



RESTful Network API for
Terminal Status
Candidate Version 1.0 – 12 Feb 2012

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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

- [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>
- [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
GPRS	General Packet Radio Service
HTTP	HyperText Transfer Protocol
HSDPA	High-Speed Downlink Packet Access
HSPA+	Evolved High-Speed Packet Access
HSUPA	High-Speed Uplink Packet Access
JSON	JavaScript Object Notation
LTE	Long Term Evolution
MCC	Mobile Country or Geographical Area Codes
MIME	Multipurpose Internet Mail Extensions
MNC	Mobile Network Code
MNO	Mobile Network Operator
MVNO	Mobile Virtual Network Operator
OMA	Open Mobile Alliance
REST	REpresentational State Transfer

SCR	Static Conformance Requirements
SIP	Session Initiation Protocol
TD-SCDMA	Time Division Synchronous Code Division Multiple Access
TS	Technical Specification
URI	Uniform Resource Identifier
URL	Uniform Resource Locator
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

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.

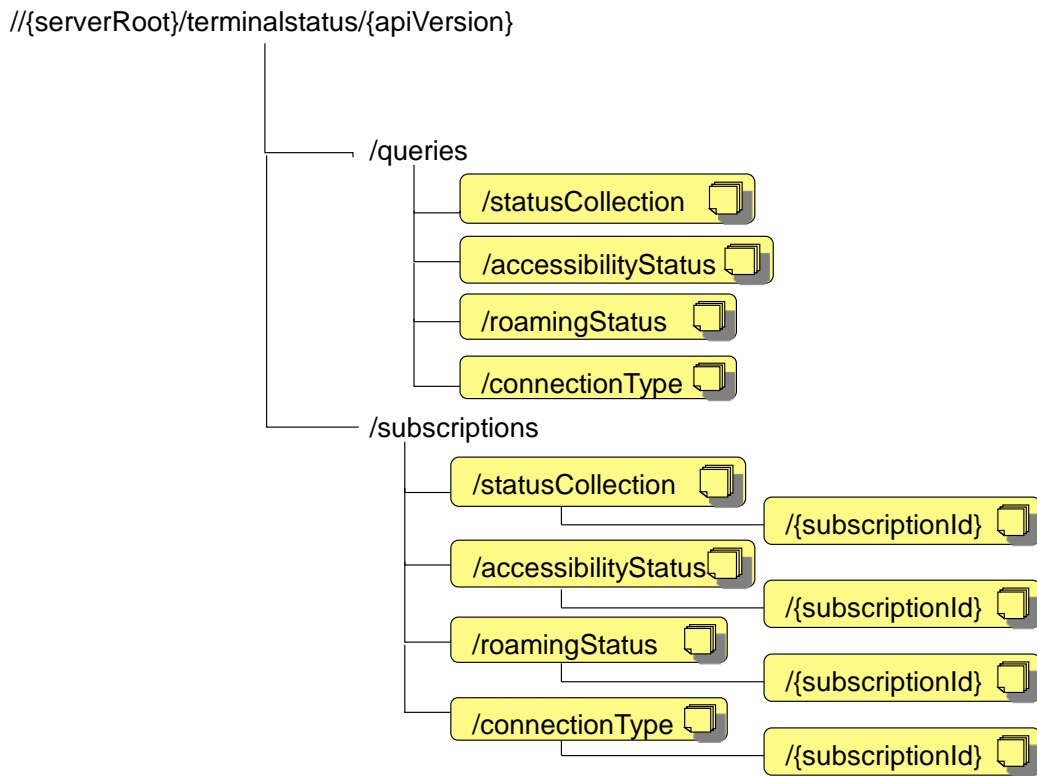


Figure 1 Resource structure defined by this specification

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}/terminalstat us/{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	Data Structures	HTTP verbs
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	Base URL: http://{serverRoot}/terminalstatus/{apiVersion}		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
Roaming status change notification subscriptions	/subscriptions/roamingStatus	NotificationSubscriptionList (used for GET) RoamingChangeSubscription (used for POST) common:ResourceReference (optional alternative for	return all subscriptions	no	create new subscription	No

Resource	URL Base URL: http://{serverRoot}/terminalstatus/{apiVersion}	Data Structures	HTTP verbs			
			GET	PUT	POST	DELETE
		POST response)				
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

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 V 1.0 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.
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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.
retrievalStatus	common:RetrievalStatus	No	Status of retrieval for this terminal device 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.

5.2.2.10 Type: TerminalConnectionTypeList

A type containing list of terminal connection type.

Element	Type	Optional	Description
connectionType	TerminalConnectionType [1..unbounded]	No	Collection of the terminal connection type.
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</p>

			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.
resourceURL	xsd:anyURI	Yes	Self referring URL. The resourceURL SHALL NOT be included in POST requests by the client, but MUST be included in POST requests representing notifications by the server to the client, when a complete representation of the resource is embedded in the notification. The resourceURL MUST also be included in responses to any HTTP method that returns an entity body, and in PUT requests.
link	common:Link [0..unbounded]	Yes	Link to other resources that are in relationship with the resource.
callbackReference	common:CallbackReference	No	Notification callback definition.
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.
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	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

			<p>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	Self referring URL. The resourceURL SHALL NOT be included in POST requests by the client, but MUST be included in POST requests representing notifications by the server to the client, when a complete representation of the resource is embedded in the notification. The resourceURL MUST also be included in responses to any HTTP method that returns an entity body, and in PUT requests.
link	common:Link [0..unbounded]	Yes	Link to other resources that are in relationship with the resource.
callbackReference	common:CallbackReference	No	Notification callback definition.
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 [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</p>

			case the element is not present, the server SHALL NOT generate it.
resourceURL	xsd:anyURI	Yes	Self referring URL. The resourceURL SHALL NOT be included in POST requests by the client, but MUST be included in POST requests representing notifications by the server to the client, when a complete representation of the resource is embedded in the notification. The resourceURL MUST also be included in responses to any HTTP method that returns an entity body, and in PUT requests.
link	common:Link [0..unbounded]	Yes	Link to other resources that are in relationship with the resource.
callbackReference	common:CallbackReference	No	Notification callback definition.
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.
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
<code>clientCorrelator</code>	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>
<code>resourceURL</code>	xsd:anyURI	Yes	<p>Self referring URL. The <code>resourceURL</code> SHALL NOT be included in POST requests by the client, but MUST be included in POST requests representing notifications by the server to the</p>

			client, when a complete representation of the resource is embedded in the notification. The resourceURL MUST also be included in responses to any HTTP method that returns an entity body, and in PUT requests.
link	common:Link [0..unbounded]	Yes	Link to other resources that are in relationship with the resource.
callbackReference	common:CallbackReference	No	Notification callback definition.
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.

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 [0..unbounded]	Yes	Link to other resources that are in relationship with the resource.

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.).

5.2.3 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.

5.2.4 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

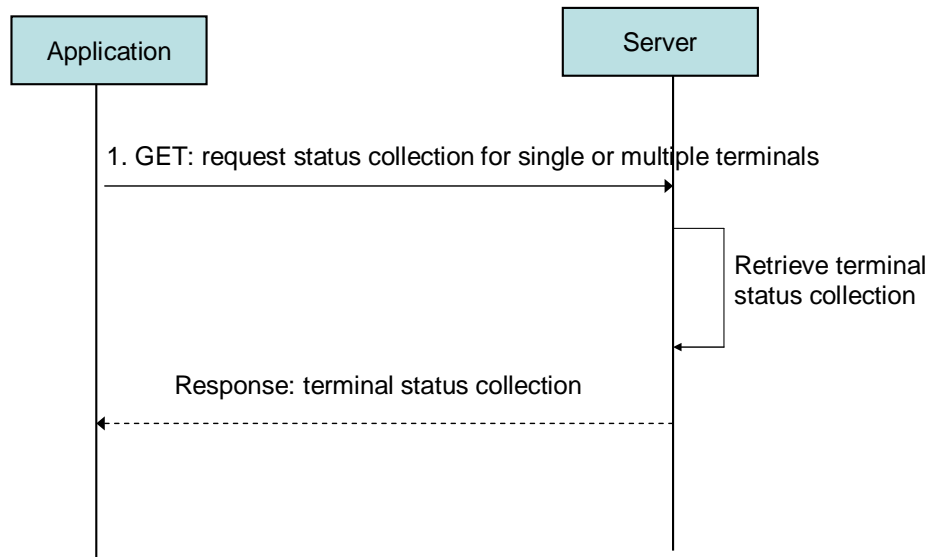


Figure 2 Status collection query

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`

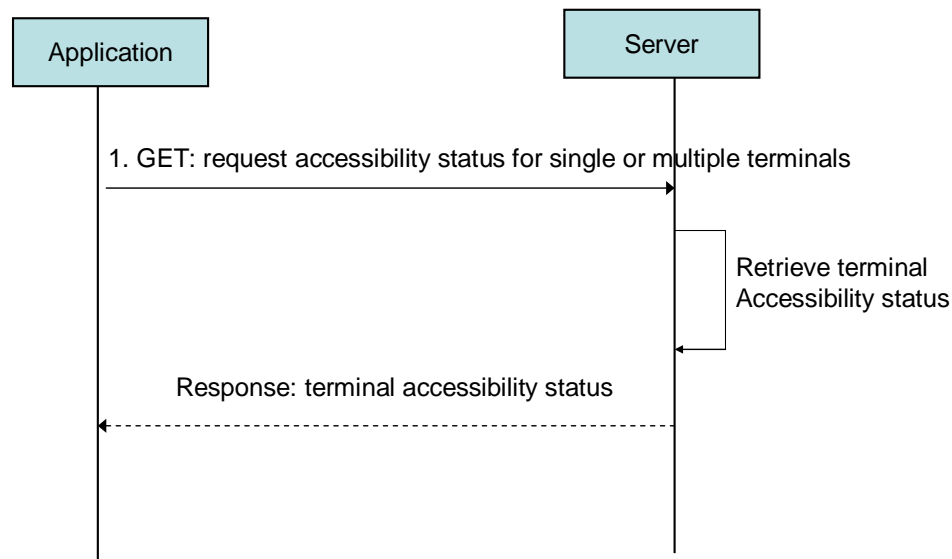


Figure 3 Accessibility status query

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}`**

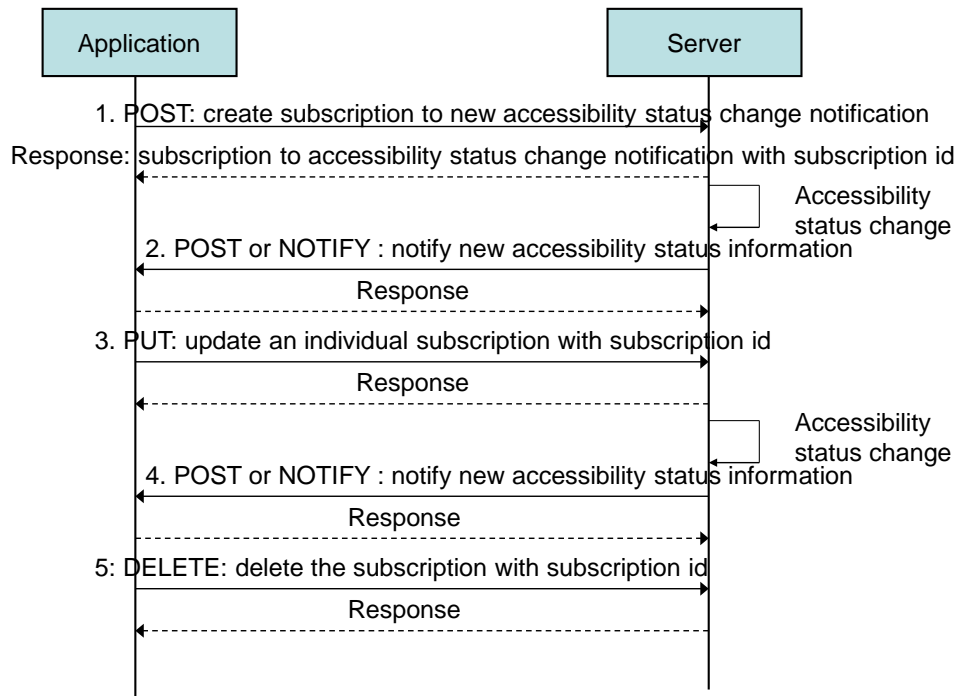


Figure 4 Accessibility status change notification

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.

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].

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>
    </servingMccMnc>
  </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>
```

```
</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 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>

```

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>
</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>
    <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
```

6.13.6 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
n/a	n/a	No prior version

A.2 Draft Version 1.0 History

Document Identifier	Date	Sections	Description
Draft Version: REST_NetAPI_TerminalStatus-V1_0	30 Aug 2011	Many	Incorporated:OMA-ARC-REST-NetAPI-2011-0219R01-CR_TerminalLocation_A075_A080_A082_A090_A092
	21 Sep 2011	Many	Incorporated: OMA-ARC-REST-NetAPI-2011-0226R01-CR_TerminalStatus_TS_CRs_ChangesOMA-ARC-REST-NetAPI-2011-0265R01-CR_TerminalStatus_TS_ACR_changes
	08 Nov 2011	Many	This version applies following changes: - OMA-ARC-REST-M-2011-0051-CR_TerminalStatus_resourceURL_changes_TS - OMA-ARC-REST-NetAPI-2011-0366-CR_TerminalStatus_TS_fixing_resourceURL_root_element
	15 Nov 2011	Many	Incorporated: OMA-ARC-REST-NetAPI-2011-0337-CR_TerminalStatus_TS_CONRR_fixing_editorial_comments
	08 Dec 2011	Many	Incorporated: - OMA-ARC-REST-NetAPI-2011-0425R01-CR_TerminalStatus_A224_Resolution - OMA-ARC-REST-NetAPI-2011-0426-CR_TerminalStatus_Appendix_G - OMA-ARC-REST-NetAPI-2011-0446R02-CR_TerminalStatus_TS_CONRR_Resolution_Actions
	14 Dec 2011	Many	Incorporated: - OMA-ARC-REST-NetAPI-2011-0457-CR_TerminalStatus_TS_CONRR_Adding_Requester
	15 Dec 2011	Many	Incorporated: - OMA-ARC-REST-NetAPI-2011-0462-CR_TerminalStatus_TS_Adding_Requester_XML_Examples
	06 Jan 2012	C.1.1.2	Fixing XML example - Replace "requester=tel%3A%2B19585550102&" with "<requester>tel:+19585550102</requester>" - Replace "<address>tel+19585550100</address>" with "<address>tel:+19585550100</address>"
Candidate Version: REST_NetAPI_TerminalStatus-V1_0	17 Jan 2012	n/a	Status changed to Candidate by TP TP Ref # OMA-TP-2012-0008- INP_REST_NetAPI_TerminalStatus_1_0_ERP_and_ETR_for_Candidate_Approval

Document Identifier	Date	Sections	Description
Draft Versions: REST_NetAPI_TerminalStatus-V1_0	20 Jul 2012	2.1, 5, 5.3, 5.3.3, 6.1.1, 6.1.2, 6.1.3.2.2, 6.1.4, 6.2.1, 6.2.2, 6.3.1, 6.3.2, 6.4.1, 6.4.2, 6.5.1, 6.5.2, 6.6.1, 6.6.2, 6.7.1, 6.7.2, 6.8.1, 6.8.2, 6.9.1, 6.9.2, 6.10.1, 6.10.2, 6.11.1, 6.11.2, 6.12.1, 6.12.2, 6.13.2, 7, D.2, E, G.1.1.3	Incorporated CRs: OMA-ARC-REST-NetAPI-2012-0138- CR_Fix_Reference_Appendix_E_for_TerminalStatus OMA-ARC-REST-NetAPI-2012-0167- CR_TerminalStatus_TS_Adding_Section7_A055 OMA-ARC-REST-NetAPI-2012-0190R01- CR_Terminal_status_examples_error_code_fix OMA-ARC-REST-NetAPI-2012-0194- CR_TerminalStatus_POST_or_NOTIFY Editorial changes
	22 Aug 2012	5.2.2.13, 5.2.2.14, 5.2.2.15, 5.2.2.16, C.1, C.2, C.3, C.4	Incorporated CR: OMA-ARC-REST-NetAPI-2012-0230- CR_TermStatus_clientCorrelator_resolution Editorial changes
	02 Oct 2012	6.2.3.2.2, 6.3.3.2.2, 6.4.3.2.2, 6.13.5.4.1, D.4, D.7, D.10, D.36	Incorporated CR; OMA-ARC-REST-NetAPI-2012-0217- CR_Followup_for_INP_200_TS_TermStat Editorial changes
	27 Nov 2012	3.2, 4.1, 5.3.3, 6, 6.13	Incorporated CR: OMA-TS-REST_NetAPI_TerminalStatus-V1_0-20121002-D Template changed to OMA-TEMPLATE- TS_RESTful_Network_API-20120813-I Editorial changes
	08 Feb 2013	2.2	Reference to OMA Dictionary updated to version 2.9. Template updated.
Candidate Version: REST_NetAPI_TerminalStatus-V1_0	12 Feb 2013	n/a	Status changed to Candidate by TP TP Ref # OMA-TP-2013-0045- INP_REST_NetAPI_TerminalStatus_V1_0_Candidate_ERP_for_Not ification

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-	Read current roaming	6.3.2	

Item	Function	Reference	Requirement
S-002-O	status of terminal(s) - GET		

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-	Read all active	6.7.2	

Item	Function	Reference	Requirement
SUBSCR-S-002-O	subscriptions -GET		
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 -DELETE	6.8.5	

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	

Item	Function	Reference	Requirement
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-S-002-O	Read individual subscription of connection type -GET	6.12.2	
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	<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	It identifies the entity that is requesting the information(e.g. 'sip' URI, 'tel' URI, 'acr' URI).

			<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 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%3Apseudonym123&
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</p>

			<p>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). 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 [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</p>

			<p>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.
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</p>

			<p>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). 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 [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
```

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