with the resource.</p>
callbackReference	common:CallbackReference	No	<p>Notification callback definition.</p>
requester	xsd:anyURI	Yes	<p>It identifies the entity that is requesting the information(e.g. 'sip' URI, 'tel' URI, 'acr' URI). The application invokes this operation on behalf of this entity.</p>

			<p>However, it does not imply that the application has authenticated the requester.</p> <p>If this element is not present, the requesting entity is the application itself.</p> <p>If this element is present, and the requester is not authorized to retrieve status info, a policy exception will be returned.</p>
address	xsd:anyURI [1..unbounded]	No	Addresses of terminals (e.g. 'sip' URI, 'tel' URI, 'acr' URI) to monitor.
accessibilityCriteria	AccessibilityStatus [0..unbounded]	Yes	List of accessibility status values to generate notifications for (these apply to all addresses specified). If this element is missing, a notification is requested to be generated for any change in accessibility status.
checkImmediate	xsd:boolean	No	Check status immediately after establishing notification.
frequency	xsd:int	No	Maximum frequency (in seconds) of notification expressed as minimum time between notifications.
duration	xsd:int	Yes	Period (in seconds) of time notifications are provided for. If set to "0" (zero), a default duration time, which is specified by the service policy, will be used. If the parameter is omitted, the notifications will continue until the maximum duration time, which is specified by the service policy, unless the notifications are stopped by deletion of subscription for notifications.
count	xsd:int	Yes	Maximum number of notifications per individual address. For no maximum, either do not include this element or specify a value of zero. Default value is 0.

A root element named `accessibilityChangeSubscription` of type `AccessibilityChangeSubscription` is allowed in request and/or 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. [REST_NetAPI_Common] provides a recommendation regarding the generation of the value of this field.

5.2.2.15 Type: RoamingChangeSubscription

A type containing terminal roaming status change notification subscription.

Element	Type	Optional	Description
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 element MAY be present.</p> <p>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 element is present, the server SHALL not alter its value, and SHALL provide it as part of the representation of this resource. In case the element is not present, the server SHALL NOT generate it.</p>
resourceURL	xsd:anyURI	Yes	<p>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.</p>
link	common:Link [0..unbounded]	Yes	<p>Link to other resources that are in relationship with the resource.</p>
callbackReference	common:CallbackReference	No	<p>Notification callback definition.</p>
requester	xsd:anyURI	Yes	<p>It identifies the entity that is requesting the information (e.g. 'sip' URI, 'tel' URI, 'acr' URI). The application invokes this operation on behalf of this entity. However, it does not imply that the application has authenticated the requester.</p> <p>If this element is not present, the requesting entity is the application itself.</p>

			If this element is present, and the requester is not authorized to retrieve status info, a policy exception will be returned.
address	xsd:anyURI [1..unbounded]	No	Addresses of terminals (e.g. 'sip' URI, 'tel' URI, 'acr' URI) to monitor.
roamingCriteria	RoamingStatus [0..unbounded]	Yes	List of roaming status values to generate notifications for (these apply to all addresses specified). If this element is missing, a notification is requested to be generated for any change in roaming status.
checkImmediate	xsd:boolean	No	Check status immediately after establishing notification.
frequency	xsd:int	No	Maximum frequency (in seconds) of notifications, expressed as minimum time between notifications.
duration	xsd:int	Yes	Period (in seconds) of time notifications are provided for. If set to "0" (zero), a default duration time, which is specified by the service policy, will be used. If the parameter is omitted, the notifications will continue until the maximum duration time, which is specified by the service policy, unless the notifications are stopped by deletion of subscription for notifications.
count	xsd:int	Yes	Maximum number of notifications per individual address. For no maximum, either do not include this element or specify a value of zero. Default value is 0.

A root element named `roamingChangeSubscription` of type `RoamingChangeSubscription` is allowed in request and/or 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. [REST_NetAPI_Common] provides a recommendation regarding the generation of the value of this field.

5.2.2.16 Type: ConnectionChangeSubscription

A type containing terminal connection type change notification subscription.

Element	Type	Optional	Description
clientCorrelator	xsd:string	Yes	A correlator that the client can use to tag this particular resource

			<p>representation during a request to create a resource on the server.</p> <p>This element MAY be present.</p> <p>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 element is present, the server SHALL not alter its value, and SHALL provide it as part of the representation of this resource. In case the element is not present, the server SHALL NOT generate it.</p>
resourceURL	xsd:anyURI	Yes	<p>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.</p>
link	common:Link [0..unbounded]	Yes	<p>Link to other resources that are in relationship with the resource.</p>
callbackReference	common:CallbackReference	No	<p>Notification callback definition.</p>
requester	xsd:anyURI	Yes	<p>It identifies the entity that is requesting the information (e.g. 'sip' URI, 'tel' URI, 'acr' URI). The application invokes this operation on behalf of this entity. However, it does not imply that the application has authenticated the requester.</p> <p>If this element is not present, the requesting entity is the application itself.</p> <p>If this element is present, and the requester is not authorized to retrieve status info, a policy exception will be returned.</p>
address	xsd:anyURI	No	<p>Addresses of terminals (e.g. 'sip' URI, 'tel' URI, 'acr' URI) to monitor.</p>

	[1..unbounded]		
connectionTypeCriteria	ConnectionType [0..unbounded]	Yes	List of connection type values to generate notifications for (these apply to all addresses specified). If this element is missing, a notification is requested to be generated for any change in connection type.
checkImmediate	xsd:boolean	No	Check status immediately after establishing notification.
frequency	xsd:int	No	Maximum frequency (in seconds) of notifications, expressed as minimum time between notifications.
duration	xsd:int	Yes	Period (in seconds) of time notifications are provided for. If set to "0" (zero), a default duration time, which is specified by the service policy, will be used. If the parameter is omitted, the notifications will continue until the maximum duration time, which is specified by the service policy, unless the notifications are stopped by deletion of subscription for notifications.
count	xsd:int	Yes	Maximum number of notifications per individual address. For no maximum, either do not include this element or specify a value of zero. Default value is 0.

A root element named connectionChangeSubscription of type ConnectionChangeSubscription is allowed in request and/or 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. [REST_NetAPI_Common] provides a recommendation regarding the generation of the value of this field.

5.2.2.17 Type: StatusCollectionChangeNotification

A type containing terminal status collection for change notification.

Element	Type	Optional	Description
callbackData	xsd:string	Yes	CallbackData if passed by the application during the associated startNotification operation. See [REST_NetAPI_Common].
collection	TerminalStatusCollection [1..unbounded]	No	Collection of the terminal status collection.

isFinalNotification	xsd:boolean	Yes	Will be set to true if it is a final notification about status collection change.
link	common:Link [0..unbounded]	Yes	Link to other resources that are in relationship with the resource.

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

5.2.2.18 Type: AccessibilityChangeNotification

A type containing terminal accessibility status for change notification.

Element	Type	Optional	Description
callbackData	xsd:string	Yes	CallbackData if passed by the application during the associated startNotification operation. See [REST_NetAPI_Common].
accessibility	TerminalAccessibilityStatus [1..unbounded]	No	Collection of the terminal accessibility status.
isFinalNotification	xsd:boolean	Yes	Will be set to true if it is a final notification about accessibility status change.
link	common:Link [0..unbounded]	Yes	Link to other resources that are in relationship with the resource.

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

5.2.2.19 Type: RoamingChangeNotification

A type containing terminal roaming status for change notification.

Element	Type	Optional	Description
callbackData	xsd:string	Yes	CallbackData if passed by the application during the associated startNotification operation. See [REST_NetAPI_Common].
roaming	TerminalRoamingStatus [1..unbounded]	No	Collection of the terminal roaming status.
isFinalNotification	xsd:boolean	Yes	Will be set to true if it is a final notification about roaming status change.
link	common:Link	Yes	Link to other resources that are in relationship with the resource.

	[0..unbounded]		
--	----------------	--	--

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

5.2.2.20 Type: ConnectionChangeNotification

A type containing terminal connection type for change notification.

Element	Type	Optional	Description
callbackData	xsd:string	Yes	CallbackData if passed by the application during the associated startNotification operation. See [REST_NetAPI_Common].
connectionType	TerminalConnectionType [1..unbounded]	No	Collection of the terminal connection type.
isFinalNotification	xsd:boolean	Yes	Will be set to true if it is a final notification about connection type change.
link	common:Link [0..unbounded]	Yes	Link to other resources that are in relationship with the resource.

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

5.2.2.21 Type: SubscriptionCancellationNotification

A type containing cancellation for subscription notification.

Element	Type	Optional	Description
callbackData	xsd:string	Yes	CallbackData if passed by the application during the associated startNotification operation. See [REST_NetAPI_Common].
address	xsd:anyURI	Yes	Address of terminal (e.g. 'sip' URI, 'tel' URI, 'acr' URI) if the error applies to an individual terminal, or not specified if it applies to the whole notification.
reason	common:ServiceError	No	Reason notification is being discontinued.
link	common:Link [0..unbounded]	Yes	Link to other resources that are in relationship with the resource.

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

5.2.2.22 Type: MobileCountryNetworkCode

A type containing the country code and the network code of the home or serving network.

Element	Type	Optional	Description
mcc	xsd:string	No	Mobile Country Code as defined in The ITU-T Recommendation E.212.
mnc	xsd:string	No	Mobile Network Code. (MNCs are administered by the designated administrator within each country or by the TSB in the case of shared MCCs.).

5.2.2.23 Type: MobileServingNetworkNode

A type containing the type and the address of the network node serving the terminal device.

Element	Type	Optional	Description
type	ServingNetworkNodeType	No	Type of the network node serving the terminal device.
node	xsd:anyURI	No	Address of the network node serving the terminal device (e.g. 'sip' URI, 'tel' URI, FQDN).

5.2.3 Enumerations

5.2.3.1 Enumeration: AccessibilityStatus

An enumeration, defining the accessibility status of a terminal.

Enumeration	Description
Reachable	Terminal is reachable.
Unreachable	Terminal is not reachable.
Busy	Terminal is busy.

5.2.3.2 Enumeration: RoamingStatus

An enumeration, defining the roaming status of a terminal.

Enumeration	Description
InternationalRoaming	Terminal is roaming internationally, i.e., in a country different from that in which it is registered for service with its home MNO/MVNO.
DomesticRoaming	Terminal is roaming domestically, i.e., in the same country in which it is registered for service with its home MNO/MVNO.
NotRoaming	Terminal is not roaming, i.e., is connected to its home MNO/MVNO.

5.2.3.3 Enumeration: ConnectionType

An enumeration, defining the connection type of a terminal.

Enumeration	Description
EDGE	Terminal is connected via an EDGE bearer connection.
GPRS	Terminal is connected via a GPRS bearer connection.
UMTS	Terminal is connected via a UMTS bearer connection.
HSDPA	Terminal is connected via a HSDPA bearer connection.
HSUPA	Terminal is connected via a HSUPA bearer connection.
HSPA+	Terminal is connected via a HSPA+ bearer connection.
LTE	Terminal is connected via a LTE bearer connection.
WLAN	Terminal is connected via a WLAN bearer connection.
PACKET	Terminal is connected via a PACKET bearer connection.
WCDMA	Terminal is connected via a WCDMA bearer connection.
CDMA	Terminal is connected via a CDMA bearer connection.
TD-SCDMA	Terminal is connected via a TD-SCDMA bearer connection.
WiMAX	Terminal is connected via a WiMAX bearer connection.

5.2.3.4 Enumeration: ServingNetworkNodeType

An enumeration, defining the serving network node types.

Enumeration	Description
VLR	Terminal is attached to a Visitor Location Register.
SGSN	Terminal is attached to a Serving GPRS Service Node.
MME	Terminal is attached to a Mobility Management Entity.

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):

- TerminalStatusCollectionList
- TerminalStatusCollection
- TerminalAccessibilityStatusList
- TerminalAccessibilityStatus
- TerminalRoamingStatusList
- TerminalRoamingStatus
- TerminalConnectionTypeList
- TerminalConnectionType

- NotificationSubscriptionList
- StatusCollectionChangeSubscription
- AccessibilityChangeSubscription
- RoamingChangeSubscription
- ConnectionChangeSubscription
- StatusCollectionChangeNotification
- AccessibilityChangeNotification
- RoamingChangeNotification
- ConnectionChangeNotification
- SubscriptionCancellationNotification

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

5.3 Sequence Diagrams

The following subsections 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 Status collection query

This figure below shows a scenario to return status collection for single terminal or a group of terminals.

The resources:

- To get the status collection information for single terminal or a group of terminals, read the resource below with the URL parameters terminal address or addresses

http://{serverRoot}/terminalstatus/{apiVersion}/queries/statusCollection

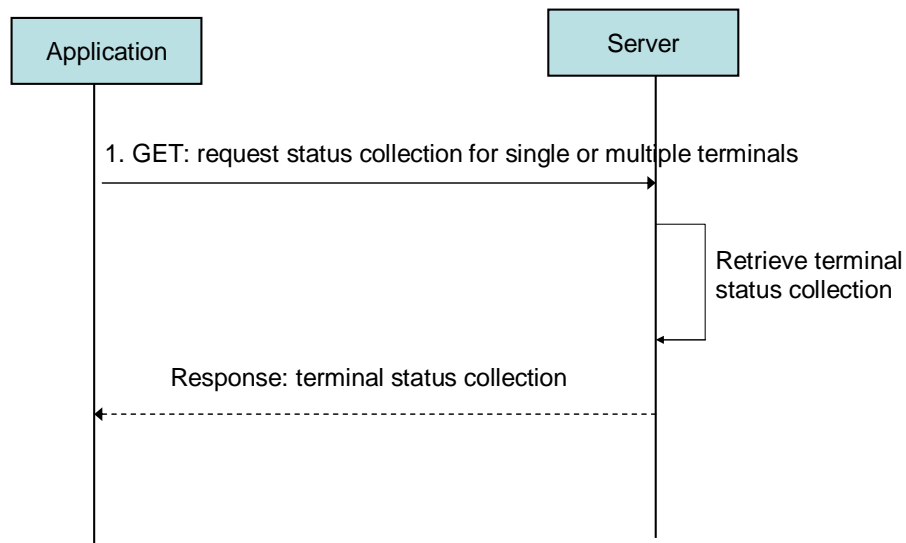


Figure 2 Status collection query

Outline of flow:

1. An application requests status collection information for single or multiples terminals with the URL parameters such as terminal address or addresses (i.e. group) using GET and receives the terminal status collection information (i.e. accessibility status, roaming status, connection type).

5.3.2 Accessibility status query

This figure below shows a scenario to return accessibility status for single terminal or group of terminals.

The resources:

- To get the accessibility status information for a single terminal or a group of terminals, read the resource below with the URL parameters terminal address or addresses

`http://{serverRoot}/terminalstatus/{apiVersion}/queries/accessibilityStatus`

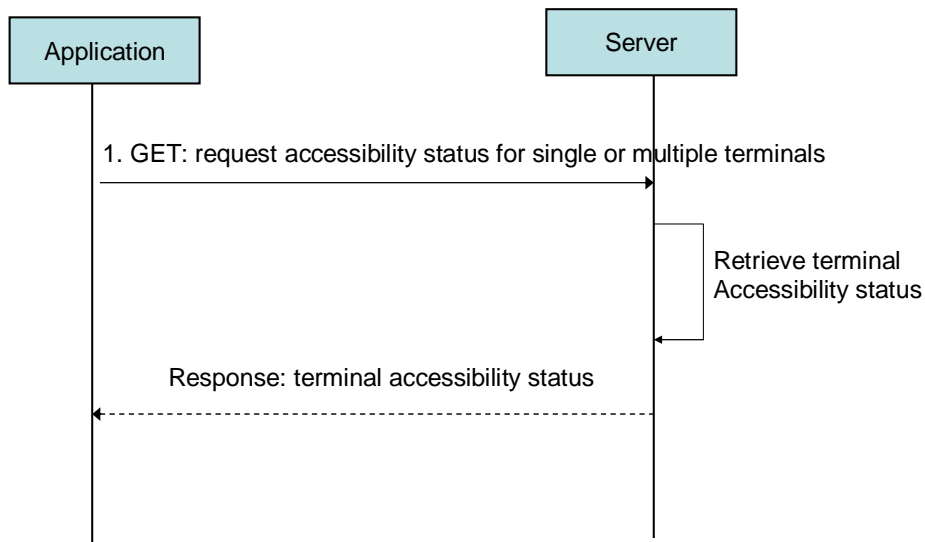


Figure 3 Accessibility status query

Outline of flow:

1. An application requests accessibility status for single or multiples terminals with Request URL parameters such as terminal address or addresses (i.e. group) using GET and receives the terminal accessibility status information (i.e. current accessibility status, mobile country code and mobile network code).

5.3.3 Accessibility status change notification

This figure below shows a scenario to control subscriptions to notification about terminal accessibility status change.

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 start subscription to notifications about terminal accessibility status change, create new resource under **http://{serverRoot}/terminalstatus/{apiVersion}/subscriptions/accessibilityStatus**
- To update or delete an individual subscription to notifications about terminal accessibility status change, use the resource **http://{serverRoot}/terminalstatus/{apiVersion}/subscriptions/accessibilityStatus/{subscriptionId}**

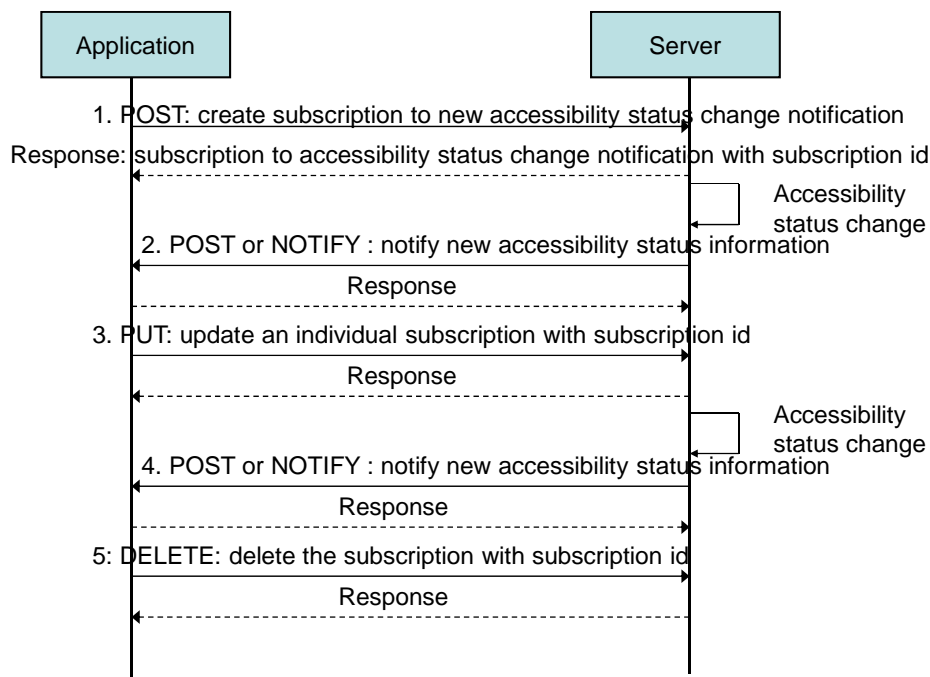


Figure 4 Accessibility status change notification

Outline of flow:

1. An application creates a new subscription to accessibility status change notification by using POST and receives the resulting resource URL containing the subscriptionId.
2. When the terminal accessibility status changes, the server notifies the application using POST to the application supplied notifyURL. Alternatively, the application obtains the notifications using a Notification Channel [REST_NetAPI_NotificationChannel].
3. An application updates an individual subscription to accessibility status change notification by using PUT to resource URL containing the subscriptionId.

4. When the terminal accessibility status changes, the server notifies the application using POST to the application supplied notifyURL. Alternatively, the application obtains the notifications using a Notification Channel [REST_NetAPI_NotificationChannel].

An application stops the notifications of the particular subscription by using DELETE to a resource URL containing the subscriptionId.

5.3.4 Roaming status change notification

This figure below shows a scenario to control subscriptions to notification about terminal roaming status change.

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 start subscription to notifications about terminal roaming status change, create new resource under **http://{serverRoot}/terminalstatus/{apiVersion}/subscriptions/roamingStatus**
- To update or delete an individual subscription to notifications about terminal roaming status change, use the resource **http://{serverRoot}/terminalstatus/{apiVersion}/subscriptions/roamingStatus/{subscriptionId}**

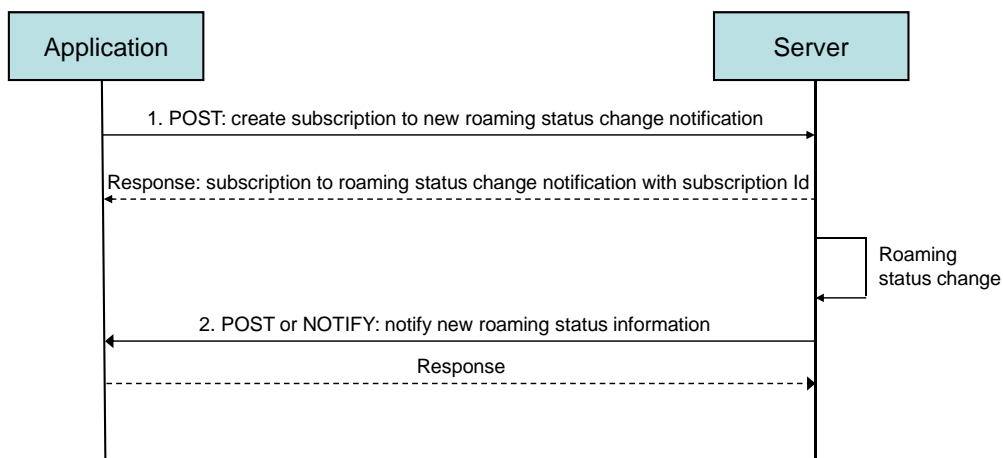


Figure 5 Roaming status change notification

Outline of flow:

1. An application creates a new subscription to roaming status change notification by using POST and receives the resulting resource URL containing the subscriptionId.

2. When the terminal roaming status changes, the server notifies the application using POST to the application supplied notifyURL. Alternatively, the application obtains the notifications using a Notification Channel [REST_NetAPI_NotificationChannel].

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 [IETF_ACR_draft], i.e. it **MUST** include the protocol prefix 'acr:' followed by the ACR.
 - The ACR ‘auth’ is a supported reserved keyword, and **MUST NOT** be assigned as an ACR to any particular end user.
- 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].
- If a network element identifier (e.g. Visitor Location Register, Serving GPRS Support Node, etc.) of type anyURI is in the form of a Global Title (GT), 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 identifier appears in a URL variable or in a parameter in the body of an HTTP message.
- If a network element identifier (e.g. Mobility Management Entity, etc.) of type anyURI is in the form of an Fully Qualified Domain Names (FQDN), it **MUST** be defined according to [3GPP23.003], and it **MUST** include the protocol prefix 'tel:' followed by the FQDN.
- If a subscriber identifier (e.g. subscriberId, etc.) of type string is in the form of an International Mobile Subscriber Identity (IMSI), it **MUST** be defined according to [ITU-T E.212].
- If a terminal identifier (e.g. deviceId, etc.) of type string is in the form of an International Mobile Equipment Identity (IMEI), it **MUST** be defined according to [3GPP23.003] and it **SHOULD** consist of 14 digits (e.g. 49015420323751), including the 8-digit Type Allocation Code (TAC) and the 6-digit Serial Number (SNR).

6.1 Resource: Terminal status collection

The resource used is:

http://{serverRoot}/terminalstatus/{apiVersion}/queries/statusCollection

This resource is used to return status collection information of single terminal or group of terminals.

6.1.1 Request URL variables

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

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.

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 Terminal Status, see section 7.

6.1.3 GET

This operation is used for reading the terminal status collection information. If the requester parameter is present and the requester is not authorized, PolicyException (POL0002) will be returned.

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

Name	Type/Values	Optional	Description
requester	xsd:anyURI	Yes	It identifies the entity that is requesting the information(e.g. 'sip' URI, 'tel' URI, 'acr' URI). The application invokes this operation on behalf of this entity. However, it does not imply that the application has authenticated the requester. If this element is not present, the requesting entity is the application itself. If this element is present, and the requester is not authorized to retrieve status info, a policy exception will be returned.
address	xsd:anyURI [1..unbounded]	No	Address(es) of the terminal device(s) for which the status collection information is requested. Examples: (e.g. tel:+19585550100, acr:pseudonym123)

6.1.3.1 Example1: Get status collection of multiple terminal addresses (Informative)

This example shows also an alternative way to indicate desired content type in response from the server, by using URL query parameter “resFormat” which is described in [REST_NetAPI_Common].

6.1.3.1.1 Request

```
GET /exampleAPI/terminalstatus/v1/queries/statusCollection?resFormat=XML&
requester=tel%3A%2B19585550102&address=tel%3A%2B19585550100&address=tel%3A%2B19585550101 HTTP/1.1
Accept: application/xml
Host: example.com
```

6.1.3.1.2 Response

```
HTTP/1.1 200 OK
Content-Type: application/xml
```

```

Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

<?xml version="1.0" encoding="UTF-8"?>
<ts:terminalStatusCollectionList xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <collection>
    <address>tel:+19585550100</address>
    <accessibility>
      <retrievalStatus>Retrieved</retrievalStatus>
      <currentAccessibility>Reachable</currentAccessibility>
    </accessibility>
    <roaming>
      <retrievalStatus>Retrieved</retrievalStatus>
      <currentRoaming>NotRoaming</currentRoaming>
    </roaming>
    <connectionType>
      <retrievalStatus>Retrieved</retrievalStatus>
      <currentConnectionType>EDGE</currentConnectionType>
    </connectionType>
  </collection>
  <collection>
    <address>tel:+19585550101</address>
    <accessibility>
      <retrievalStatus>Retrieved</retrievalStatus>
      <currentAccessibility>Reachable</currentAccessibility>
    </accessibility>
    <roaming>
      <retrievalStatus>Retrieved</retrievalStatus>
      <currentRoaming>InternationalRoaming</currentRoaming>
    </roaming>
    <connectionType>
      <retrievalStatus>Retrieved</retrievalStatus>
      <currentConnectionType>CDMA</currentConnectionType>
    </connectionType>
  </collection>
  <resourceURL>http://example.com/exampleAPI/terminalstatus/v1/queries/statusCollection</resourceURL>
</ts:terminalStatusCollectionList>

```

6.1.3.2 Example 2: Get status collection with unauthorized requester (Informative)

6.1.3.2.1 Request

```

GET /exampleAPI/terminalstatus/v1/queries/statusCollection?requester=tel%3A%2B19585550102&address=tel%3A%2B19585550100
HTTP/1.1
Accept: application/xml
Host: example.com

```

6.1.3.2.2 Response

```

HTTP/1.1 403 Forbidden
Content-Type: application/xml
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

<?xml version="1.0" encoding="UTF-8"?>

```

```
<common:requestError xmlns:common="urn:oma:xml:rest:netapi:common:1">
  <policyException>
    <messageId>POL0002</messageId>
    <text>Privacy error.</text>
  </policyException>
</common:requestError>
```

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 section 14.7 of [RFC2616].

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 section 14.7 of [RFC2616].

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 section 14.7 of [RFC2616].

6.2 Resource: Terminal accessibility status

The resource used is:

http://{serverRoot}/terminalstatus/{apiVersion}/queries/accessibilityStatus

This resource is used to return accessibility status of single terminal or group of terminals.

6.2.1 Request URL variables

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

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.

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 Terminal Status, see section 7.

6.2.3 GET

This operation is used for reading the terminal accessibility status information. If the requester parameter is present and the requester is not authorized, PolicyException (POL0002) will be returned.

Request URL parameter is:

Name	Type/Values	Optional	Description
requester	xsd:anyURI	Yes	It identifies the entity that is requesting the information(e.g. 'sip' URI, 'tel' URI, 'acr' URI). The application invokes this operation on behalf of this entity. However, it does not imply that the application has authenticated the requester. If this element is not present, the requesting entity is the application itself. If this element is present, and the requester is not authorized to retrieve status info, a policy exception will be returned.
address	xsd:anyURI [1..unbounded]	No	Address(es) of the terminal device(s) for which the accessibility status information is requested. Examples: (e.g. tel:+19585550100, acr:pseudonym123)

6.2.3.1 Example 1: Get accessibility status of single terminal address (Informative)

6.2.3.1.1 Request

```
GET /exampleAPI/terminalstatus/v1/queries/accessibilityStatus?address=tel%3A%2B19585550100 HTTP/1.1
Accept: application/xml
Host: example.com
```

6.2.3.1.2 Response

```
HTTP/1.1 200 OK
Content-Type: application/xml
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

<?xml version="1.0" encoding="UTF-8"?>
<ts:terminalAccessibilityStatusList xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <accessibility>
    <address>tel:+19585550100</address>
    <retrievalStatus>Retrieved</retrievalStatus>
    <currentAccessibility>Reachable</currentAccessibility>
    <homeMccMnc>
      <mcc>310</mcc>
      <mnc>010</mnc>
    </homeMccMnc>
  </accessibility>
  <resourceURL>http://example.com/exampleAPI/terminalstatus/v1/queries/accessibilityStatus</resourceURL>
</ts:terminalAccessibilityStatusList>
```


6.2.3.2 Example 2: Get accessibility status of multiple terminal addresses (Informative)

6.2.3.2.1 Request

```
GET /exampleAPI/terminalstatus/v1/queries/accessibilityStatus?address=tel%3A%2B19585550100&address=tel%3A%2B19585550101
HTTP/1.1
Accept: application/xml
Host: example.com
```

6.2.3.2.2 Response

```
HTTP/1.1 200 OK
Content-Type: application/xml
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

<?xml version="1.0" encoding="UTF-8"?>
<ts:terminalAccessibilityStatusList xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <accessibility>
    <address>tel:+19585550100</address>
    <retrievalStatus>Retrieved</retrievalStatus>
    <currentAccessibility>Reachable</currentAccessibility>
  </accessibility>
  <accessibility>
    <address>tel:+19585550101</address>
    <retrievalStatus>Error</retrievalStatus>
    <errorInformation>
      <messageId>SVC2002</messageId>
      <text>Requested information not available for address %1.</text>
      <variables>tel:+19585550101</variables>
    </errorInformation>
  </accessibility>
</resourceURL>http://example.com/exampleAPI/terminalstatus/v1/queries/accessibilityStatus</resourceURL>
</ts:terminalAccessibilityStatusList>
```

6.2.3.3 Example 3: Get accessibility status (invalid input value) (Informative)

6.2.3.3.1 Request

```
GET /exampleAPI/terminalstatus/v1/queries/accessibilityStatus?address=tel%3A%2B19585550199 HTTP/1.1
Accept: application/xml
Host: example.com
```

6.2.3.3.2 Response

```
HTTP/1.1 400 Bad Request
Content-Type: application/xml
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

<?xml version="1.0" encoding="UTF-8"?>
```

```
<common:requestError xmlns:common="urn:oma:xml:rest:netapi:common:1">
  <link rel="TerminalAccessibilityStatus" href="http://example.com/exampleAPI/terminalstatus/v1/queries/accessibilityStatus"/>
  <serviceException>
    <messageId>SVC0002</messageId>
    <text>Invalid input value for message part %1</text>
    <variables>tel:+19585550199</variables>
  </serviceException>
</common:requestError>
```

6.2.4 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 section 14.7 of [RFC2616].

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’ field in the response as per section 14.7 of [RFC2616].

6.2.6 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 section 14.7 of [RFC2616].

6.3 Resource: Terminal roaming status

The resource used is:

http://{serverRoot}/terminalstatus/{apiVersion}/queries/roamingStatus

This resource is used to return roaming status for single terminal or group of terminals.

6.3.1 Request URL variables

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

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.

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 Terminal Status, see section 7.

6.3.3 GET

This operation is used for reading the terminal roaming status information. If the requester parameter is present and the requester is not authorized, PolicyException (POL0002) will be returned.

Request URL parameter is:

Name	Type/Values	Optional	Description
requester	xsd:anyURI	Yes	It identifies the entity that is requesting the information(e.g. 'sip' URI, 'tel' URI, 'acr' URI). The application invokes this operation on behalf of this entity. However, it does not imply that the application has authenticated the requester. If this element is not present, the requesting entity is the application itself. If this element is present, and the requester is not authorized to retrieve status info, a policy exception will be returned.
address	xsd:anyURI [1..unbounded]	No	Address(es) of the terminal device(s) for which the roaming status information is requested. Examples: (e.g. tel:+19585550100, acr:pseudonym123)

6.3.3.1 Example 1: Get roaming status of single terminal address (Informative)

6.3.3.1.1 Request

```
GET /exampleAPI/terminalstatus/v1/queries/roamingStatus?address=tel%3A%2B19585550100 HTTP/1.1
Accept: application/xml
Host: example.com
```

6.3.3.1.2 Response

```
HTTP/1.1 200 OK
Content-Type: application/xml
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

<?xml version="1.0" encoding="UTF-8"?>
<ts:terminalRoamingStatusList xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <roaming>
    <address>tel:+19585550100</address>
    <retrievalStatus>Retrieved</retrievalStatus>
    <currentRoaming>InternationalRoaming</currentRoaming>
    <-servingMccMnc>
      <mcc>310</mcc>
      <mnc>010</mnc>
    </-ervingMccMnc>
  </roaming>
  <resourceURL>http://example.com/exampleAPI/terminalstatus/v1/queries/roamingStatus</resourceURL>
</ts:terminalRoamingStatusList>
```

6.3.3.2 Example 2: Get roaming status of multiple terminal addresses (Informative)

6.3.3.2.1 Request

```
GET /exampleAPI/terminalstatus/v1/queries/roamingStatus?address=tel%3A%2B19585550100&address=tel%3A%2B19585550101
HTTP/1.1
Accept: application/xml
Host: example.com
```

6.3.3.2.2 Response

```
HTTP/1.1 200 OK
Content-Type: application/xml
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

<?xml version="1.0" encoding="UTF-8"?>
<ts:terminalRoamingStatusList xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <roaming>
    <address>tel:+19585550100</address>
    <retrievalStatus>Retrieved</retrievalStatus>
    <currentRoaming>InternationalRoaming</currentRoaming>
  </roaming>
  <roaming>
    <address>tel:+19585550101</address>
    <retrievalStatus>Error</retrievalStatus>
    <errorInformation>
      <messageId>SVC2002</messageId>
      <text>Requested information not available for address %1.</text>
      <variables>tel:+19585550101</variables>
    </errorInformation>
  </roaming>
  <resourceURL>http://example.com/exampleAPI/terminalstatus/v1/queries/roamingStatus</resourceURL>
</ts:terminalRoamingStatusList>
```

6.3.3.3 Example 3: Get roaming status (invalid input value) (Informative)

6.3.3.3.1 Request

```
GET /exampleAPI/terminalstatus/v1/queries/roamingStatus?address=tel%3A%2B19585550199 HTTP/1.1
Accept: application/xml
Host: example.com
```

6.3.3.3.2 Response

```
HTTP/1.1 400 Bad Request
Content-Type: application/xml
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

<?xml version="1.0" encoding="UTF-8"?>
<common:requestError xmlns:common="urn:oma:xml:rest:netapi:common:1">
  <link rel="TerminalRoamingStatus" href="http://example.com/exampleAPI/terminalstatus/v1/queries/roamingStatus"/>
```

```
<serviceException>
  <messageId>SVC0002</messageId>
  <text>Invalid input value for message part %1</text>
  <variables>tel:+19585550199</variables>
</serviceException>
</common:requestError>
```

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 section 14.7 of [RFC2616].

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 section 14.7 of [RFC2616].

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 section 14.7 of [RFC2616].

6.4 Resource: Terminal connection type

The resource used is:

http://{serverRoot}/terminalstatus/{apiVersion}/queries/connectionType

This resource is used to return connection type for single terminal or group of terminals.

6.4.1 Request URL variables

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

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.

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 Terminal Status, see section 7.

6.4.3 GET

This operation is used for reading the terminal connection type information. If the requester parameter is present and the requester is not authorized, PolicyException (POL0002) will be returned.

Request URL parameter is:

Name	Type/Values	Optional	Description
requester	xsd:anyURI	Yes	It identifies the entity that is requesting the information(e.g. 'sip' URI, 'tel' URI, 'acr' URI). The application invokes this operation on behalf of this entity. However, it does not imply that the application has authenticated the requester. If this element is not present, the requesting entity is the application itself. If this element is present, and the requester is not authorized to retrieve status info, a policy exception will be returned.
address	xsd:anyURI [1..unbounded]	No	Address(es) of the terminal device(s) for which the connection type status information is requested. Examples: (e.g. tel:+19585550100, acr:pseudonym123)

6.4.3.1 Example 1: Get connection type of single terminal address (Informative)

6.4.3.1.1 Request

```
GET /exampleAPI/terminalstatus/v1/queries/connectionType?address=tel%3A%2B19585550100 HTTP/1.1
Accept: application/xml
Host: example.com
```

6.4.3.1.2 Response

```
HTTP/1.1 200 OK
Content-Type: application/xml
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

<?xml version="1.0" encoding="UTF-8"?>
<ts:terminalConnectionTypeList xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <connectionType>
    <address>tel:+19585550100</address>
    <retrievalStatus>Retrieved</retrievalStatus>
    <currentConnectionType>GPRS</currentConnectionType>
  </connectionType>
  <resourceURL>http://example.com/exampleAPI/terminalstatus/v1/queries/connectionType</resourceURL>
</ts:terminalConnectionTypeList>
```

6.4.3.2 Example 2: Get connection type of multiple terminal addresses (Informative)

6.4.3.2.1 Request

```
GET /exampleAPI/terminalstatus/v1/queries/connectionType?address=tel%3A%2B19585550100&address=tel%3A%2B19585550101
```

```
HTTP/1.1
Accept: application/xml
Host: example.com
```

6.4.3.2.2 Response

```
HTTP/1.1 200 OK
Content-Type: application/xml
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

<?xml version="1.0" encoding="UTF-8"?>
<ts:terminalConnectionTypeList xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <connectionType>
    <address>tel:+19585550100</address>
    <retrievalStatus>Retrieved</retrievalStatus>
    <currentConnectionType>GPRS</currentConnectionType>
  </connectionType>
  <connectionType>
    <address>tel:+19585550101</address>
    <retrievalStatus>Error</retrievalStatus>
    <errorInformation>
      <messageId>SVC2002</messageId>
      <text>Requested information not available for address %1.</text>
      <variables>tel:+19585550101</variables>
    </errorInformation>
  </connectionType>
  <resourceURL>http://example.com/exampleAPI/terminalstatus/v1/queries/connectionType</resourceURL>
</ts:terminalConnectionTypeList>
```

6.4.3.3 Example 3: Get connection type (invalid input value) (Informative)

6.4.3.3.1 Request

```
GET /exampleAPI/terminalstatus/v1/queries/connectionType?address=tel%3A%2B19585550199 HTTP/1.1
Accept: application/xml
Host: example.com
```

6.4.3.3.2 Response

```
HTTP/1.1 400 Bad Request
Content-Type: application/xml
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

<?xml version="1.0" encoding="UTF-8"?>
<common:requestError xmlns:common="urn:oma:xml:rest:netapi:common:1">
  <link rel="TerminalConnectionType" href="http://example.com/exampleAPI/terminalstatus/v1/queries/connectionType"/>
  <serviceException>
    <messageId>SVC0002</messageId>
    <text>Invalid input value for message part %1</text>
    <variables>tel:+19585550199</variables>
  </serviceException>
</common:requestError>
```

```
</serviceException>
</common:requestError>
```

6.4.4 PUT

Method not allowed by the resource. The returned HTTP error status is 405. The server SHOULD also include the 'Allow: Gw: GET' field in the response as per section 14.7 of [RFC2616].

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' field in the response as per section 14.7 of [RFC2616].

6.4.6 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 section 14.7 of [RFC2616].

6.5 Resource: Status collection change notification subscriptions

The resource used is:

http://{serverRoot}/terminalstatus/{apiVersion}/subscriptions/statusCollection

This resource is used to control subscriptions to notification about terminal status collection change for a particular client.

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.

6.5.1 Request URL variables

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

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.

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

6.5.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

For Policy Exception and Service Exception fault codes applicable to Terminal Status, see section 7.

6.5.3 GET

This operation is used for reading all active subscriptions to status collection change notifications for the particular client.

6.5.3.1 Example: Get status collection subscriptions (Informative)

6.5.3.1.1 Request

```
GET /exampleAPI/terminalstatus/v1/subscriptions/statusCollection HTTP/1.1
Accept: application/xml
Host: example.com
```

6.5.3.1.2 Response

```
HTTP/1.1 200 OK
Content-Type: application/xml
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

<?xml version="1.0" encoding="UTF-8"?>
<ts:notificationSubscriptionList xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <collectionChangeSubscription>
    <clientCorrelator>0001</clientCorrelator>
    <resourceURL>http://example.com/exampleAPI/terminalstatus/v1/subscriptions/statusCollection/sub123</resourceURL>
    <callbackReference>
      <notifyURL>http://application.example.com/notifications/StatusCollectionNotification</notifyURL>
    </callbackReference>
    <address>tel:+19585550100</address>
    <accessibilityCriteria>Reachable</accessibilityCriteria>
    <roamingCriteria>InternationalRoaming</roamingCriteria>
    <connectionTypeCriteria>CDMA</connectionTypeCriteria>
    <checkImmediate>true</checkImmediate>
    <frequency>10</frequency>
  </collectionChangeSubscription>
  <collectionChangeSubscription>
    <clientCorrelator>0002</clientCorrelator>
    <resourceURL>http://example.com/exampleAPI/terminalstatus/v1/subscriptions/statusCollection/sub124</resourceURL>
    <callbackReference>
      <notifyURL>http://application.example.com/notifications/StatusCollectionNotification</notifyURL>
    </callbackReference>
    <address>tel:+19585550101</address>
    <address>tel:+19585550102</address>
    <accessibilityCriteria>Reachable</accessibilityCriteria>
    <roamingCriteria>InternationalRoaming</roamingCriteria>
    <connectionTypeCriteria>CDMA</connectionTypeCriteria>
    <checkImmediate>true</checkImmediate>
    <frequency>10</frequency>
  </collectionChangeSubscription>
  <resourceURL>http://example.com/exampleAPI/terminalstatus/v1/subscriptions/statusCollection</resourceURL>
</ts:notificationSubscriptionList>
```

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, POST' field in the response as per section 14.7 of [RFC2616].

6.5.5 POST

This operation is used for creating a new subscription to status collection change notification for the particular client.

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]).

If the requester parameter is present and the requester is not authorized, PolicyException (POL0002) will be returned.

Note: server implementation MAY use clientCorrelator value, if provided by client, as subscriptionId. Otherwise, sequence number SHOULD be generated for subscriptionId. This is to make sure that client can have a stable and predictable URL for online subscriptions. May be required when multiple client instances are used for performance reasons.

6.5.5.1 Example 1: Create new status collection subscription, using tel URI (Informative)

6.5.5.1.1 Request

```
POST /exampleAPI/terminalstatus/v1/subscriptions/statusCollection HTTP/1.1
Content-Type: application/xml
Accept: application/xml
Content-Length: nnnn
Host: example.com

<?xml version="1.0" encoding="UTF-8"?>
<ts:statusCollectionChangeSubscription xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <clientCorrelator>0001</clientCorrelator>
  <callbackReference>
    <notifyURL>http://application.example.com/notifications/StatusCollectionNotification</notifyURL>
  </callbackReference>
  <requester>tel:+19585550102</requester>
  <address>tel:+19585550100</address>
  <accessibilityCriteria>Reachable</accessibilityCriteria>
  <roamingCriteria>InternationalRoaming</roamingCriteria>
  <connectionTypeCriteria>CDMA</connectionTypeCriteria>
  <checkImmediate>true</checkImmediate>
  <frequency>10</frequency>
</ts:statusCollectionChangeSubscription >
```

6.5.5.1.2 Response

```
HTTP/1.1 201 Created
Content-Type: application/xml
Location: http://example.com/exampleAPI/terminalstatus/v1/subscriptions/statusCollection/sub123
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

<?xml version="1.0" encoding="UTF-8"?>
```

```

<ts:statusCollectionChangeSubscription xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <clientCorrelator>0001</clientCorrelator>
  <resourceURL>http://example.com/exampleAPI/terminalstatus/v1/subscriptions/statusCollection/sub123</resourceURL>
  <callbackReference>
    <notifyURL>http://application.example.com/notifications/StatusCollectionNotification</notifyURL>
  </callbackReference>
  <requester>tel:+19585550102</requester>
  <address>tel:+19585550100</address>
  <accessibilityCriteria>Reachable</accessibilityCriteria>
  <roamingCriteria>InternationalRoaming</roamingCriteria>
  <connectionTypeCriteria>CDMA</connectionTypeCriteria>
  <checkImmediate>true</checkImmediate>
  <frequency>10</frequency>
</ts:statusCollectionChangeSubscription>

```

6.5.5.2 Example 2: Create new status collection subscription, using ACR (Informative)

6.5.5.2.1 Request

POST /exampleAPI/terminalstatus/v1/subscriptions/statusCollection HTTP/1.1

Content-Type: application/xml

Content-Length: nnnn

Accept: application/xml

Host: example.com

```

<?xml version="1.0" encoding="UTF-8"?>
<ts:statusCollectionChangeSubscription xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <clientCorrelator>0001</clientCorrelator>
  <callbackReference>
    <notifyURL>http://application.example.com/notifications/StatusCollectionNotification</notifyURL>
  </callbackReference>
  <address>acr:pseudonym123</address>
  <accessibilityCriteria>Reachable</accessibilityCriteria>
  <roamingCriteria>InternationalRoaming</roamingCriteria>
  <connectionTypeCriteria>CDMA</connectionTypeCriteria>
  <checkImmediate>true</checkImmediate>
  <frequency>10</frequency>
</ts:statusCollectionChangeSubscription >

```

6.5.5.2.2 Response

HTTP/1.1 201 Created

Content-Type: application/xml

Location: http://example.com/exampleAPI/terminalstatus/v1/subscriptions/statusCollection/sub123

Content-Length: nnnn

Date: Mon, 28 Jun 2010 17:51:59 GMT

```

<?xml version="1.0" encoding="UTF-8"?>
<ts:statusCollectionChangeSubscription xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1" >
  <clientCorrelator>0001</clientCorrelator>
  <resourceURL>http://example.com/exampleAPI/terminalstatus/v1/subscriptions/statusCollection/sub123</resourceURL>
  <callbackReference>
    <notifyURL>http://application.example.com/notifications/StatusCollectionNotification</notifyURL>
  </callbackReference>

```

```

<address>acr:pseudonym123</address>
<accessibilityCriteria>Reachable</accessibilityCriteria>
<roamingCriteria>InternationalRoaming</roamingCriteria>
<connectionTypeCriteria>CDMA</connectionTypeCriteria>
<checkImmediate>true</checkImmediate>
<frequency>10</frequency>
</ts:statusCollectionChangeSubscription>

```

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, POST' field in the response as per section 14.7 of [RFC2616].

6.6 Resource: Individual status collection change notification subscription

The resource used is:

http://{{serverRoot}}/terminalstatus/{{apiVersion}}/subscriptions/statusCollection/{{subscriptionId}}

This resource is used to control individual subscription to notification about terminal status collection change for a particular client.

6.6.1 Request URL variables

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

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.
subscriptionId	Identifier of the subscription. Example: sub123

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 Terminal Status, see section 7.

6.6.3 GET

This operation is used for reading an individual subscription for status collection change notification for the particular client.

6.6.3.1 Example: Read individual status collection subscription (Informative)

6.6.3.1.1 Request

```
GET /exampleAPI/terminalstatus/v1/subscriptions/statusCollection/sub123 HTTP/1.1
Accept: application/xml
Host: example.com
```

6.6.3.1.2 Response

```
HTTP/1.1 200 OK
Content-Type: application/xml
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

<?xml version="1.0" encoding="UTF-8"?>
<ts:statusCollectionChangeSubscription xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <clientCorrelator>0001</clientCorrelator>
  <resourceURL>http://example.com/exampleAPI/terminalstatus/v1/subscriptions/statusCollection/sub123</resourceURL>
  <callbackReference>
    <notifyURL>http://application.example.com/notifications/StatusCollectionNotification</notifyURL>
  </callbackReference>
  <address>tel:+19585550100</address>
  <accessibilityCriteria>Reachable</accessibilityCriteria>
  <roamingCriteria>InternationalRoaming</roamingCriteria>
  <connectionTypeCriteria>CDMA</connectionTypeCriteria>
  <checkImmediate>true</checkImmediate>
  <frequency>10</frequency>
</ts:statusCollectionChangeSubscription>
```

6.6.4 PUT

This operation is used for updating an individual subscription to status collection change notification for the particular client.

If the requester parameter is present and the requester is not authorized, PolicyException (POL0002) will be returned.

6.6.4.1 Example: Update individual status collection subscription (Informative)

6.6.4.1.1 Request

```
PUT /exampleAPI/terminalstatus/v1/subscriptions/statusCollection/sub123 HTTP/1.1
Content-Type: application/xml
Accept: application/xml
Content-Length: nnnn
Host: example.com

<?xml version="1.0" encoding="UTF-8"?>
<ts:statusCollectionChangeSubscription xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <clientCorrelator>0001</clientCorrelator>
  <resourceURL>http://example.com/exampleAPI/terminalstatus/v1/subscriptions/statusCollection/sub123</resourceURL>
  <callbackReference>
    <notifyURL>http://application.example.com/notifications/StatusCollectionNotification</notifyURL>
  </callbackReference>
  <requester>tel:+19585550102</requester>
```

```

<address>tel:+19585550100</address>
<accessibilityCriteria>Reachable</accessibilityCriteria>
<roamingCriteria>NotRoaming</roamingCriteria>
<connectionTypeCriteria>EDGE</connectionTypeCriteria>
<checkImmediate>true</checkImmediate>
<frequency>5</frequency>
</ts:statusCollectionChangeSubscription>

```

6.6.4.1.2 Response

```

HTTP/1.1 200 OK
Content-Type: application/xml
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

<?xml version="1.0" encoding="UTF-8"?>
<ts:statusCollectionChangeSubscription xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <clientCorrelator>0001</clientCorrelator>
  <resourceURL>http://example.com/exampleAPI/terminalstatus/v1/subscriptions/statusCollection/sub123</resourceURL>
  <callbackReference>
    <notifyURL>http://application.example.com/notifications/StatusCollectionNotification</notifyURL>
  </callbackReference>
  <requester>tel:+19585550102</requester>
  <address>tel:+19585550100</address>
  <accessibilityCriteria>Reachable</accessibilityCriteria>
  <roamingCriteria>NotRoaming</roamingCriteria>
  <connectionTypeCriteria>EDGE</connectionTypeCriteria>
  <checkImmediate>true</checkImmediate>
  <frequency>5</frequency>
</ts:statusCollectionChangeSubscription>

```

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 section 14.7 of [RFC2616].

6.6.6 DELETE

This operation is used for deleting a subscription to status collection change notification and stop notifications for a particular client.

6.6.6.1 Example: Delete individual status collection subscription (Informative)

6.6.6.1.1 Request

```

DELETE /exampleAPI/terminalstatus/v1/subscriptions/statusCollection/sub123 HTTP/1.1
Accept: application/xml
Host: example.com

```

6.6.6.1.2 Response

```

HTTP/1.1 204 No Content

```

Date: Thu, 15 Sep 2011 02:51:59 GMT

6.7 Resource: Accessibility status change notification subscriptions

The resource used is:

http://{serverRoot}/terminalstatus/{apiVersion}/subscriptions/accessibilityStatus

This resource is used to control subscriptions to notification about terminal accessibility status change for a particular client.

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.

6.7.1 Request URL variables

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

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.

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 Terminal Status, see section 7.

6.7.3 GET

This operation is used for reading all active subscriptions to accessibility status change notifications for the particular client.

6.7.3.1 Example: Get accessibility status subscriptions (Informative)

6.7.3.1.1 Request

```
GET /exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus HTTP/1.1
Accept: application/xml
Host: example.com
```

6.7.3.1.2 Response

```
HTTP/1.1 200 OK
Content-Type: application/xml
Content-Length: nnnn
```

Date: Thu, 15 Sep 2011 02:51:59 GMT

```
<?xml version="1.0" encoding="UTF-8"?>
<ts:notificationSubscriptionList xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <accessibilityChangeSubscription>
    <clientCorrelator>0001</clientCorrelator>
    <resourceURL>http://example.com/exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus/sub123</resourceURL>
    <callbackReference>
      <notifyURL>http://application.example.com/notifications/AccessibilityStatusNotification</notifyURL>
    </callbackReference>
    <address>tel:+19585550100</address>
    <accessibilityCriteria>Reachable</accessibilityCriteria>
    <checkImmediate>true</checkImmediate>
    <frequency>10</frequency>
  </accessibilityChangeSubscription>
  <accessibilityChangeSubscription>
    <clientCorrelator>0002</clientCorrelator>
    <resourceURL>http://example.com/exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus/sub124</resourceURL>
    <callbackReference>
      <notifyURL>http://application.example.com/notifications/AccessibilityStatusNotification</notifyURL>
    </callbackReference>
    <address>tel:+19585550101</address>
    <address>tel:+19585550102</address>
    <accessibilityCriteria>Reachable</accessibilityCriteria>
    <checkImmediate>true</checkImmediate>
    <frequency>10</frequency>
  </accessibilityChangeSubscription>
</resourceURL>http://example.com/exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus</resourceURL>
</ts:notificationSubscriptionList>
```

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, POST' field in the response as per section 14.7 of [RFC2616].

6.7.5 POST

This operation is used for creating a new subscription to accessibility status change notification for the particular client.

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]).

If the requester parameter is present and the requester is not authorized, PolicyException (POL0002) will be returned.

Note: server implementation MAY use clientCorrelator value, if provided by client, as subscriptionId. Otherwise, sequence number SHOULD be generated for subscriptionId. This is to make sure that client can have a stable and predictable URL for online subscriptions. May be required when multiple client instances are used for performance reasons.

6.7.5.1 Example: Create new accessibility status subscription (Informative)

6.7.5.1.1 Request

```
POST /exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus HTTP/1.1
```


Content-Type: application/xml
 Accept: application/xml
 Content-Length: nnnn
 Host: example.com

```
<?xml version="1.0" encoding="UTF-8"?>
<ts:accessibilityChangeSubscription xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <clientCorrelator>0001</clientCorrelator>
  <callbackReference>
    <notifyURL>http://application.example.com/notifications/AccessibilityStatusNotification</notifyURL>
  </callbackReference>
  <address>tel:+19585550100</address>
  <accessibilityCriteria>Reachable</accessibilityCriteria>
  <checkImmediate>true</checkImmediate>
  <frequency>10</frequency>
</ts:accessibilityChangeSubscription>
```

6.7.5.1.2 Response

HTTP/1.1 201 Created
 Content-Type: application/xml
 Location: http://example.com/exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus/sub123
 Content-Length: nnnn
 Date: Thu, 15 Sep 2011 02:51:59 GMT

```
<?xml version="1.0" encoding="UTF-8"?>
<ts:accessibilityChangeSubscription xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <clientCorrelator>0001</clientCorrelator>
  <resourceURL>http://example.com/exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus/sub123</resourceURL>
  <callbackReference>
    <notifyURL>http://application.example.com/notifications/AccessibilityStatusNotification</notifyURL>
  </callbackReference>
  <address>tel:+19585550100</address>
  <accessibilityCriteria>Reachable</accessibilityCriteria>
  <checkImmediate>true</checkImmediate>
  <frequency>10</frequency>
</ts:accessibilityChangeSubscription>
```

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, POST' field in the response as per section 14.7 of [RFC2616].

6.8 Resource: Individual accessibility status change notification subscription

The resource used is:

http://{serverRoot}/terminalstatus/{apiVersion}/subscriptions/accessibilityStatus/{subscriptionId}

This resource is used to control individual subscription to notification about terminal accessibility status change for a particular client.

6.8.1 Request URL variables

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

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.
subscriptionId	Identifier of the subscription. Example: sub123

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 Terminal Status, see section 7.

6.8.3 GET

This operation is used for reading an individual subscription to accessibility status change notification for the particular client.

6.8.3.1 Example: Read individual accessibility status subscription (Informative)

6.8.3.1.1 Request

```
GET /exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus/sub123 HTTP/1.1
Accept: application/xml
Host: example.com
```

6.8.3.1.2 Response

```
HTTP/1.1 200 OK
Content-Type: application/xml
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

<?xml version="1.0" encoding="UTF-8"?>
<ts:accessibilityChangeSubscription xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <clientCorrelator>0001</clientCorrelator>
  <resourceURL>http://example.com/exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus/sub123</resourceURL>
  <callbackReference>
    <notifyURL>http://application.example.com/notifications/AccessibilityStatusNotification</notifyURL>
  </callbackReference>
  <address>tel:+19585550100</address>
  <accessibilityCriteria>Reachable</accessibilityCriteria>
  <checkImmediate>true</checkImmediate>
  <frequency>10</frequency>
</ts:accessibilityChangeSubscription>
```

6.8.4 PUT

This operation is used for updating an individual subscription to accessibility status change notification for the particular client.

If the requester parameter is present and the requester is not authorized, PolicyException (POL0002) will be returned.

6.8.4.1 Example: Update individual accessibility status subscription (Informative)

6.8.4.1.1 Request

```
PUT /exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus/sub123 HTTP/1.1
Content-Type: application/xml
Accept: application/xml
Content-Length: nnnn
Host: example.com

<?xml version="1.0" encoding="UTF-8"?>
<ts:accessibilityChangeSubscription xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <clientCorrelator>0001</clientCorrelator>
  <resourceURL>http://example.com/exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus/sub123</resourceURL>
  <callbackReference>
    <notifyURL>http://application.example.com/notifications/AccessibilityStatusNotification</notifyURL>
  </callbackReference>
  <address>tel:+19585550100</address>
  <accessibilityCriteria>Unreachable</accessibilityCriteria>
  <checkImmediate>true</checkImmediate>
  <frequency>5</frequency>
</ts:accessibilityChangeSubscription>
```

6.8.4.1.2 Response

```
HTTP/1.1 200 OK
Content-Type: application/xml
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

<?xml version="1.0" encoding="UTF-8"?>
<ts:accessibilityChangeSubscription xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <clientCorrelator>0001</clientCorrelator>
  <resourceURL>http://example.com/exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus/sub123</resourceURL>
  <callbackReference>
    <notifyURL>http://application.example.com/notifications/AccessibilityStatusNotification</notifyURL>
  </callbackReference>
  <address>tel:+19585550100</address>
  <accessibilityCriteria>Unreachable</accessibilityCriteria>
  <checkImmediate>true</checkImmediate>
  <frequency>5</frequency>
</ts:accessibilityChangeSubscription>
```

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 section 14.7 of [RFC2616].

6.8.6 DELETE

This operation is used for deleting a subscription to accessibility status change notification and stop notifications for a particular client.

6.8.6.1 Example: Delete individual accessibility status subscription (Informative)

6.8.6.1.1 Request

```
DELETE /exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus/sub123 HTTP/1.1
Accept: application/xml
Host: example.com
```

6.8.6.1.2 Response

```
HTTP/1.1 204 No Content
Date: Thu, 15 Sep 2011 02:51:59 GMT
```

6.9 Resource: Roaming status change notification subscriptions

The resource used is:

http://{serverRoot}/terminalstatus/{apiVersion}/subscriptions/roamingStatus

This resource is used to control subscriptions to notification about terminal roaming status change for a particular client.

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.

6.9.1 Request URL variables

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

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.

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 Terminal Status, see section 7.

6.9.3 GET

This operation is used for reading all active subscriptions to roaming status change notifications for the particular client.

6.9.3.1 Example: Get roaming status subscriptions

(Informative)

6.9.3.1.1 Request

```
GET /exampleAPI/terminalstatus/v1/subscriptions/roamingStatus HTTP/1.1
Accept: application/xml
Host: example.com
```

6.9.3.1.2 Response

```
HTTP/1.1 200 OK
Content-Type: application/xml
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

<?xml version="1.0" encoding="UTF-8"?>
<ts:notificationSubscriptionList xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <roamingChangeSubscription>
    <clientCorrelator>0001</clientCorrelator>
    <resourceURL>http://example.com/exampleAPI/terminalstatus/v1/subscriptions/roamingStatus/sub123</resourceURL>
    <callbackReference>
      <notifyURL>http://application.example.com/notifications/RoamingStatusNotification</notifyURL>
    </callbackReference>
    <address>tel:+19585550100</address>
    <roamingCriteria>InternationalRoaming</roamingCriteria>
    <checkImmediate>true</checkImmediate>
    <frequency>10</frequency>
  </roamingChangeSubscription>
  <roamingChangeSubscription>
    <clientCorrelator>0002</clientCorrelator>
    <resourceURL>http://example.com/exampleAPI/terminalstatus/v1/subscriptions/roamingStatus/sub124</resourceURL>
    <callbackReference>
      <notifyURL>http://application.example.com/notifications/RoamingStatusNotification</notifyURL>
    </callbackReference>
    <address>tel:+19585550101</address>
    <address>tel:+19585550102</address>
    <roamingCriteria>DomesticRoaming</roamingCriteria>
    <checkImmediate>true</checkImmediate>
    <frequency>10</frequency>
  </roamingChangeSubscription>
</resourceURL>http://example.com/exampleAPI/terminalstatus/v1/subscriptions/roamingStatus</resourceURL>
</ts:notificationSubscriptionList>
```

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, POST' field in the response as per section 14.7 of [RFC2616].

6.9.5 POST

This operation is used for creating a new subscription to roaming status change notification for the particular client.

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]).

If the requester parameter is present and the requester is not authorized, PolicyException (POL0002) will be returned.

Note: server implementation MAY use clientCorrelator value, if provided by client, as subscriptionId. Otherwise, sequence number SHOULD be generated for subscriptionId. This is to make sure that client can have a stable and predictable URL for online subscriptions. May be required when multiple client instances are used for performance reasons.

6.9.5.1 Example: Create new roaming status subscription (Informative)

6.9.5.1.1 Request

```
POST /exampleAPI/terminalstatus/v1/subscriptions/roamingStatus HTTP/1.1
Content-Type: application/xml
Accept: application/xml
Content-Length: nnnn
Host: example.com

<?xml version="1.0" encoding="UTF-8"?>
<ts:roamingChangeSubscription xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <clientCorrelator>0001</clientCorrelator>
  <callbackReference>
    <notifyURL>http://application.example.com/notifications/RoamingStatusNotification</notifyURL>
  </callbackReference>
  <address>tel:+19585550100</address>
  <roamingCriteria>InternationalRoaming</roamingCriteria>
  <checkImmediate>true</checkImmediate>
  <frequency>10</frequency>
</ts:roamingChangeSubscription>
```

6.9.5.1.2 Response

```
HTTP/1.1 201 Created
Content-Type: application/xml
Location: http://example.com/exampleAPI/terminalstatus/v1/subscriptions/roamingStatus/sub123
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

<?xml version="1.0" encoding="UTF-8"?>
<ts:roamingChangeSubscription xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <clientCorrelator>0001</clientCorrelator>
  <resourceURL>http://example.com/exampleAPI/terminalstatus/v1/subscriptions/roamingStatus/sub123</resourceURL>
  <callbackReference>
    <notifyURL>http://application.example.com/notifications/RoamingStatusNotification</notifyURL>
  </callbackReference>
  <address>tel:+19585550100</address>
  <roamingCriteria>InternationalRoaming</roamingCriteria>
  <checkImmediate>true</checkImmediate>
  <frequency>10</frequency>
</ts:roamingChangeSubscription>
```

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, POST' field in the response as per section 14.7 of [RFC2616].

6.10 Resource: Individual roaming status change notification subscription

The resource used is:

http://{serverRoot}/terminalstatus/{apiVersion}/subscriptions/roamingStatus/{subscriptionId}

This resource is used to control individual subscription to notification about terminal roaming status change for a particular client.

6.10.1 Request URL variables

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

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.
subscriptionId	Identifier of the subscription. Example: sub123

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 Terminal Status, see section 7.

6.10.3 GET

This operation is used for reading an individual subscription to roaming status change notification for the particular client.

6.10.3.1 Example: Read individual roaming status subscription (Informative)

6.10.3.1.1 Request

```
GET /exampleAPI/terminalstatus/v1/subscriptions/roamingStatus/sub123 HTTP/1.1
Accept: application/xml
Host: example.com
```

6.10.3.1.2 Response

```
HTTP/1.1 200 OK
Content-Type: application/xml
Content-Length: nnnn
```

Date: Thu, 15 Sep 2011 02:51:59 GMT

```
<?xml version="1.0" encoding="UTF-8"?>
<ts:roamingChangeSubscription xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <clientCorrelator>0001</clientCorrelator>
  <resourceURL>http://example.com/exampleAPI/terminalstatus/v1/subscriptions/roamingStatus/sub123</resourceURL>
  <callbackReference>
    <notifyURL>http://application.example.com/notifications/RoamingStatusNotification</notifyURL>
  </callbackReference>
  <address>tel:+19585550100</address>
  <roamingCriteria>InternationalRoaming</roamingCriteria>
  <checkImmediate>true</checkImmediate>
  <frequency>10</frequency>
</ts:roamingChangeSubscription>
```

6.10.4 PUT

This operation is used for updating an individual subscription to roaming status change notification for the particular client.

If the requester parameter is present and the requester is not authorized, PolicyException (POL0002) will be returned.

6.10.4.1 Example: Update individual roaming status subscription (Informative)

6.10.4.1.1 Request

PUT /exampleAPI/terminalstatus/v1/subscriptions/roamingStatus/sub123 HTTP/1.1

Content-Type: application/xml

Accept: application/xml

Content-Length: nnnn

Host: example.com

```
<?xml version="1.0" encoding="UTF-8"?>
<ts:roamingChangeSubscription xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <clientCorrelator>0001</clientCorrelator>
  <resourceURL>http://example.com/exampleAPI/terminalstatus/v1/subscriptions/roamingStatus/sub123</resourceURL>
  <callbackReference>
    <notifyURL>http://application.example.com/notifications/RoamingStatusNotification</notifyURL>
  </callbackReference>
  <address>tel:+19585550100</address>
  <roamingCriteria>NotRoaming</roamingCriteria>
  <checkImmediate>true</checkImmediate>
  <frequency>5</frequency>
</ts:roamingChangeSubscription>
```

6.10.4.1.2 Response

HTTP/1.1 200 OK

Content-Type: application/xml

Content-Length: nnnn

Date: Thu, 15 Sep 2011 02:51:59 GMT

```
<?xml version="1.0" encoding="UTF-8"?>
<ts:roamingChangeSubscription xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
```



```

<clientCorrelator>0001</clientCorrelator>
<resourceURL>http://example.com/exampleAPI/terminalstatus/v1/subscriptions/roamingStatus/sub123</resourceURL>
<callbackReference>
  <notifyURL>http://application.example.com/notifications/RoamingStatusNotification</notifyURL>
</callbackReference>
<address>tel:+19585550100</address>
<roamingCriteria>NotRoaming</roamingCriteria>
<checkImmediate>true</checkImmediate>
<frequency>5</frequency>
</ts:roamingChangeSubscription>

```

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 section 14.7 of [RFC2616].

6.10.6 DELETE

This operation is used for deleting a subscription to roaming status change notification and stop notifications for a particular client.

6.10.6.1 Example: Delete individual roaming status subscription (Informative)

6.10.6.1.1 Request

```

DELETE /exampleAPI/terminalstatus/v1/subscriptions/roamingStatus/sub123 HTTP/1.1
Accept: application/xml
Host: example.com

```

6.10.6.1.2 Response

```

HTTP/1.1 204 No Content
Date: Thu, 15 Sep 2011 02:51:59 GMT

```

6.11 Resource: Connection type change notification subscriptions

The resource used is:

http://{{serverRoot}}/terminalstatus/{{apiVersion}}/subscriptions/connectionType

This resource is used to control subscriptions to notification about terminal connection type change for a particular client.

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.

6.11.1 Request URL variables

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

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.

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 Terminal Status, see section 7.

6.11.3 GET

This operation is used for reading all active subscriptions to connection type change notifications for the particular client.

6.11.3.1 Example: Get connection type subscriptions (Informative)

6.11.3.1.1 Request

```
GET /exampleAPI/terminalstatus/v1/subscriptions/connectionType HTTP/1.1
Accept: application/xml
Host: example.com
```

6.11.3.1.2 Response

```
HTTP/1.1 200 OK
Content-Type: application/xml
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

<?xml version="1.0" encoding="UTF-8"?>
<ts:notificationSubscriptionList xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <connectionChangeSubscription>
    <clientCorrelator>0001</clientCorrelator>
    <resourceURL>http://example.com/exampleAPI/terminalstatus/v1/subscriptions/connectionType/sub123</resourceURL>
    <callbackReference>
      <notifyURL>http://application.example.com/notifications/ConnectionTypeNotification</notifyURL>
    </callbackReference>
    <address>tel:+19585550100</address>
    <connectionTypeCriteria>CDMA</connectionTypeCriteria>
    <checkImmediate>true</checkImmediate>
    <frequency>10</frequency>
  </connectionChangeSubscription>
  <connectionChangeSubscription>
    <clientCorrelator>0002</clientCorrelator>
    <resourceURL>http://example.com/exampleAPI/terminalstatus/v1/subscriptions/connectionType/sub124</resourceURL>
```

```

<callbackReference>
  <notifyURL>http://application.example.com/notifications/ConnectionTypeNotification</notifyURL>
</callbackReference>
<address>tel:+19585550101</address>
<address>tel:+19585550102</address>
<connectionTypeCriteria>LTE</connectionTypeCriteria>
<checkImmediate>true</checkImmediate>
<frequency>10</frequency>
</connectionChangeSubscription>
<resourceURL>http://example.com/exampleAPI/terminalstatus/v1/subscriptions/connectionType</resourceURL>
</ts:notificationSubscriptionList>

```

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, POST' field in the response as per section 14.7 of [RFC2616].

6.11.5 POST

This operation is used for creating a new subscription to connection type change notification for the particular client.

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]).

If the requester parameter is present and the requester is not authorized, PolicyException (POL0002) will be returned.

Note: server implementation MAY use clientCorrelator value, if provided by client, as subscriptionId. Otherwise, sequence number SHOULD be generated for subscriptionId. This is to make sure that client can have a stable and predictable URL for online subscriptions. May be required when multiple client instances are used for performance reasons.

6.11.5.1 Example: Create new connection type subscription (Informative)

6.11.5.1.1 Request

```

POST /exampleAPI/terminalstatus/v1/subscriptions/connectionType HTTP/1.1
Content-Type: application/xml
Accept: application/xml
Content-Length: nnnn
Host: example.com

<?xml version="1.0" encoding="UTF-8"?>
<ts:connectionChangeSubscription xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <clientCorrelator>0001</clientCorrelator>
  <callbackReference>
    <notifyURL>http://application.example.com/notifications/ConnectionTypeNotification</notifyURL>
  </callbackReference>
  <address>tel:+19585550100</address>
  <connectionTypeCriteria>CDMA</connectionTypeCriteria>
  <checkImmediate>true</checkImmediate>
  <frequency>10</frequency>
</ts:connectionChangeSubscription>

```

6.11.5.1.2 Response

```

HTTP/1.1 201 Created
Content-Type: application/xml
Location: http://example.com/exampleAPI/terminalstatus/v1/subscriptions/connectionType/sub123
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

<?xml version="1.0" encoding="UTF-8"?>
<ts:connectionChangeSubscription xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <clientCorrelator>0001</clientCorrelator>
  <resourceURL>http://example.com/exampleAPI/terminalstatus/v1/subscriptions/connectionType/sub123</resourceURL>
  <callbackReference>
    <notifyURL>http://application.example.com/notifications/ConnectionTypeNotification</notifyURL>
  </callbackReference>
  <address>tel:+19585550100</address>
  <connectionTypeCriteria>CDMA</connectionTypeCriteria>
  <checkImmediate>true</checkImmediate>
  <frequency>10</frequency>
</ts:connectionChangeSubscription>
    
```

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, POST’ field in the response as per section 14.7 of [RFC2616].

6.12 Resource: Individual connection type change notification subscription

The resource used is:

http://{serverRoot}/terminalstatus/{apiVersion}/subscriptions/connectionType/{subscriptionId}

This resource is used to control individual subscription to notification about terminal connection type change for a particular client.

6.12.1 Request URL variables

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

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.
subscriptionId	Identifier of the subscription. Example: sub123

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 Terminal Status, see section 7.

6.12.3 GET

This operation is used for reading an individual subscription to connection type change notification for the particular client.

6.12.3.1 Example: Read individual connection type subscription (Informative)

6.12.3.1.1 Request

```
GET /exampleAPI/terminalstatus/v1/subscriptions/connectionType/sub123 HTTP/1.1
Accept: application/xml
Host: example.com
```

6.12.3.1.2 Response

```
HTTP/1.1 200 OK
Content-Type: application/xml
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

<?xml version="1.0" encoding="UTF-8"?>
<ts:connectionChangeSubscription xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <clientCorrelator>0001</clientCorrelator>
  <resourceURL>http://example.com/exampleAPI/terminalstatus/v1/subscriptions/connectionType/sub123</resourceURL>
  <callbackReference>
    <notifyURL>http://application.example.com/notifications/ConnectionTypeNotification</notifyURL>
  </callbackReference>
  <address>tel:+19585550100</address>
  <connectionTypeCriteria>CDMA</connectionTypeCriteria>
  <checkImmediate>true</checkImmediate>
  <frequency>10</frequency>
</ts:connectionChangeSubscription>
```

6.12.4 PUT

This operation is used for updating an individual subscription to connection type change notification for the particular client.

If the requester parameter is present and the requester is not authorized, PolicyException (POL0002) will be returned.

6.12.4.1 Example: Update individual connection type subscription (Informative)

6.12.4.1.1 Request

```
PUT /exampleAPI/terminalstatus/v1/subscriptions/connectionType/sub123 HTTP/1.1
Content-Type: application/xml
Accept: application/xml
Content-Length: nnnn
Host: example.com

<?xml version="1.0" encoding="UTF-8"?>
<ts:connectionChangeSubscription xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <clientCorrelator>0001</clientCorrelator>
```

```

<resourceURL>http://example.com/exampleAPI/terminalstatus/v1/subscriptions/connectionType/sub123</resourceURL>
<callbackReference>
  <notifyURL>http://application.example.com/notifications/ConnectionTypeNotification</notifyURL>
</callbackReference>
<address>tel:+19585550100</address>
<connectionTypeCriteria>LTE</connectionTypeCriteria>
<checkImmediate>true</checkImmediate>
<frequency>5</frequency>
</ts:connectionChangeSubscription>

```

6.12.4.1.2 Response

```

HTTP/1.1 200 OK
Content-Type: application/xml
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

<?xml version="1.0" encoding="UTF-8"?>
<ts:connectionChangeSubscription xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <clientCorrelator>0001</clientCorrelator>
  <resourceURL>http://example.com/exampleAPI/terminalstatus/v1/subscriptions/connectionType/sub123</resourceURL>
  <callbackReference>
    <notifyURL>http://application.example.com/notifications/ConnectionTypeNotification</notifyURL>
  </callbackReference>
  <address>tel:+19585550100</address>
  <connectionTypeCriteria>LTE</connectionTypeCriteria>
  <checkImmediate>true</checkImmediate>
  <frequency>5</frequency>
</ts:connectionChangeSubscription>

```

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 section 14.7 of [RFC2616].

6.12.6 DELETE

This operation is used for deleting a subscription to connection type change notification and stop notifications for a particular client.

6.12.6.1 Example: Delete individual connection type subscription (Informative)

6.12.6.1.1 Request

```

DELETE /exampleAPI/terminalstatus/v1/subscriptions/connectionType/sub123 HTTP/1.1
Accept: application/xml
Host: example.com

```

6.12.6.1.2 Response

```

HTTP/1.1 204 No Content
Date: Thu, 15 Sep 2011 02:51:59 GMT

```

6.13 Resource: Client notification about terminal status changes

This resource is a callback URL provided by the client for notification about Terminal Status events.

The RESTful TerminalStatus 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 6.13.4.

6.13.1 Request URL variables

Client provided.

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 Terminal Status, see section 7.

6.13.3 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 section 14.7 of [RFC2616].

6.13.4 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 section 14.7 of [RFC2616].

6.13.5 POST

This operation is used for notifying client about terminal status change.

6.13.5.1 Example1: Status collection change notification (Informative)

6.13.5.1.1 Request

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

<?xml version="1.0" encoding="UTF-8"?>
<ts:statusCollectionChangeNotification xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <collection>
    <address>tel:+19585550100</address>
    <accessibility>
      <retrievalStatus>Retrieved</retrievalStatus>
      <currentAccessibility>Reachable</currentAccessibility>
    </accessibility>
  </collection>
</ts:statusCollectionChangeNotification>
```

```

</accessibility>
<roaming>
  <retrievalStatus>Retrieved</retrievalStatus>
  <currentRoaming>NotRoaming</currentRoaming>
</roaming>
<connectionType>
  <retrievalStatus>Retrieved</retrievalStatus>
  <currentConnectionType>EDGE</currentConnectionType>
</connectionType>
</collection>
<isFinalNotification>>false</isFinalNotification>
<link rel="StatusCollectionChangeSubscription"
href="http://example.com/exampleAPI/terminalstatus/v1/subscriptions/statusCollection/sub123"/>
</ts:statusCollectionChangeNotification>

```

6.13.5.1.2 Response

```

HTTP/1.1 204 No Content
Date: Thu, 15 Sep 2011 02:51:59 GMT

```

6.13.5.2 Example 2: Accessibility status change notification (one terminal) (Informative)

6.13.5.2.1 Request

```

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

<?xml version="1.0" encoding="UTF-8"?>
<ts:accessibilityChangeNotification xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <accessibility>
    <address>tel:+19585550100</address>
    <retrievalStatus>Retrieved</retrievalStatus>
    <currentAccessibility>Reachable</currentAccessibility>
  </accessibility>
  <isFinalNotification>>false</isFinalNotification>
  <link rel="AccessibilityChangeSubscription"
href="http://example.com/exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus/sub123"/>
</ts:accessibilityChangeNotification>

```

6.13.5.2.2 Response

```

HTTP/1.1 204 No Content
Date: Thu, 15 Sep 2011 02:51:59 GMT

```


6.13.5.3 Example 3: Final accessibility status change notification (Informative)

6.13.5.3.1 Request

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

<?xml version="1.0" encoding="UTF-8"?>
<ts:accessibilityChangeNotification xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <accessibility>
    <address>tel:+19585550100</address>
    <retrievalStatus>Retrieved</retrievalStatus>
    <currentAccessibility>Reachable</currentAccessibility>
  </accessibility>
  <isFinalNotification>true</isFinalNotification>
  <link rel="FinalAccessibilityChangeNotificationSubscription"
href="http://example.com/exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus/sub123"/>
</ts:accessibilityChangeNotification>
```

6.13.5.3.2 Response

```
HTTP/1.1 204 No Content
Date: Thu, 15 Sep 2011 02:51:59 GMT
```

6.13.5.4 Example 4: Accessibility status change subscription cancellation notification (Informative)

6.13.5.4.1 Request

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

<?xml version="1.0" encoding="UTF-8"?>
<ts:subscriptionCancellationNotification xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <address>tel:+19585550100</address>
  <reason>
    <messageId>SVC2002</messageId>
    <text>Requested information not available for address %1.</text>
    <variables>tel:+19585550100</variables>
  </reason>
  <link rel="AccessibilityChangeNotificationSubscriptionCancellation"
href="http://example.com/exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus/sub123"/>
</ts:subscriptionCancellationNotification>
```

6.13.5.4.2 Response

HTTP/1.1 204 No Content
Date: Thu, 15 Sep 2011 02:51:59 GMT

6.13.5.5 Example5: Roaming status change notification for a single terminal identified by MSISDN (informative)**6.13.5.5.1 Request**

```
POST /notifications/RoamingStatusNotification HTTP/1.1
Content-Type: application/xml
Accept: application/xml
Content-Length: nnnn
Host: application.arp.com
Date: Thu, 01 Jul 2014 13:51:59 GMT

<?xml version="1.0" encoding="UTF-8"?>
<ts:roamingChangeNotification xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <roaming>
    <address>tel:+19585550100</address>
    <subscriberId>299011234567890</subscriberId>
    <deviceId>12315420323751</deviceId>
    <retrievalStatus>Retrieved</retrievalStatus>
    <retrievalTime>2014-10-26T21:32:52</retrievalTime>
    <currentRoaming>InternationalRoaming</currentRoaming>
    <-servingNode>
      <type>VLR</type>
      <node>tel:+19585550199</node>
    </-servingNode>
  </roaming>
</ts:roamingChangeNotification>
```

6.13.5.5.2 Response

HTTP/1.1 204 No Content
Date: Thu, 01 Jul 2014 13:51:59 GMT

6.13.5.6 Example 6: Roaming status change notification for a single terminal identified by IMSI (informative)**6.13.5.6.1 Request**

```
POST /notifications/RoamingStatusNotification HTTP/1.1
Content-Type: application/xml
Accept: application/xml
Content-Length: nnnn
Host: application.arp.com
Date: Thu, 01 Jul 2014 13:51:59 GMT

<?xml version="1.0" encoding="UTF-8"?>
<ts:roamingChangeNotification xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <roaming>
    <address>tel:+000000000000</address>
```

```
<subscriberId>299011234567890</subscriberId>
<deviceId>12315420323751</deviceId>
<retrievalStatus>Retrieved</retrievalStatus>
<retrievalTime>2014-10-26T21:32:52</retrievalTime>
<currentRoaming>InternationalRoaming</currentRoaming>
<-servingNode>
  <type>VLR</type>
  <node> tel:+19585550166</node>
</-servingNode>
</roaming>
</ts:roamingChangeNotification>
```

6.13.5.6.2 Response

```
HTTP/1.1 204 No Content
Date: Thu, 01 Jul 2014 13:51:59 GMT
```

6.13.6 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 section 14.7 of [RFC2616].

7. Fault definitions

7.1 Service Exceptions

For common Service Exceptions refer to [REST_NetAPI_Common].

There are no additional Service Exception codes defined for the RESTful Terminal Status API.

7.2 Policy Exceptions

For common Policy Exceptions refer to [REST_NetAPI_Common]. The following additional Policy Exception codes are defined for the RESTful Terminal Status API.

7.2.1 POL0200: Busy criteria not supported

Name	Description
MessageID	POL0200
Text	Busy criteria is not supported
Variables	None
HTTP status code(s)	403 Forbidden

Appendix A. Change History

(Informative)

A.1 Approved Version History

Reference	Date	Description
OMA-TS-REST_NetAPI_TerminalStatus-V1_0-20131217-A	17 Dec 2013	Status changed to Approved by TP TP Ref # OMA-TP-2013-0389- INP_REST_NetAPI_TerminalStatus_V1_0_ERP_for_final_Approval

Appendix B. Static Conformance Requirements (Normative)

The notation used in this appendix is specified in [SCRRULES].

B.1 SCR for REST.TerminalStatus Server

Item	Function	Reference	Requirement
REST-STA-SUPPORT-S-001-M	Support for the TerminalStatus RESTful API	5, 6	
REST-STA-SUPPORT-S-002-M	Support for the XML request & response format	6	
REST-STA-SUPPORT-S-003-M	Support for the JSON request & response format	6	
REST-STA-SUPPORT-S-004-O	Support for the application/x-www-form-urlencoded format	Appendix C	

B.1.1 SCR for REST.TerminalStatus.StatusCollection Server

Item	Function	Reference	Requirement
REST-STA-COL-S-001-M	Support for returning current accessibility status, roaming status and connection type of terminal(s)	6.1	
REST-STA-COL-S-002-M	Read current accessibility status, roaming status and connection type of terminal(s) -GET	6.1.3	

B.1.2 SCR for REST.TerminalStatus.AccessibilityStatus Server

Item	Function	Reference	Requirement
REST-STA-ACC-S-001-O	Support for returning current accessibility status of terminal(s)	6.2	REST-STA-ACC-S-002-O
REST-STA-ACC-S-002-O	Read current accessibility status of terminal(s) -GET	6.2.2	

B.1.3 SCR for REST.TerminalStatus.RoamingStatus Server

Item	Function	Reference	Requirement
REST-STA-ROAM-S-001-O	Support for returning current roaming status of terminal(s)	6.3	REST-STA-ROAM-S-002-O
REST-STA-ROAM-S-002-O	Read current roaming status of terminal(s) -GET	6.3.2	

B.1.4 SCR for REST.TerminalStatus.ConnectionType Server

Item	Function	Reference	Requirement
REST-STA-CON-S-001-O	Support for returning current connection type of terminal(s)	6.4	REST-STA-CON-S-002-O
REST-STA-CON-S-002-O	Read current connection type of terminal(s) -GET	6.4.2	

B.1.5 SCR for REST.TerminalStatus.StatusCollection.Subscr Server

Item	Function	Reference	Requirement
REST-STA-COL-SUBSCR-S-001-O	Support status collection subscriptions	6.5	REST-STA-COL-SUBSCR-S-003-O
REST-STA-COL-SUBSCR-S-002-O	Read all active subscriptions - GET	6.5.2	
REST-STA-COL-SUBSCR-S-003-O	Create a new status collection notification subscription for the client -POST	6.5.4, C.1	

B.1.6 SCR for REST.TerminalStatus.Individual.StatusCollection.Subscr Server

Item	Function	Reference	Requirement
REST-STA-IND-COL-SUBSCR-S-001-O	Support controlling individual subscription of status collection	6.6	REST-STA-IND-COL-SUBSCR-S-003-O REST-STA-IND-COL-SUBSCR-S-004-O
REST-STA-IND-COL-SUBSCR-S-002-O	Read individual subscription of status collection -GET	6.6.2	
REST-STA-IND-COL-SUBSCR-S-003-O	Update individual subscription of status collection -PUT	6.6.3	
REST-STA-IND-COL-SUBSCR-S-004-O	Delete a subscription of status collection for the client - DELETE	6.6.5	

B.1.7 SCR for REST.TerminalStatus.AccessibilityStatus.Subscr Server

Item	Function	Reference	Requirement
REST-STA-ACC-SUBSCR-S-001-O	Support accessibility status subscriptions	6.7	REST-STA-ACC-SUBSCR-S-003-O
REST-STA-ACC-SUBSCR-S-002-O	Read all active subscriptions - GET	6.7.2	
REST-STA-ACC-SUBSCR-S-003-O	Create a new accessibility status notification subscription for the client -POST	6.7.4, C.2	

B.1.8 SCR for REST.TerminalStatus.Individual.AccessibilityStatus.Subscr Server

Item	Function	Reference	Requirement
REST-STA-IND-ACC-SUBSCR-S-001-O	Support controlling individual subscription of accessibility status	6.8	REST-STA-IND-ACC-SUBSCR-S-003-O REST-STA-IND-ACC-SUBSCR-S-004-O
REST-STA-IND-ACC-SUBSCR-S-002-O	Read individual subscription of accessibility status -GET	6.8.2	
REST-STA-IND-ACC-SUBSCR-S-003-O	Update individual subscription of accessibility status -PUT	6.8.3	
REST-STA-IND-ACC-SUBSCR-S-004-O	Delete a subscription of accessibility status for the client -	6.8.5	

Item	Function	Reference	Requirement
	DELETE		

B.1.9 SCR for REST.TerminalStatus.RoamingStatus.Subscr Server

Item	Function	Reference	Requirement
REST-STA-ROAM-SUBSCR-S-001-O	Support roaming status subscriptions	6.9	REST-STA-ROAM-SUBSCR-S-003-O
REST-STA-ROAM-SUBSCR-S-002-O	Read all active subscriptions - GET	6.9.2	
REST-STA-ROAM-SUBSCR-S-003-O	Create a new roaming status notification subscription for the client -POST	6.9.4, C.3	

B.1.10 SCR for REST.TerminalStatus.Individual.RoamingStatus.Subscr Server

Item	Function	Reference	Requirement
REST-STA-IND-ROAM-SUBSCR-S-001-O	Support controlling individual subscription of roaming status	6.10	REST-STA-IND-ROAM-SUBSCR-S-003-O REST-STA-IND-ROAM-SUBSCR-S-004-O
REST-STA-IND-ROAM-SUBSCR-S-002-O	Read individual subscription of roaming status -GET	6.10.2	
REST-STA-IND-ROAM-SUBSCR-S-003-O	Update individual subscription of roaming status -PUT	6.10.3	
REST-STA-IND-ROAM-SUBSCR-S-004-O	Delete a subscription of roaming status for the client -DELETE	6.10.5	

B.1.11 SCR for REST.TerminalStatus.ConnectionType.Subscr Server

Item	Function	Reference	Requirement
REST-STA-CON-SUBSCR-S-001-O	Support connection type subscriptions	6.11	REST-STA-CON-SUBSCR-S-003-O
REST-STA-CON-SUBSCR-S-002-O	Read all active subscriptions - GET	6.11.2	
REST-STA-CON-SUBSCR-S-003-O	Create a new connection type notification subscription for the client -POST	6.11.4, C.4	

B.1.12 SCR for REST.TerminalStatus.Individual.ConnectionType.Subscr Server

Item	Function	Reference	Requirement
REST-STA-IND-CON-SUBSCR-S-001-O	Support controlling individual subscription of connection type	6.12	REST-STA-IND-CON-SUBSCR-S-003-O REST-STA-IND-CON-SUBSCR-S-004-O
REST-STA-IND-CON-SUBSCR-	Read individual subscription of	6.12.2	

Item	Function	Reference	Requirement
S-002-O	connection type -GET		
REST-STA-IND-CON-SUBSCR-S-003-O	Update individual subscription of connection type -PUT	6.12.3	
REST-STA-IND-CON-SUBSCR-S-004-O	Delete a subscription of connection type for the client - DELETE	6.12.5	

B.1.13 SCR for REST.TerminalStatus.ClientNotificationCallback Server

Item	Function	Reference	Requirement
REST-STA-CLIENT-NOTIF-CALLB-S-001-O	Support for notifying client about terminal status changes	6.13	REST-STA-CLIENT-NOTIF-CALLB-S-002-O
REST-STA-CLIENT-NOTIF-CALLB-S-002-O	Notify client about terminal status changes -POST	6.13.4	

Appendix C. Application/x-www-form-urlencoded Request Format for POST Operations (Normative)

This section defines a format for the RESTful Terminal Status 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 Terminal Status REST operations which are based on POST requests:

C.1 Create status collection subscription

This operation is used to create new status collection subscription, see section 6.5.5.

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 request parameters are as follows:

Name	Type/Values	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 element 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 element is present, the server SHALL not alter its value, and SHALL provide it as part of the representation of this resource. In case the element is not present, the server SHALL NOT generate it.
notifyURL	xsd:anyURI	No	Notification endpoint definition.
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.
notificationFormat	common:NotificationFormat	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}.
requester	xsd:anyURI	Yes	It identifies the entity that is requesting the information(e.g. 'sip' URI, 'tel' URI, 'acr' URI). The application invokes this operation on

			<p>behalf of this entity. However, it does not imply that the application has authenticated the requester.</p> <p>If this element is not present, the requesting entity is the application itself.</p> <p>If this element is present, and the requester is not authorized to retrieve status info, a policy exception will be returned.</p>
address	xsd:anyURI [1..unbounded]	No	Addresses of terminals (e.g. 'sip' URI, 'tel' URI, 'acr' URI) to monitor.
accessibilityCriteria	AccessibilityStatus [0..unbounded]	Yes	List of accessibility status values to generate notifications for (these apply to all addresses specified). If this element is missing, a notification is requested to be generated for any change in accessibility status.
roamingCriteria	RoamingStatus [0..unbounded]	Yes	List of roaming status values to generate notifications for (these apply to all addresses specified). If this element is missing, a notification is requested to be generated for any change in roaming status.
connectionTypeCriteria	ConnectionType [0..unbounded]	Yes	List of connection type values to generate notifications for (these apply to all addresses specified). If this element is missing, a notification is requested to be generated for any change in connection type.
checkImmediate	xsd:boolean	No	Check status immediately after establishing notification.
frequency	xsd:int	No	Maximum frequency (in seconds) of notifications, expressed as minimum time between notifications.
duration	xsd:int	Yes	Period (in seconds) of time notifications are provided for. If set to "0" (zero), a default duration time, which is specified by the service policy, will be used. If the parameter is omitted, the notifications will continue until the maximum duration time, which is specified by the service policy, unless the notifications are stopped by deletion of subscription for notifications.
count	xsd:int	Yes	Maximum number of notifications per individual address. For no maximum, either do not include this element or specify a value of zero. Default value is 0.

C.1.1 Example 1, using tel URI

(Informative)

C.1.1.1 Request

```
POST /exampleAPI/terminalstatus/v1/subscriptions/statusCollection HTTP/1.1
Content-Type: application/x-www-form-urlencoded
Accept: application/xml
Content-Length: nnnn
Host: example.com

notifyURL=http%3A%2F%2Fapplication.example.com%2Fnotifications%2FAccessibilityStatusNotification&
requester=tel%3A%2B19585550102&
address=tel%3A%2B19585550100&
accessibilityCriteria=Reachable&
roamingCriteria=InternationalRoaming&
connectionTypeCriteria=CDMA&checkImmediate=true&
frequency=10&
clientCorrelator=0001
```

C.1.1.2 Response

```
HTTP/1.1 201 Created
Content-Type: application/xml
Location: http://example.com/exampleAPI/terminalstatus/v1/subscriptions/statusCollection/sub123
Content-Length: nnnn
Date: Thu, 04 Jun 2009 02:51:59 GMT

<?xml version="1.0" encoding="UTF-8"?>
<ts:statusCollectionChangeSubscription xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <clientCorrelator>0001</clientCorrelator>
  <resourceURL>http://example.com/exampleAPI/terminalstatus/v1/subscriptions/statusCollection/sub123</resourceURL>
  <callbackReference>
    <notifyURL>http://application.example.com/notifications/StatusCollectionNotification</notifyURL>
  </callbackReference>
  <requester>tel:+19585550102</requester>
  <address>tel:+19585550100</address>
  <accessibilityCriteria>Reachable</accessibilityCriteria>
  <roamingCriteria>InternationalRoaming</roamingCriteria>
  <connectionTypeCriteria>CDMA</connectionTypeCriteria>
  <checkImmediate>true</checkImmediate>
  <frequency>10</frequency>
</ts:statusCollectionChangeSubscription>
```

C.1.2 Example 2, using ACR

(Informative)

C.1.2.1 Request

```
POST /exampleAPI/terminalstatus/v1/subscriptions/statusCollection HTTP/1.1
Content-Type: application/x-www-form-urlencoded
Accept: application/xml
Content-Length: nnnn
Host: example.com
```

```
notifyURL=http%3A%2F%2Fapplication.example.com%2Fnotifications%2FAccessibilityStatusNotification&
address=acr%3A%2Fpseudonym123&
accessibilityCriteria=Reachable&
roamingCriteria=InternationalRoaming&
connectionTypeCriteria=CDMA&
checkImmediate=true&
frequency=10&
clientCorrelator=0001
```

C.1.2.2 Response

HTTP/1.1 201 Created
 Content-Type: application/xml
 Location: http://example.com/exampleAPI/terminalstatus/v1/subscriptions/statusCollection/sub123
 Content-Length: nnnn
 Date: Thu, 04 Jun 2009 02:51:59 GMT

```
<?xml version="1.0" encoding="UTF-8"?>
<ts:statusCollectionChangeSubscription xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <clientCorrelator>0001</clientCorrelator>
  <resourceURL>http://example.com/exampleAPI/terminalstatus/v1/subscriptions/statusCollection/sub123</resourceURL>
  <callbackReference>
    <notifyURL>http://application.example.com/notifications/StatusCollectionNotification</notifyURL>
  </callbackReference>
  <address>acr:pseudonym123</address>
  <accessibilityCriteria>Reachable</accessibilityCriteria>
  <roamingCriteria>InternationalRoaming</roamingCriteria>
  <connectionTypeCriteria>CDMA</connectionTypeCriteria>
  <checkImmediate>true</checkImmediate>
  <frequency>10</frequency>
</ts:statusCollectionChangeSubscription>
```

C.2 Create accessibility status subscription

This operation is used to create new accessibility status subscription, see section 6.7.5.

The request parameters are as follows:

Name	Type/Values	Optional	Description
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 element MAY be present.</p> <p>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 element is present, the server SHALL not alter its value,</p>

			and SHALL provide it as part of the representation of this resource. In case the element is not present, the server SHALL NOT generate it.
notifyURL	xsd:anyURI	No	Notification endpoint definition.
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.
notificationFormat	common:NotificationFormat	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}.
requester	xsd:anyURI	Yes	It identifies the entity that is requesting the information (e.g. 'sip' URI, 'tel' URI, 'acr' URI). The application invokes this operation on behalf of this entity. However, it does not imply that the application has authenticated the requester. If this element is not present, the requesting entity is the application itself. If this element is present, and the requester is not authorized to retrieve status info, a policy exception will be returned.
address	xsd:anyURI [1..unbounded]	No	Addresses of terminals (e.g. 'sip' URI, 'tel' URI, 'acr' URI) to monitor.
accessibilityCriteria	AccessibilityStatus [0..unbounded]	Yes	List of accessibility status values to generate notifications for (these apply to all addresses specified). If this element is missing, a notification is requested to be generated for any change in accessibility status.
checkImmediate	xsd:boolean	No	Check status immediately after establishing notification
frequency	xsd:int	No	Maximum frequency (in seconds) of notifications, expressed as minimum time between notifications.

duration	xsd:int	Yes	Period (in seconds) of time notifications are provided for. If set to "0" (zero), a default duration time, which is specified by the service policy, will be used. If the parameter is omitted, the notifications will continue until the maximum duration time, which is specified by the service policy, unless the notifications are stopped by deletion of subscription for notifications.
count	xsd:int	Yes	Maximum number of notifications per individual address. For no maximum, either do not include this element or specify a value of zero. Default value is 0.

C.2.1 Example

(Informative)

C.2.1.1 Request

```
POST /exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus HTTP/1.1
Content-Type: application/x-www-form-urlencoded
Accept: application/xml
Content-Length: nnnn
Host: example.com

notifyURL=http%3A%2F%2Fapplication.example.com%2Fnotifications%2FAccessibilityStatusNotification&
address=tel%3A%2B19585550100&
accessibilityCriteria=Reachable&
checkImmediate=true&
frequency=10&
clientCorrelator=0001
```

C.2.1.2 Response

```
HTTP/1.1 201 Created
Content-Type: application/xml
Location: http://example.com/exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus/sub123
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

<?xml version="1.0" encoding="UTF-8"?>
<ts:accessibilityChangeSubscription xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
<clientCorrelator>0001</clientCorrelator>
<resourceURL>http://example.com/exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus/sub123</resourceURL>
<callbackReference>
  <notifyURL>http://application.example.com/notifications/AccessibilityStatusNotification</notifyURL>
</callbackReference>
<address>tel:+19585550100</address>
<accessibilityCriteria>Reachable</accessibilityCriteria>
<checkImmediate>true</checkImmediate>
<frequency>10</frequency>
```

```
</ts:accessibilityChangeSubscription>
```

C.3 Create roaming status subscription

This operation is used to create new roaming status subscription, see section 6.9.5.

The request parameters are as follows:

Name	Type/Values	Optional	Description
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 element MAY be present.</p> <p>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 element is present, the server SHALL not alter its value, and SHALL provide it as part of the representation of this resource. In case the element is not present, the server SHALL NOT generate it.</p>
notifyURL	xsd:anyURI	No	Notification endpoint definition.
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.
notificationFormat	common:NotificationFormat	Yes	<p>Default: XML</p> <p>Application can specify format of the resource representation in notifications that are related to this subscription. The choice is between {XML, JSON}.</p>
requester	xsd:anyURI	Yes	<p>It identifies the entity that is requesting the information(e.g. 'sip' URI, 'tel' URI, 'acr' URI).</p> <p>The application invokes this operation on behalf of this entity. However, it does not imply that the application has authenticated the requester.</p> <p>If this element is not present, the requesting entity is the application</p>

			<p>itself.</p> <p>If this element is present, and the requester is not authorized to retrieve status info, a policy exception will be returned.</p>
address	xsd:anyURI [1..unbounded]	No	Addresses of terminals (e.g. 'sip' URI, 'tel' URI, 'acr' URI) to monitor.
roamingCriteria	RoamingStatus [0..unbounded]	Yes	List of roaming status values to generate notifications for (these apply to all addresses specified). If this element is missing, a notification is requested to be generated for any change in roaming status.
checkImmediate	xsd:boolean	No	Check status immediately after establishing notification.
frequency	xsd:int	No	Maximum frequency (in seconds) of notifications, expressed as minimum time between notifications.
duration	xsd:int	Yes	Period (in seconds) of time notifications are provided for. If set to "0" (zero), a default duration time, which is specified by the service policy, will be used. If the parameter is omitted, the notifications will continue until the maximum duration time, which is specified by the service policy, unless the notifications are stopped by deletion of subscription for notifications.
count	xsd:int	Yes	Maximum number of notifications per individual address. For no maximum, either do not include this element or specify a value of zero. Default value is 0.

C.3.1 Example

(Informative)

C.3.1.1 Request

```

POST /exampleAPI/terminalstatus/v1/subscriptions/roamingStatus HTTP/1.1
Content-Type: application/x-www-form-urlencoded
Accept: application/xml
Content-Length: nnnn
Host: example.com

notifyURL=http%3A%2F%2Fapplication.example.com%2Fnotifications%2FRoamingStatusNotification&
    
```

```
address=tel%3A%2B19585550100&
roamingCriteria=InternationalRoaming&
checkImmediate=true&
frequency=10&
clientCorrelator=0001
```

C.3.1.2 Response

```
HTTP/1.1 201 Created
Content-Type: application/xml
Location: http://example.com/exampleAPI/terminalstatus/v1/subscriptions/roamingStatus/sub123
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT
```

```
<?xml version="1.0" encoding="UTF-8"?>
<ts:roamingChangeSubscription xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
<clientCorrelator>0001</clientCorrelator>
<resourceURL>http://example.com/exampleAPI/terminalstatus/v1/subscriptions/roamingStatus/sub123</resourceURL>
<callbackReference>
  <notifyURL>http://application.example.com/notifications/RoamingStatusNotification</notifyURL>
</callbackReference>
<address>tel:+19585550100</address>
<roamingCriteria>InternationalRoaming</roamingCriteria>
<checkImmediate>true</checkImmediate>
<frequency>10</frequency>
</ts:roamingChangeSubscription>
```

C.4 Create connection type subscription

This operation is used to create new connection type subscription, see section 6.11.5.

The request parameters are as follows:

Name	Type/Values	Optional	Description
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 element MAY be present.</p> <p>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 element is present, the server SHALL not alter its value, and SHALL provide it as part of the representation of this resource. In case the element is not present, the server SHALL NOT generate it.</p>

notifyURL	xsd:anyURI	No	Notification endpoint definition.
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.
notificationFormat	common:NotificationFormat	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}.
requester	xsd:anyURI	Yes	It identifies the entity that is requesting the information(e.g. 'sip' URI, 'tel' URI, 'acr' URI). The application invokes this operation on behalf of this entity. However, it does not imply that the application has authenticated the requester. If this element is not present, the requesting entity is the application itself. If this element is present, and the requester is not authorized to retrieve status info, a policy exception will be returned.
address	xsd:anyURI [1..unbounded]	No	Addresses of terminals (e.g. 'sip' URI, 'tel' URI, 'acr' URI) to monitor.
connectionTypeCriteria	ConnectionType [0..unbounded]	Yes	List of connection type values to generate notifications for (these apply to all addresses specified). If this element is missing, a notification is requested to be generated for any change in connection type.
checkImmediate	xsd:boolean	No	Check status immediately after establishing notification.
frequency	xsd:int	No	Maximum frequency (in seconds) of notifications, expressed as minimum time between notifications.
duration	xsd:int	Yes	Period (in seconds) of time notifications are provided for. If set to "0" (zero), a default duration time, which is specified by the service

			policy, will be used. If the parameter is omitted, the notifications will continue until the maximum duration time, which is specified by the service policy, unless the notifications are stopped by deletion of subscription for notifications.
count	xsd:int	Yes	Maximum number of notifications per individual address. For no maximum, either do not include this element or specify a value of zero. Default value is 0.

C.4.1 Example

(Informative)

C.4.1.1 Request

```
POST /exampleAPI/terminalstatus/v1/subscriptions/connectionType HTTP/1.1
Content-Type: application/x-www-form-urlencoded
Accept: application/xml
Content-Length: nnnn
Host: example.com

notifyURL=http%3A%2F%2Fapplication.example.com%2Fnotifications%2FConnectionTypeNotification&
address=tel%3A%2B19585550100&
connectionTypeCriteria=CDMA&
checkImmediate=true&
frequency=10&
clientCorrelator=0001
```

C.4.1.2 Response

```
HTTP/1.1 201 Created
Content-Type: application/xml
Location: http://example.com/exampleAPI/terminalstatus/v1/subscriptions/connectionType/sub123
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

<?xml version="1.0" encoding="UTF-8"?>
<ts:connectionChangeSubscription xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1" >
<clientCorrelator>0001</clientCorrelator>
<resourceURL>http://example.com/exampleAPI/terminalstatus/v1/subscriptions/connectionType/sub123</resourceURL>
<callbackReference>
  <notifyURL>http://application.example.com/notifications/ConnectionTypeNotification</notifyURL>
</callbackReference>
<address>tel:+19585550100</address>
<connectionTypeCriteria>CDMA</connectionTypeCriteria>
<checkImmediate>true</checkImmediate>
<frequency>10</frequency>
</ts:connectionChangeSubscription>
```

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 REST invocations from browsers or other processors with JavaScript engines. Further information on JSON can be found at [RFC4627].

The following examples show the request and response for various operations using the JSON data format. 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 Get status collection of multiple terminal addresses (section 6.1.3.1)

Request:

```
GET /exampleAPI/terminalstatus/v1/queries/statusCollection?resFormat=JSON&
requester=tel%3A%2B19585550102&address=tel%3A%2B19585550100&address=tel%3A%2B19585550101 HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

{"terminalStatusCollectionList": {
  "collection": [
    {
      "accessibility": {
        "currentAccessibility": "Reachable",
        "retrievalStatus": "Retrieved"
      },
      "address": "tel:+19585550100",
      "connectionType": {
        "currentConnectionType": "EDGE",
        "retrievalStatus": "Retrieved"
      },
      "roaming": {
        "currentRoaming": "NotRoaming",
        "retrievalStatus": "Retrieved"
      }
    },
    {
      "accessibility": {
        "currentAccessibility": "Reachable",
        "retrievalStatus": "Retrieved"
      },
      "address": "tel:+19585550101",
      "connectionType": {
        "currentConnectionType": "CDMA",
```

```
    "retrievalStatus": "Retrieved"
  },
  "roaming": {
    "currentRoaming": "InternationalRoaming",
    "retrievalStatus": "Retrieved"
  }
},
"resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/queries/statusCollection"
}}
```

D.2 Get status collection with unauthorized requester (section 6.1.3.2)

Request:

```
GET /exampleAPI/terminalstatus/v1/queries/statusCollection?requester=tel%3A%2B19585550102&address=tel%3A%2B19585550100 HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 403 Forbidden
Content-Type: application/json
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

{"requestError": {"policyException": {
  "messageId": "POL0002",
  "text": "Privacy error."
}}}
```

D.3 Get accessibility status of single terminal address (section 6.2.3.1)

Request:

```
GET /exampleAPI/terminalstatus/v1/queries/accessibilityStatus?address=tel%3A%2B19585550100 HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

{"terminalAccessibilityStatusList": {
  "accessibility": {
```

```

"address": "tel:+19585550100",
"currentAccessibility": "Reachable",
"homeMccMnc": {
  "mcc": "310",
  "mnc": "010"
},
"retrievalStatus": "Retrieved"
},
"resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/queries/accessibilityStatus"
}}

```

D.4 Get accessibility status of multiple terminal addresses (section 6.2.3.2)

Request:

```

GET /exampleAPI/terminalstatus/v1/queries/accessibilityStatus?address=tel%3A%2B19585550100&address=tel%3A%2B19585550101
HTTP/1.1
Accept: application/json
Host: example.com

```

Response:

```

HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

{"terminalAccessibilityStatusList": {
  "accessibility": [
    {
      "address": "tel:+19585550100",
      "currentAccessibility": "Reachable",
      "retrievalStatus": "Retrieved"
    },
    {
      "address": "tel:+19585550101",
      "errorInformation": {
        "messageId": "SVC2002",
        "text": "Requested information not available for address %1.",
        "variables": "tel:+19585550101"
      },
      "retrievalStatus": "Error"
    }
  ],
  "resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/queries/accessibilityStatus"
}}

```

D.5 Get accessibility status (invalid input value) (section 6.2.3.3)

Request:

```

GET /exampleAPI/terminalstatus/v1/queries/accessibilityStatus?address=tel%3A%2B19585550199 HTTP/1.1

```

```
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 400 Bad Request
Content-Type: application/json
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

{"requestError": {
  "link": {
    "href": "http://example.com/exampleAPI/terminalstatus/v1/queries/accessibilityStatus",
    "rel": "TerminalAccessibilityStatus"
  },
  "serviceException": {
    "messageId": "SVC0002",
    "text": "Invalid input value for message part %1",
    "variables": "tel:+19585550199"
  }
}}
```

D.6 Get roaming status of single terminal address (section 6.3.3.1)

Request:

```
GET /exampleAPI/terminalstatus/v1/queries/roamingStatus?address=tel%3A%2B19585550100 HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

{"terminalRoamingStatusList": {
  "resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/queries/roamingStatus",
  "roaming": {
    "address": "tel:+19585550100",
    "currentRoaming": "InternationalRoaming",
    "retrievalStatus": "Retrieved",
    "servingMccMnc": {
      "mcc": "310",
      "mnc": "010"
    }
  }
}}
```


D.7 Get roaming status of multiple terminal addresses (section 6.3.3.2)

Request:

```
GET /exampleAPI/terminalstatus/v1/queries/roamingStatus?address=tel%3A%2B19585550100&address=tel%3A%2B19585550101
HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

{"terminalRoamingStatusList": {
  "resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/queries/roamingStatus",
  "roaming": [
    {
      "address": "tel:+19585550100",
      "currentRoaming": "InternationalRoaming",
      "retrievalStatus": "Retrieved"
    },
    {
      "address": "tel:+19585550101",
      "errorInformation": {
        "messageId": "SVC2002",
        "text": "Requested information not available for address %1.",
        "variables": "tel:+19585550101"
      },
      "retrievalStatus": "Error"
    }
  ]
}}
```

D.8 Get roaming status (invalid input value) (section 6.3.3.3)

Request:

```
GET /exampleAPI/terminalstatus/v1/queries/roamingStatus?address=tel%3A%2B19585550199 HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 400 Bad Request
Content-Type: application/json
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

{"requestError": {
  "link": {
```

```
"href": "http://example.com/exampleAPI/terminalstatus/v1/queries/roamingStatus",
"rel": "TerminalRoamingStatus"
},
"serviceException": {
  "messageId": "SVC0002",
  "text": "Invalid input value for message part %1",
  "variables": "tel:+19585550199"
}
}}
```

D.9 Get connection type of single terminal address (section 6.4.3.1)

Request:

```
GET /exampleAPI/terminalstatus/v1/queries/connectionType?address=tel%3A%2B19585550100 HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

{"terminalConnectionTypeList": {
  "connectionType": {
    "address": "tel:+19585550100",
    "currentConnectionType": "GPRS",
    "retrievalStatus": "Retrieved"
  },
  "resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/queries/connectionType"
}}
```

D.10 Get connection type of multiple terminal addresses (section 6.4.3.2)

Request:

```
GET /exampleAPI/terminalstatus/v1/queries/connectionType?address=tel%3A%2B19585550100&address=tel%3A%2B19585550101 HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT
```

```
{
  "terminalConnectionTypeList": {
    "connectionType": [
      {
        "address": "tel:+19585550100",
        "currentConnectionType": "GPRS",
        "retrievalStatus": "Retrieved"
      },
      {
        "address": "tel:+19585550101",
        "errorInformation": {
          "messageId": "SVC2002",
          "text": "Requested information not available for address %1.",
          "variables": "tel:+19585550101"
        },
        "retrievalStatus": "Error"
      }
    ],
    "resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/queries/connectionType"
  }
}
```

D.11 Get connection type (invalid input value) (section 6.4.3.3)

Request:

```
GET /exampleAPI/terminalstatus/v1/queries/connectionType?address=tel%3A%2B19585550199 HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 400 Bad Request
Content-Type: application/json
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

{"requestError": {
  "link": {
    "href": "http://example.com/exampleAPI/terminalstatus/v1/queries/connectionType",
    "rel": "TerminalConnectionType"
  },
  "serviceException": {
    "messageId": "SVC0002",
    "text": "Invalid input value for message part %1",
    "variables": "tel:+19585550199"
  }
}}
```

D.12 Get status collection subscriptions (section 6.5.3.1)

Request:

```
GET /exampleAPI/terminalstatus/v1/subscriptions/statusCollection HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```

HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

{"notificationSubscriptionList": [{"collectionChangeSubscription": [
  {
    "accessibilityCriteria": "Reachable",
    "address": "tel:+19585550100",
    "callbackReference": {"notifyURL": "http://application.example.com/notifications/StatusCollectionNotification"},
    "checkImmediate": "true",
    "clientCorrelator": "0001",
    "connectionTypeCriteria": "CDMA",
    "frequency": "10",
    "resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/subscriptions/statusCollection/sub123",
    "roamingCriteria": "InternationalRoaming"
  },
  {
    "accessibilityCriteria": "Reachable",
    "address": [
      "tel:+19585550101",
      "tel:+19585550102"
    ],
    "callbackReference": {"notifyURL": "http://application.example.com/notifications/StatusCollectionNotification"},
    "checkImmediate": "true",
    "clientCorrelator": "0002",
    "connectionTypeCriteria": "CDMA",
    "frequency": "10",
    "resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/subscriptions/statusCollection/sub124",
    "roamingCriteria": "InternationalRoaming"
  }
],
"resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/subscriptions/statusCollection"
}]

```

D.13 Create new status collection subscription using tel URI (section 6.5.5.1)

Request:

```

POST /exampleAPI/terminalstatus/v1/subscriptions/statusCollection HTTP/1.1
Content-Type: application/json
Content-Length: nnnn
Accept: application/json
Host: example.com

{"statusCollectionChangeSubscription": {
  "accessibilityCriteria": "Reachable",
  "requester": "tel:+19585550102",
  "address": "tel:+19585550100",
  "callbackReference": {"notifyURL": "http://application.example.com/notifications/StatusCollectionNotification"},
  "checkImmediate": "true",
  "clientCorrelator": "0001",

```

```
"connectionTypeCriteria": "CDMA",
"frequency": "10",
"roamingCriteria": "InternationalRoaming"
}}
```

Response:

```
HTTP/1.1 201 Created
Content-Type: application/json
Location: http://example.com/exampleAPI/terminalstatus/v1/subscriptions/statusCollection/sub123
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

{"statusCollectionChangeSubscription": {
  "accessibilityCriteria": "Reachable",
  "requester": "tel:+19585550102",
  "address": "tel:+19585550100",
  "callbackReference": {"notifyURL": "http://application.example.com/notifications/StatusCollectionNotification"},
  "checkImmediate": "true",
  "clientCorrelator": "0001",
  "connectionTypeCriteria": "CDMA",
  "frequency": "10",
  "resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/subscriptions/statusCollection/sub123",
  "roamingCriteria": "InternationalRoaming"
}}
```

D.14 Create new status collection subscription using ACR (section 6.5.5.2)

Request:

```
POST /exampleAPI/terminalstatus/v1/subscriptions/statusCollection HTTP/1.1
Content-Type: application/json
Content-Length: nnnn
Accept: application/json
Host: example.com

{"statusCollectionChangeSubscription": {
  "accessibilityCriteria": "Reachable",
  "address": "acr:pseudonym123",
  "callbackReference": {"notifyURL": "http://application.example.com/notifications/StatusCollectionNotification"},
  "checkImmediate": "true",
  "clientCorrelator": "0001",
  "connectionTypeCriteria": "CDMA",
  "frequency": "10",
  "roamingCriteria": "InternationalRoaming"
}}
```

Response:

```
HTTP/1.1 201 Created
Content-Type: application/json
Location: http://example.com/exampleAPI/terminalstatus/v1/subscriptions/statusCollection/sub123
Content-Length: nnnn
```

Date: Thu, 15 Sep 2011 02:51:59 GMT

```
{
  "statusCollectionChangeSubscription": {
    "accessibilityCriteria": "Reachable",
    "address": "acr:pseudonym123",
    "callbackReference": {"notifyURL": "http://application.example.com/notifications/StatusCollectionNotification"},
    "checkImmediate": "true",
    "clientCorrelator": "0001",
    "connectionTypeCriteria": "CDMA",
    "frequency": "10",
    "resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/subscriptions/statusCollection/sub123",
    "roamingCriteria": "InternationalRoaming"
  }
}
```

D.15 Read individual status collection subscription (section 6.6.3.1)

Request:

```
GET /exampleAPI/terminalstatus/v1/subscriptions/statusCollection/sub123 HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

{"statusCollectionChangeSubscription": {
  "accessibilityCriteria": "Reachable",
  "address": "tel:+19585550100",
  "callbackReference": {"notifyURL": "http://application.example.com/notifications/StatusCollectionNotification"},
  "checkImmediate": "true",
  "clientCorrelator": "0001",
  "connectionTypeCriteria": "CDMA",
  "frequency": "10",
  "resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/subscriptions/statusCollection/sub123",
  "roamingCriteria": "InternationalRoaming"
}}
```

D.16 Update individual status collection subscription (section 6.6.4.1)

Request:

```
PUT /exampleAPI/terminalstatus/v1/subscriptions/statusCollection/sub123 HTTP/1.1
Content-Type: application/json
Content-Length: nnnn
Accept: application/json
Host: example.com
```

```
{
  "statusCollectionChangeSubscription": {
    "accessibilityCriteria": "Reachable",
    "requester": "tel:+19585550102",
    "address": "tel:+19585550100",
    "callbackReference": {"notifyURL": "http://application.example.com/notifications/StatusCollectionNotification"},
    "checkImmediate": "true",
    "clientCorrelator": "0001",
    "connectionTypeCriteria": "EDGE",
    "frequency": "5",
    "resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/subscriptions/statusCollection/sub123",
    "roamingCriteria": "NotRoaming"
  }
}
```

Response:

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT
```

```
{
  "statusCollectionChangeSubscription": {
    "accessibilityCriteria": "Reachable",
    "requester": "tel:+19585550102",
    "address": "tel:+19585550100",
    "callbackReference": {"notifyURL": "http://application.example.com/notifications/StatusCollectionNotification"},
    "checkImmediate": "true",
    "clientCorrelator": "0001",
    "connectionTypeCriteria": "EDGE",
    "frequency": "5",
    "resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/subscriptions/statusCollection/sub123",
    "roamingCriteria": "NotRoaming"
  }
}
```

D.17 Delete individual status collection subscription (section 6.6.6.1)

Request:

```
DELETE /exampleAPI/terminalstatus/v1/subscriptions/statusCollection/sub123 HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 204 No Content
Date: Thu, 15 Sep 2011 02:51:59 GMT
```

D.18 Get accessibility status subscriptions (section 6.7.3.1)

Request:

```
GET /exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus HTTP/1.1
Accept: application/json
```

Host: example.com

Response:

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

{"notificationSubscriptionList": {"accessibilityChangeSubscription": [
  {
    "accessibilityCriteria": "Reachable",
    "address": "tel:+19585550100",
    "callbackReference": {"notifyURL": "http://application.example.com/notifications/AccessibilityStatusNotification"},
    "checkImmediate": "true",
    "clientCorrelator": "0001",
    "frequency": "10",
    "resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus/sub123"
  },
  {
    "accessibilityCriteria": "Reachable",
    "address": [
      "tel:+19585550101",
      "tel:+19585550102"
    ],
    "callbackReference": {"notifyURL": "http://application.example.com/notifications/AccessibilityStatusNotification"},
    "checkImmediate": "true",
    "clientCorrelator": "0002",
    "frequency": "10",
    "resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus/sub124"
  }
],
"resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus"
}}
```

D.19 Create new accessibility status subscription (section 6.7.5.1)

Request:

```
POST /exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus HTTP/1.1
Content-Type: application/json
Content-Length: nnnn
Accept: application/json
Host: example.com

{"accessibilityChangeSubscription": {
  "accessibilityCriteria": "Reachable",
  "address": "tel:+19585550100",
  "callbackReference": {"notifyURL": "http://application.example.com/notifications/AccessibilityStatusNotification"},
  "checkImmediate": "true",
  "clientCorrelator": "0001",
  "frequency": "10"
}}
```


Response:

```
HTTP/1.1 201 Created
Content-Type: application/json
Location: http://example.com/exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus/sub123
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

{"accessibilityChangeSubscription": {
  "accessibilityCriteria": "Reachable",
  "address": "tel:+19585550100",
  "callbackReference": {"notifyURL": "http://application.example.com/notifications/AccessibilityStatusNotification"},
  "checkImmediate": "true",
  "clientCorrelator": "0001",
  "frequency": "10",
  "resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus/sub123"
}}
```

D.20 Read individual accessibility status subscription (section 6.8.3.1)

Request:

```
GET /exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus/sub123 HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

{"accessibilityChangeSubscription": {
  "accessibilityCriteria": "Reachable",
  "address": "tel:+19585550100",
  "callbackReference": {"notifyURL": "http://application.example.com/notifications/AccessibilityStatusNotification"},
  "checkImmediate": "true",
  "clientCorrelator": "0001",
  "frequency": "10",
  "resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus/sub123"
}}
```

D.21 Update individual accessibility status subscription (section 6.8.4.1)

Request:

```
PUT /exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus/sub123 HTTP/1.1
Content-Type: application/json
Content-Length: nnnn
Accept: application/json
```

Host: example.com

```
{
  "accessibilityChangeSubscription": {
    "accessibilityCriteria": "Unreachable",
    "address": "tel:+19585550100",
    "callbackReference": {"notifyURL": "http://application.example.com/notifications/AccessibilityStatusNotification"},
    "checkImmediate": "true",
    "clientCorrelator": "0001",
    "frequency": "5",
    "resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus/sub123"
  }
}
```

Response:

HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

```
{
  "accessibilityChangeSubscription": {
    "accessibilityCriteria": "Unreachable",
    "address": "tel:+19585550100",
    "callbackReference": {"notifyURL": "http://application.example.com/notifications/AccessibilityStatusNotification"},
    "checkImmediate": "true",
    "clientCorrelator": "0001",
    "frequency": "5",
    "resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus/sub123"
  }
}
```

D.22 Delete individual accessibility status subscription (section 6.8.6.1)

Request:

DELETE /exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus/sub123 HTTP/1.1
Accept: application/json
Host: example.com

Response:

HTTP/1.1 204 No Content
Date: Thu, 15 Sep 2011 02:51:59 GMT

D.23 Get roaming status subscriptions (section 6.9.3.1)

Request:

GET /exampleAPI/terminalstatus/v1/subscriptions/roamingStatus HTTP/1.1
Accept: application/json
Host: example.com

Response:

```

HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

{"notificationSubscriptionList": [{"roamingChangeSubscription": [
  {
    "address": "tel:+19585550100",
    "callbackReference": {"notifyURL": "http://application.example.com/notifications/RoamingStatusNotification"},
    "checkImmediate": "true",
    "clientCorrelator": "0001",
    "frequency": "10",
    "resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/subscriptions/roamingStatus/sub123",
    "roamingCriteria": "InternationalRoaming"
  },
  {
    "address": [
      "tel:+19585550101",
      "tel:+19585550102"
    ],
    "callbackReference": {"notifyURL": "http://application.example.com/notifications/RoamingStatusNotification"},
    "checkImmediate": "true",
    "clientCorrelator": "0002",
    "frequency": "10",
    "resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/subscriptions/roamingStatus/sub124",
    "roamingCriteria": "DomesticRoaming"
  }
],
"resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/subscriptions/roamingStatus"
}]

```

D.24 Create new roaming status subscription (section 6.9.5.1)

Request:

```

POST /exampleAPI/terminalstatus/v1/subscriptions/roamingStatus HTTP/1.1
Content-Type: application/json
Content-Length: nnnn
Accept: application/json
Host: example.com

{"roamingChangeSubscription": {
  "address": "tel:+19585550100",
  "callbackReference": {"notifyURL": "http://application.example.com/notifications/RoamingStatusNotification"},
  "checkImmediate": "true",
  "clientCorrelator": "0001",
  "frequency": "10",
  "roamingCriteria": "InternationalRoaming"
}}

```

Response:

```

HTTP/1.1 201 Created
Content-Type: application/json
Location: http://example.com/exampleAPI/terminalstatus/v1/subscriptions/roamingStatus/sub123

```

```
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT
```

```
{"roamingChangeSubscription": {
  "address": "tel:+19585550100",
  "callbackReference": {"notifyURL": "http://application.example.com/notifications/RoamingStatusNotification"},
  "checkImmediate": "true",
  "clientCorrelator": "0001",
  "frequency": "10",
  "resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/subscriptions/roamingStatus/sub123",
  "roamingCriteria": "InternationalRoaming"
}}
```

D.25 Read individual roaming status subscription (section 6.10.3.1)

Request:

```
GET /exampleAPI/terminalstatus/v1/subscriptions/roamingStatus/sub123 HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

{"roamingChangeSubscription": {
  "address": "tel:+19585550100",
  "callbackReference": {"notifyURL": "http://application.example.com/notifications/RoamingStatusNotification"},
  "checkImmediate": "true",
  "clientCorrelator": "0001",
  "frequency": "10",
  "resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/subscriptions/roamingStatus/sub123",
  "roamingCriteria": "InternationalRoaming"
}}
```

D.26 Update individual roaming status subscription (section 6.10.4.1)

Request:

```
PUT /exampleAPI/terminalstatus/v1/subscriptions/roamingStatus/sub123 HTTP/1.1
Content-Type: application/json
Content-Length: nnnn
Accept: application/json
Host: example.com

{"roamingChangeSubscription": {
  "address": "tel:+19585550100",
  "callbackReference": {"notifyURL": "http://application.example.com/notifications/RoamingStatusNotification"},
```

```
"checkImmediate": "true",
"clientCorrelator": "0001",
"frequency": "5",
"resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/subscriptions/roamingStatus/sub123",
"roamingCriteria": "NotRoaming"
}}
```

Response:

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

{"roamingChangeSubscription": {
  "address": "tel:+19585550100",
  "callbackReference": {"notifyURL": "http://application.example.com/notifications/RoamingStatusNotification"},
  "checkImmediate": "true",
  "clientCorrelator": "0001",
  "frequency": "5",
  "resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/subscriptions/roamingStatus/sub123",
  "roamingCriteria": "NotRoaming"
}}
```

D.27 Delete individual roaming status subscription (section 6.10.6.1)

Request:

```
DELETE /exampleAPI/terminalstatus/v1/subscriptions/roamingStatus/sub123 HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 204 No Content
Date: Thu, 15 Sep 2011 02:51:59 GMT
```

D.28 Get connection type subscriptions (section 6.11.3.1)

Request:

```
GET /exampleAPI/terminalstatus/v1/subscriptions/connectionType HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT
```

```
{
  "notificationSubscriptionList": {
    "connectionChangeSubscription": [
      {
        "address": "tel:+19585550100",
        "callbackReference": {
          "notifyURL": "http://application.example.com/notifications/ConnectionTypeNotification"
        },
        "checkImmediate": "true",
        "clientCorrelator": "0001",
        "connectionTypeCriteria": "CDMA",
        "frequency": "10",
        "resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/subscriptions/connectionType/sub123"
      },
      {
        "address": [
          "tel:+19585550101",
          "tel:+19585550102"
        ],
        "callbackReference": {
          "notifyURL": "http://application.example.com/notifications/ConnectionTypeNotification"
        },
        "checkImmediate": "true",
        "clientCorrelator": "0002",
        "connectionTypeCriteria": "LTE",
        "frequency": "10",
        "resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/subscriptions/connectionType/sub124"
      }
    ]
  },
  "resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/subscriptions/connectionType"
}
```

D.29 Create new connection type subscription (section 6.11.5.1)

Request:

```
POST /exampleAPI/terminalstatus/v1/subscriptions/connectionType HTTP/1.1
Content-Type: application/json
Content-Length: nnnn
Accept: application/json
Host: example.com
```

```
{
  "connectionChangeSubscription": {
    "address": "tel:+19585550100",
    "callbackReference": {
      "notifyURL": "http://application.example.com/notifications/ConnectionTypeNotification"
    },
    "checkImmediate": "true",
    "clientCorrelator": "0001",
    "connectionTypeCriteria": "CDMA",
    "frequency": "10"
  }
}
```

Response:

```
HTTP/1.1 201 Created
Content-Type: application/json
Location: http://example.com/exampleAPI/terminalstatus/v1/subscriptions/connectionType/sub123
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT
```

```
{
  "connectionChangeSubscription": {
    "address": "tel:+19585550100",
```

```
"callbackReference": {"notifyURL": "http://application.example.com/notifications/ConnectionTypeNotification"},
"checkImmediate": "true",
"clientCorrelator": "0001",
"connectionTypeCriteria": "CDMA",
"frequency": "10",
"resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/subscriptions/connectionType/sub123"
}}
```

D.30 Read individual connection type subscription (section 6.12.3.1)

Request:

```
GET /exampleAPI/terminalstatus/v1/subscriptions/connectionType/sub123 HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

{"connectionChangeSubscription": {
  "address": "tel:+19585550100",
  "callbackReference": {"notifyURL": "http://application.example.com/notifications/ConnectionTypeNotification"},
  "checkImmediate": "true",
  "clientCorrelator": "0001",
  "connectionTypeCriteria": "CDMA",
  "frequency": "10",
  "resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/subscriptions/connectionType/sub123"
}}
```

D.31 Update individual connection type subscription (section 6.12.4.1)

Request:

```
PUT /exampleAPI/terminalstatus/v1/subscriptions/connectionType/sub123 HTTP/1.1
Content-Type: application/json
Content-Length: nnnn
Accept: application/json
Host: example.com

{"connectionChangeSubscription": {
  "address": "tel:+19585550100",
  "callbackReference": {"notifyURL": "http://application.example.com/notifications/ConnectionTypeNotification"},
  "checkImmediate": "true",
  "clientCorrelator": "0001",
  "connectionTypeCriteria": "LTE",
  "frequency": "5",
  "resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/subscriptions/connectionType/sub123"
}}
```

```
}}
```

Response:

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: nnnn
Date: Thu, 15 Sep 2011 02:51:59 GMT

{"connectionChangeSubscription": {
  "address": "tel:+19585550100",
  "callbackReference": {"notifyURL": "http://application.example.com/notifications/ConnectionTypeNotification"},
  "checkImmediate": "true",
  "clientCorrelator": "0001",
  "connectionTypeCriteria": "LTE",
  "frequency": "5",
  "resourceURL": "http://example.com/exampleAPI/terminalstatus/v1/subscriptions/connectionType/sub123"
}}
```

D.32 Delete individual connection type subscription (section 6.12.6.1)

Request:

```
DELETE /exampleAPI/terminalstatus/v1/subscriptions/connectionType/sub123 HTTP/1.1
Accept: application/json
Host: example.com
```

Response:

```
HTTP/1.1 204 No Content
Date: Thu, 15 Sep 2011 02:51:59 GMT
```

D.33 Status collection change notification (section 6.13.5.1)

Request:

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

{"statusCollectionChangeNotification": {
  "collection": {
    "accessibility": {
      "currentAccessibility": "Reachable",
      "retrievalStatus": "Retrieved"
    },
    "address": "tel:+19585550100",
    "connectionType": {
      "currentConnectionType": "EDGE",
      "retrievalStatus": "Retrieved"
    }
  }
}
```



```
    },
    "roaming": {
      "currentRoaming": "NotRoaming",
      "retrievalStatus": "Retrieved"
    }
  },
  "isFinalNotification": "false",
  "link": {
    "href": "http://example.com/exampleAPI/terminalstatus/v1/subscriptions/statusCollection/sub123",
    "rel": "StatusCollectionChangeSubscription"
  }
}
```

Response:

```
HTTP/1.1 204 No Content
Date: Thu, 15 Sep 2011 02:51:59 GMT
```

D.34 Accessibility status change notification (section 6.13.5.2)

Request:

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

```
{
  "accessibilityChangeNotification": {
    "accessibility": {
      "address": "tel:+19585550100",
      "currentAccessibility": "Reachable",
      "retrievalStatus": "Retrieved"
    },
    "isFinalNotification": "false",
    "link": {
      "href": "http://example.com/exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus/sub123",
      "rel": "AccessibilityChangeSubscription"
    }
  }
}
```

Response:

```
HTTP/1.1 204 No Content
Date: Thu, 15 Sep 2011 02:51:59 GMT
```

D.35 Final accessibility status change notification (section 6.13.5.3)

Request:

```
POST /notifications/AccessibilityStatusNotification HTTP/1.1
Accept: application/json
```

```
Content-Type: application/json
Content-Length: nnnn
Host: application.example.com
```

```
{"accessibilityChangeNotification": {
  "accessibility": {
    "address": "tel:+19585550100",
    "currentAccessibility": "Reachable",
    "retrievalStatus": "Retrieved"
  },
  "isFinalNotification": "true",
  "link": {
    "href": "http://example.com/exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus/sub123",
    "rel": "FinalAccessibilityChangeNotificationSubscription"
  }
}}
```

Response:

```
HTTP/1.1 204 No Content
Date: Thu, 15 Sep 2011 02:51:59 GMT
```

D.36 Accessibility status change subscription cancellation notification (section 6.13.5.4)

Request:

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

```
{"subscriptionCancellationNotification": {
  "address": "tel:+19585550100",
  "link": {
    "href": "http://example.com/exampleAPI/terminalstatus/v1/subscriptions/accessibilityStatus/sub123",
    "rel": "AccessibilityChangeNotificationSubscriptionCancellation"
  },
  "reason": {
    "messageId": "SVC2002",
    "text": "Requested information not available for address %1.",
    "variables": "tel:+19585550100"
  }
}}
```

Response:

```
HTTP/1.1 204 No Content
Date: Thu, 15 Sep 2011 02:51:59 GMT
```

D.37 Roaming status change notification for a single terminal identified by MSISDN (section 6.13.5.5)

Request:

```
POST / notifications/RoamingStatusNotification HTTP/1.1
Content-Type: application/json
Content-Length: nnnn
Accept: application/json
Host: application.arp.com
Date: Thu, 01 Jul 2014 13:51:59 GMT
```

```
{"roamingChangeNotification": {
  "roaming": [
    {
      "address": "tel:+19585550100",
      "subscriberId": "299011234567890",
      "deviceId": "12315420323751"
      "retrievalStatus": "Retrieved",
      "retrievalTime": "2014-10-26T21:32:52",
      "currentRoaming": "InternationalRoaming",
      "servingNode": {
        "type": "VLR",
        "node": tel:+19585550199"
      }
    }
  ]
}}
```

Response:

```
HTTP/1.1 204 No Content
Date: Thu, 01 Jul 2014 13:51:59 GMT
```

D.38 Roaming status change notification for a single terminal identified by IMSI (section 6.13.5.6)

Request:

```
POST / notifications/RoamingStatusNotification HTTP/1.1
Content-Type: application/json
Content-Length: nnnn
Accept: application/json
Host: application.arp.com
Date: Thu, 01 Jul 2014 13:51:59 GMT
```

```
{"roamingChangeNotification": {
  "roaming": [
    {
      "address": "tel:+0000000000000",
      "subscriberId": "299011234567890",
      "deviceId": "12315420323751"
      "retrievalStatus": "Retrieved",
      "retrievalTime": "2014-10-26T21:32:52",
    }
  ]
}}
```

```
"currentRoaming": "InternationalRoaming",  
  "servingNode": {  
    "type": "VLR",  
    "node": "tel:+19585550166"  
  }  
}  
]  
}}
```

Response:

```
HTTP/1.1 204 No Content  
Date: Thu, 01 Jul 2014 13:51:59 GMT
```

Appendix E. Parlay X operations mapping (Informative)

The table below illustrates the mapping between REST resources/methods defined in this specification and Parlay X [3GPP29.199-08] equivalent operations.

REST Resource	REST Method	REST Section reference	Parlay X equivalent operation
Terminal accessibility status	GET	6.2.3	GetStatus GetStatusForGroup
Accessibility status change notification subscriptions	POST	6.7.5	StartNotification
Individual accessibility status change notification subscription	DELETE	6.8.6	EndNotification
Client notification about terminal status changes	POST	6.13.5	StatusNotification StatusEnd StatusError

Table 1 Parlay X operations mapping

Appendix F. Light-weight resources (Informative)

As this version of the specification does not define any light-weight resources, this appendix is empty.

Appendix G. Authorization aspects (Normative)

This appendix specifies how to use the RESTful Terminal Status API in combination with some authorization frameworks.

G.1 Use with OMA Authorization Framework for Network APIs

The RESTful Terminal Status API MAY support the authorization framework defined in [Autho4API_10].

A RESTful Terminal Status 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 Terminal Status 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_terminalstatus.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_terminalstatus.poll	Provide access to all defined operations on poll terminal status collection, poll terminal accessibility status, poll terminal roaming status, and poll connection type.	No
oma_rest_terminalstatus.subscr	Provide access to all defined operations on status subscriptions.	No

Table 2 Scope values for RESTful Terminal Status API

G.1.1.2 Downscoping

In the case where the client requests authorization for “oma_rest_terminalstatus.all_{apiVersion}” scope, the authorization server and/or resource owner MAY restrict the granted scope to some of the following scope values:

- “oma_rest_terminalstatus.poll”
- “oma_rest_terminalstatus.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 Terminal Status API map to the REST resources and methods of this API. In these tables, the root “oma_rest_terminalstatus.” of scope values is omitted for readability reasons.

Resource	URL Base URL: http://{serverRoot}/terminalstatus/{apiVersion}	Section reference	HTTP verbs			
			GET	PUT	POST	DELETE
Terminal status collection	/queries/statusCollection	6.1	all_{apiVersion} or poll	n/a	n/a	n/a
Terminal accessibility status	/queries/accessibilityStatus	6.2	all_{apiVersion} or poll	n/a	n/a	n/a
Terminal roaming status	/queries/roamingStatus	6.3	all_{apiVersion} or poll	n/a	n/a	n/a
Terminal connection type	/queries/connectionType	6.4	all_{apiVersion} or poll	n/a	n/a	n/a

Table 3 Required scope values for: poll terminal status collection, poll terminal accessibility status, poll terminal roaming status, and poll connection type

Resource	URL Base URL: http://{serverRoot}/terminalstatus/{apiVersion}	Section reference	HTTP verbs			
			GET	PUT	POST	DELETE
Status collection change notification subscriptions	/subscriptions/statusCollection	6.5	all_{apiVersion} or subscr	n/a	all_{apiVersion} or subscr	n/a
Individual status collection change notification subscription	/subscriptions/statusCollection/{subscriptionId}	6.6	all_{apiVersion} or subscr	all_{apiVersion} or subscr	n/a	all_{apiVersion} or subscr
Accessibility status change notification subscriptions	/subscriptions/accessibilityStatus	6.7	all_{apiVersion} or subscr	n/a	all_{apiVersion} or subscr	n/a

Individual accessibility status change notification subscription	/subscriptions/accessibilityStatus/{subscriptionId}	6.8	all_{apiVersion} or subscr	all_{apiVersion} or subscr	n/a	all_{apiVersion} or subscr
Roaming status change notification subscriptions	/subscriptions/roamingStatus	6.9	all_{apiVersion} or subscr	n/a	all_{apiVersion} or subscr	n/a
Individual roaming status change notification subscription	/subscriptions/roamingStatus/{subscriptionId}	6.10	all_{apiVersion} or subscr	all_{apiVersion} or subscr	n/a	all_{apiVersion} or subscr
Connection type change notification subscriptions	/subscriptions/connectionType	6.11	all_{apiVersion} or subscr	n/a	all_{apiVersion} or subscr	n/a
Individual connection type change notification subscription	/subscriptions/connectionType/{subscriptionId}	6.12	all_{apiVersion} or subscr	all_{apiVersion} or subscr	n/a	all_{apiVersion} or subscr

Table 4 Required scope values for: status subscriptions