



RESTful Network API for
Terminal Status
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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].

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2.2 Informative References

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3. Terminology and Conventions

3.1 Conventions

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

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

3.2 Definitions

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

| | |
|-------------------------------------|--|
| Client-side Notification URL | An HTTP URL exposed by a client, on which it is capable of receiving notifications and that can be used by the client when subscribing to notifications. |
| Notification Channel | A channel created on the request of the client and used to deliver notifications from a server to a client. The channel is represented as a resource and provides means for the server to post notifications and for the client to receive them via specified delivery mechanisms. |
| Notification Server | A server that is capable of creating and maintaining Notification Channels. |
| Server-side Notification URL | An HTTP URL exposed by a Notification Server. It identifies a Notification Channel that can be used by a client when subscribing to notifications. |

3.3 Abbreviations

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

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

4. Introduction

The Technical Specification of the RESTful Network API for Terminal Status contains HTTP protocol bindings for [3GPP29.199-08] using the REST architectural style. The specification provides resource definitions, the HTTP verbs applicable for each of these resources, and the element data structures, as well as support material including flow diagrams and examples using the various supported message body formats (i.e. XML, JSON, and application/x-www-form-urlencoded).

4.1 Version 1.0

The RESTful Network API for Terminal Status V1.0 is a republication of the ParlayREST Terminal Status API V1.0 [ParlayREST_TerminalStatus] as part of the suite of OMA RESTful Network APIs.

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

Version 1.0 of the RESTful Network API for Terminal Status keeps supporting the following operations:

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

The following new functionality has been introduced:

- Support for scope values used with authorization framework defined in [Autho4API_10]
- Support for Anonymous Customer Reference (ACR) as an end user identifier
- Support for “acr:auth” as a reserved keyword in a resource URL variable that identifies an end user

The following functionality has been extended:

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

5. Terminal Status API definition

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

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

The remainder of this document is structured as follows:

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

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

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

Section 7 contains fault definition details such as Service Exceptions and Policy Exceptions. Appendix B provides the Static Conformance Requirements (SCR).

D.37 lists the Parlay X equivalent operation for each supported REST resource and method combination, where applicable.

Appendix F provides a list of all light-weight resources, where applicable.

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

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

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

5.1 Resources Summary

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

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

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

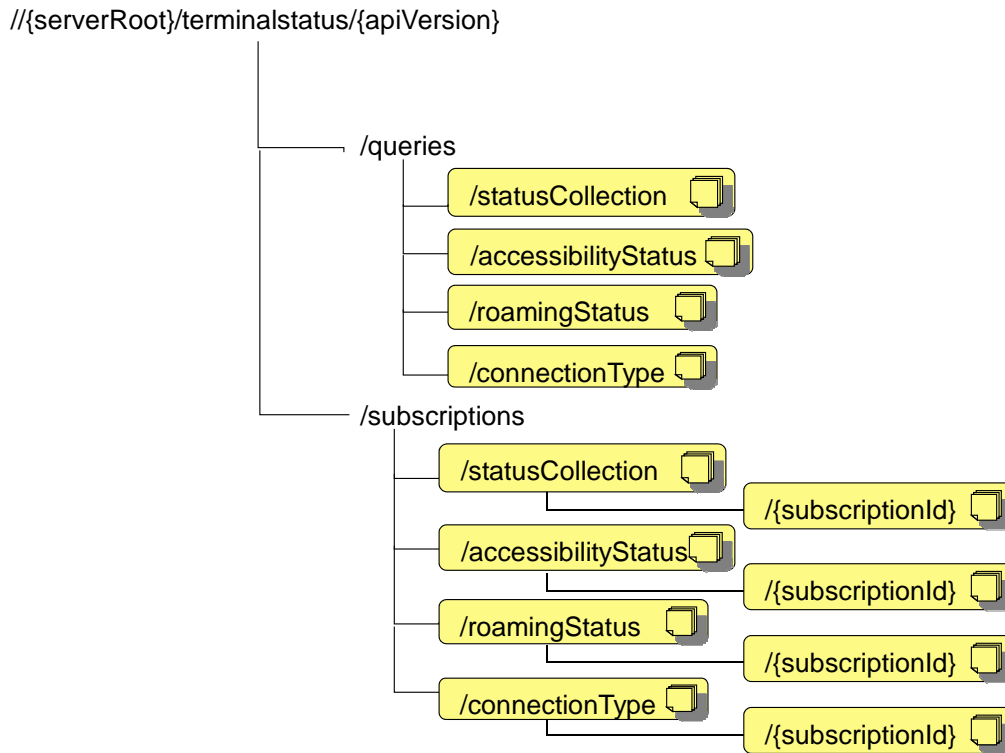


Figure 1 Resource structure defined by this specification

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

Purpose: To allow the client to retrieve terminal status collection, terminal accessibility status, roaming status, and connection type

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

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

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

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

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

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

5.2 Data Types

5.2.1 XML Namespaces

The XML namespace for the Terminal Status data types is:

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

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

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

Applications following the RESTful Network API for Terminal Status 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. |

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

5.2.2.9 Type: TerminalRoamingStatus

A type containing current terminal roaming status.

| Element | Type | Optional | Description |
|------------------|--------------------------|----------|---|
| address | xsd:anyURI | No | Address of the terminal device (e.g. 'sip' URI, 'tel' URI, 'acr' URI) to which the roaming status information applies. |
| subscriberId | xsd:string | Yes | The International Mobile Subscriber Identity (IMSI) to which the roaming status information applies. Must be included when the address of the terminal device is unknown i.e. 'tel:+0000000000000'. |
| deviceId | xsd:string | Yes | The unique International Mobile Equipment Identity (IMEI) of this terminal device. |
| retrievalStatus | common:RetrievalStatus | No | Status of retrieval for this terminal device address. |
| retrievalTime | xsd:dateTime | Yes | Indicates the time when the status was retrieved |
| currentRoaming | RoamingStatus | Yes | Roaming status of terminal. Must be included when retrievalStatus=Retrieved. |
| servingMccMnc | MobileCountryNetworkCode | Choice | MobileCountryCode/ Mobile NetworkCode tuple for the serving network. Must be included when currentRoaming=DomesticRoaming or currentRoaming=InternationalRoaming. |
| servingNode | MobileServingNetworkNode | Choice | Address of the mobile network node serving the terminal device. |
| errorInformation | common:ServiceError | Yes | Must be included when retrievalStatus=Error. This is the reason for the error. |

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

5.2.2.10 Type: TerminalConnectionTypeList

A type containing list of terminal connection type.

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

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

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

5.2.2.11 Type: TerminalConnectionType

A type containing current connection type.

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

5.2.2.12 Type: NotificationSubscriptionList

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

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

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

5.2.2.13 Type: StatusCollectionChangeSubscription

A type containing terminal status collection change notification subscription.

| Element | Type | Optional | Description |
|-------------------|-------------------------------|----------|--|
| clientCorrelator | xsd:string | Yes | <p>A correlator that the client can use to tag this particular resource representation during a request to create a resource on the server.</p> <p>This element MAY be present.</p> <p>Note: this allows the client to recover from communication failures during resource creation and therefore avoids duplicate subscription creation in such situations.</p> <p>In case the element is present, the server SHALL not alter its value, and SHALL provide it as part of the representation of this resource. In case the element is not present, the server SHALL NOT generate it.</p> |
| resourceURL | xsd:anyURI | Yes | <p>Self referring URL. The resourceURL SHALL NOT be included in POST requests by the client, but MUST be included in POST requests representing notifications by the server to the client, when a complete representation of the resource is embedded in the notification. The resourceURL MUST also be included in responses to any HTTP method that returns an entity body, and in PUT requests.</p> |
| link | common:Link [0..unbounded] | Yes | <p>Link to other resources that are in relationship with the resource.</p> |
| callbackReference | common:CallbackReference | No | <p>Notification callback definition.</p> |
| requester | xsd:anyURI | Yes | <p>It identifies the entity that is requesting the information(e.g. 'sip' URI, 'tel' URI, 'acr' URI). The application invokes this operation on behalf of this entity. However, it does not imply that the application has authenticated the requester.</p> <p>If this element is not present, the requesting entity is the application itself.</p> <p>If this element is present, and the requester is not authorized to</p> |

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

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

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

5.2.2.14 Type: AccessibilityChangeSubscription

A type containing terminal accessibility status change notification subscription.

| Element | Type | Optional | Description |
|-------------------|-------------------------------|----------|--|
| clientCorrelator | xsd:string | Yes | <p>A correlator that the client can use to tag this particular resource representation during a request to create a resource on the server.</p> <p>This element MAY be present.</p> <p>Note: this allows the client to recover from communication failures during resource creation and therefore avoids duplicate subscription creation in such situations.</p> <p>In case the element is present, the server SHALL not alter its value, and SHALL provide it as part of the representation of this resource. In case the element is not present, the server SHALL NOT generate it.</p> |
| resourceURL | xsd:anyURI | Yes | <p>Self referring URL. The resourceURL SHALL NOT be included in POST requests by the client, but MUST be included in POST requests representing notifications by the server to the client, when a complete representation of the resource is embedded in the notification. The resourceURL MUST also be included in responses to any HTTP method that returns an entity body, and in PUT requests.</p> |
| link | common:Link [0..unbounded] | Yes | <p>Link to other resources that are in relationship with the resource.</p> |
| callbackReference | common:CallbackReference | No | <p>Notification callback definition.</p> |
| requester | xsd:anyURI | Yes | <p>It identifies the entity that is requesting the information(e.g. 'sip' URI, 'tel' URI, 'acr' URI).</p> <p>The application invokes this operation on behalf of this entity.</p> |

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

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

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

5.2.2.15 Type: RoamingChangeSubscription

A type containing terminal roaming status change notification subscription.

| Element | Type | Optional | Description |
|-------------------|-------------------------------|----------|--|
| clientCorrelator | xsd:string | Yes | <p>A correlator that the client can use to tag this particular resource representation during a request to create a resource on the server.</p> <p>This element MAY be present.</p> <p>Note: this allows the client to recover from communication failures during resource creation and therefore avoids duplicate subscription creation in such situations.</p> <p>In case the element is present, the server SHALL not alter its value, and SHALL provide it as part of the representation of this resource. In case the element is not present, the server SHALL NOT generate it.</p> |
| resourceURL | xsd:anyURI | Yes | <p>Self referring URL. The resourceURL SHALL NOT be included in POST requests by the client, but MUST be included in POST requests representing notifications by the server to the client, when a complete representation of the resource is embedded in the notification. The resourceURL MUST also be included in responses to any HTTP method that returns an entity body, and in PUT requests.</p> |
| link | common:Link [0..unbounded] | Yes | <p>Link to other resources that are in relationship with the resource.</p> |
| callbackReference | common:CallbackReference | No | <p>Notification callback definition.</p> |
| requester | xsd:anyURI | Yes | <p>It identifies the entity that is requesting the information (e.g. 'sip' URI, 'tel' URI, 'acr' URI). The application invokes this operation on behalf of this entity. However, it does not imply that the application has authenticated the requester.</p> <p>If this element is not present, the requesting entity is the application itself.</p> |

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

A root element named `roamingChangeSubscription` of type `RoamingChangeSubscription` is allowed in request and/or response bodies.

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

5.2.2.16 Type: ConnectionChangeSubscription

A type containing terminal connection type change notification subscription.

| Element | Type | Optional | Description |
|-------------------------------|------------|----------|--|
| <code>clientCorrelator</code> | xsd:string | Yes | A correlator that the client can use to tag this particular resource |

| | | | |
|-------------------|-------------------------------|-----|---|
| | | | <p>representation during a request to create a resource on the server.</p> <p>This element MAY be present.</p> <p>Note: this allows the client to recover from communication failures during resource creation and therefore avoids duplicate subscription creation in such situations.</p> <p>In case the element is present, the server SHALL not alter its value, and SHALL provide it as part of the representation of this resource. In case the element is not present, the server SHALL NOT generate it.</p> |
| resourceURL | xsd:anyURI | Yes | <p>Self referring URL. The resourceURL SHALL NOT be included in POST requests by the client, but MUST be included in POST requests representing notifications by the server to the client, when a complete representation of the resource is embedded in the notification. The resourceURL MUST also be included in responses to any HTTP method that returns an entity body, and in PUT requests.</p> |
| link | common:Link [0..unbounded] | Yes | <p>Link to other resources that are in relationship with the resource.</p> |
| callbackReference | common:CallbackReference | No | <p>Notification callback definition.</p> |
| requester | xsd:anyURI | Yes | <p>It identifies the entity that is requesting the information(e.g. 'sip' URI, 'tel' URI, 'acr' URI). The application invokes this operation on behalf of this entity. However, it does not imply that the application has authenticated the requester.</p> <p>If this element is not present, the requesting entity is the application itself.</p> <p>If this element is present, and the requester is not authorized to retrieve status info, a policy exception will be returned.</p> |
| address | xsd:anyURI | No | <p>Addresses of terminals (e.g. 'sip' URI, 'tel' URI, 'acr' URI) to monitor.</p> |

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

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

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

5.2.2.17 Type: StatusCollectionChangeNotification

A type containing terminal status collection for change notification.

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

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

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

5.2.2.18 Type: AccessibilityChangeNotification

A type containing terminal accessibility status for change notification.

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

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

5.2.2.19 Type: RoamingChangeNotification

A type containing terminal roaming status for change notification.

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

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

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

5.2.2.20 Type: ConnectionChangeNotification

A type containing terminal connection type for change notification.

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

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

5.2.2.21 Type: SubscriptionCancellationNotification

A type containing cancellation for subscription notification.

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

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

5.2.2.22 Type: MobileCountryNetworkCode

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

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

5.2.2.23 Type: MobileServingNetworkNode

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

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

5.2.3 Enumerations

5.2.3.1 Enumeration: AccessibilityStatus

An enumeration, defining the accessibility status of a terminal.

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

5.2.3.2 Enumeration: RoamingStatus

An enumeration, defining the roaming status of a terminal.

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

5.2.3.3 Enumeration: ConnectionType

An enumeration, defining the connection type of a terminal.

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

5.2.3.4 Enumeration: ServingNetworkNodeType

An enumeration, defining the serving network node types.

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

5.2.4 Values of the Link “rel” attribute

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

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

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

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

5.3 Sequence Diagrams

The following subsections describe the resources, methods and steps involved in typical scenarios.

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

5.3.1 Status collection query

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

The resources:

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

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

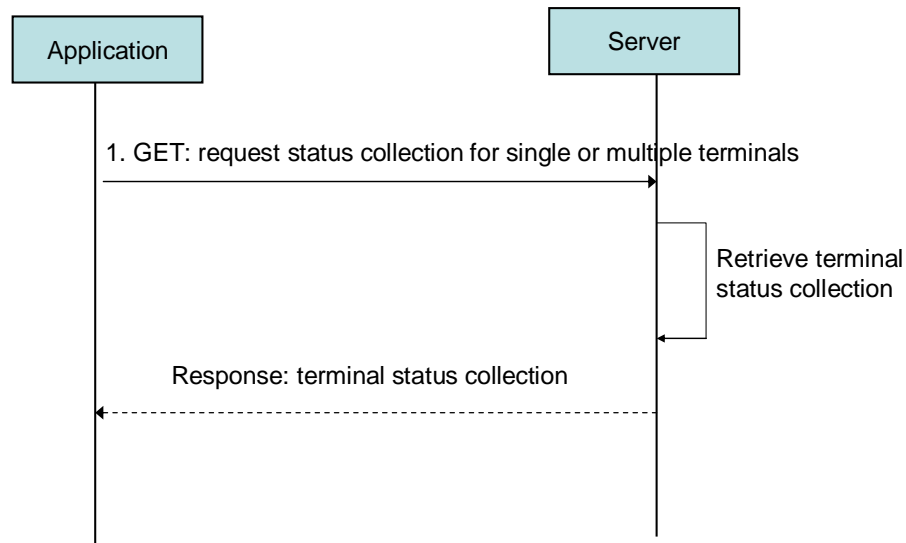


Figure 2 Status collection query

Outline of flow:

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

5.3.2 Accessibility status query

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

The resources:

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

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

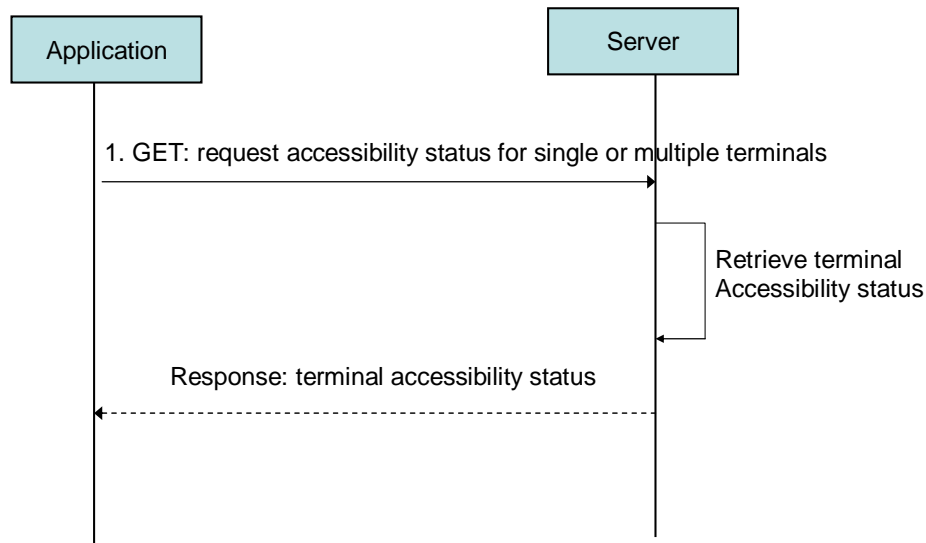


Figure 3 Accessibility status query

Outline of flow:

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

5.3.3 Accessibility status change notification

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

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

The resources:

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

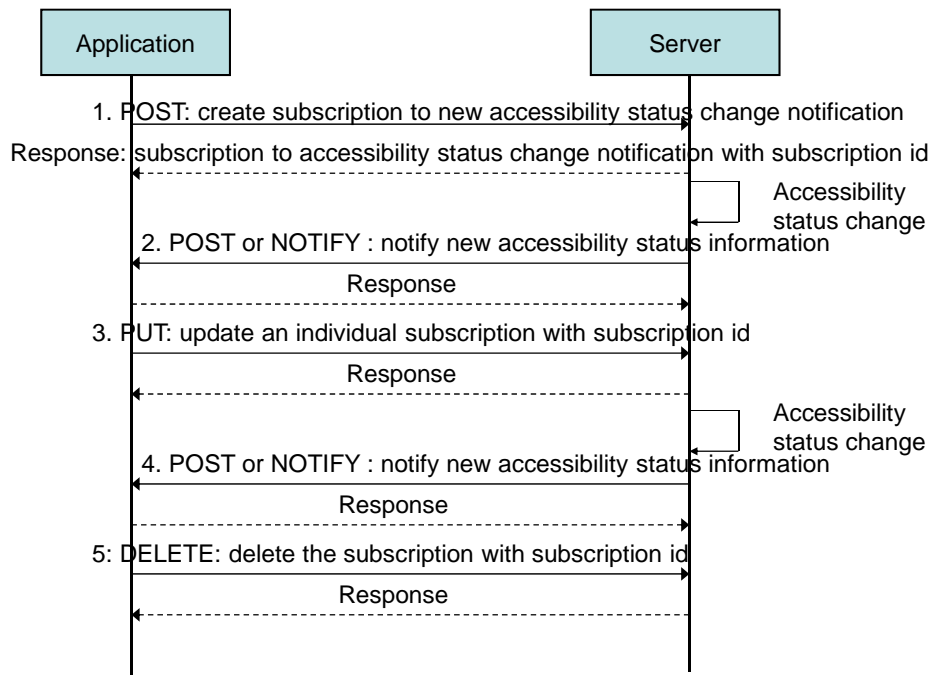


Figure 4 Accessibility status change notification

Outline of flow:

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

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

5.3.4 Roaming status change notification

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

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

The resources:

- To start subscription to notifications about terminal roaming status change, create new resource under

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

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

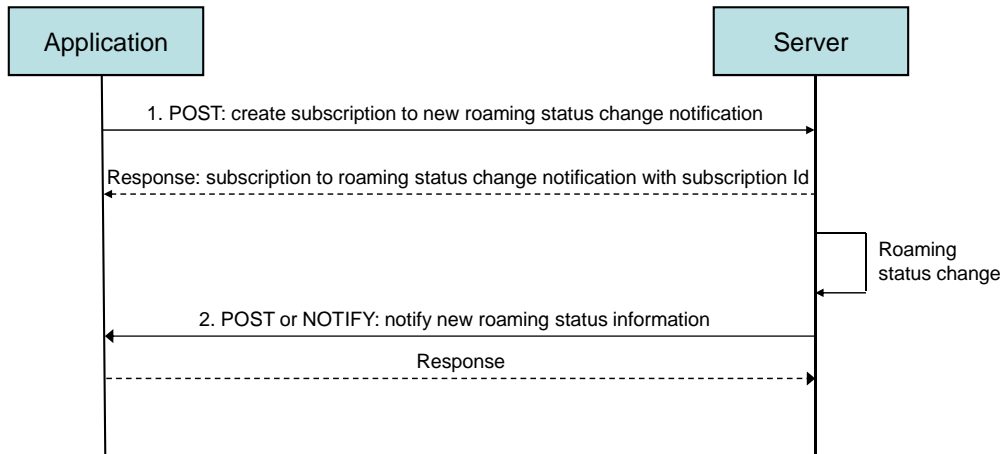


Figure 5 Roaming status change notification

Outline of flow:

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

6. Detailed specification of the resources

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

- Reserved characters in URL variables (parts of a URL denoted below by a name in curly brackets) **MUST** be percent-encoded according to [RFC3986]. Note that this always applies, no matter whether the URL is used as a Request URL or inside the representation of a resource (such as in “resourceURL” and “link” elements).
- If a user identifier (e.g. address, userId, etc) of type anyURI is in the form of an MSISDN, it **MUST** be defined as a global number according to [RFC3966] (e.g. tel:+19585550100). The use of characters other than digits and the leading “+” sign **SHOULD** be avoided in order to ensure uniqueness of the resource URL. This applies regardless of whether the user identifier appears in a URL variable or in a parameter in the body of an HTTP message.
- If a user identifier (e.g. address, userId, etc) of type anyURI is in the form of a SIP URI, it **MUST** be defined according to [RFC3261].
- If a user identifier (e.g. address, userId, etc) of type anyURI is in the form of an Anonymous Customer Reference (ACR), it **MUST** be defined according to [IETF_ACR_draft], i.e. it **MUST** include the protocol prefix 'acr:' followed by the ACR.
 - The ACR ‘auth’ is a supported reserved keyword, and **MUST NOT** be assigned as an ACR to any particular end user.
- For requests and responses that have a body, the following applies: in the requests received, the server **SHALL** support JSON and XML encoding of the parameters in the body, and **MAY** support application/x-www-form-urlencoded parameters in the body. The Server **SHALL** return either JSON or XML encoded parameters in the response body, according to the result of the content type negotiation as specified in [REST_NetAPI_Common]. In notifications to the Client, the server **SHALL** use either XML or JSON encoding, depending on which format the client has specified in the related subscription. The generation and handling of the JSON representations **SHALL** follow the rules for JSON encoding in HTTP Requests/Responses as specified in [REST_NetAPI_Common].
- If a network element identifier (e.g. Visitor Location Register, Serving GPRS Support Node, etc.) of type anyURI is in the form of a Global Title (GT), it **MUST** be defined as a global number according to [RFC3966] (e.g. tel:+19585550100). The use of characters other than digits and the leading “+” sign **SHOULD** be avoided in order to ensure uniqueness of the resource URL. This applies regardless of whether the identifier appears in a URL variable or in a parameter in the body of an HTTP message.
- If a network element identifier (e.g. Mobility Management Entity, etc.) of type anyURI is in the form of an Fully Qualified Domain Names (FQDN), it **MUST** be defined according to [3GPP23.003], and it **MUST** include the protocol prefix 'tel:' followed by the FQDN.
- If a subscriber identifier (e.g. subscriberId, etc.) of type string is in the form of an International Mobile Subscriber Identity (IMSI), it **MUST** be defined according to [ITU-T E.212].
- If a terminal identifier (e.g. deviceId, etc.) of type string is in the form of an International Mobile Equipment Identity (IMEI), it **MUST** be defined according to [3GPP23.003] and it **SHOULD** consist of 14 digits (e.g. 49015420323751), including the 8-digit Type Allocation Code (TAC) and the 6-digit Serial Number (SNR).

6.1 Resource: Terminal status collection

The resource used is:

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

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

6.1.1 Request URL variables

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

| Name | Description |
|------------|--|
| serverRoot | Server base url: hostname+port+base path. Port and base path are OPTIONAL. Example: example.com/exampleAPI |
| apiVersion | Version of the API client wants to use. The value of this variable is defined in section 5.1. |

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

6.1.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

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

6.1.3 GET

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

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

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

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

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

6.1.3.1.1 Request

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

6.1.3.1.2 Response

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

```

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

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

```

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

6.1.3.2.1 Request

```

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

```

6.1.3.2.2 Response

```

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

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

```

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

6.1.4 PUT

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

6.1.5 POST

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

6.1.6 DELETE

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

6.2 Resource: Terminal accessibility status

The resource used is:

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

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

6.2.1 Request URL variables

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

| Name | Description |
|------------|---|
| serverRoot | Server base url: hostname+port+base path. Example: example.com/exampleAPI |
| apiVersion | Version of the API client wants to use. The value of this variable is defined in section 5.1. |

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

6.2.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

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

6.2.3 GET

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

Request URL parameter is:

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

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

6.2.3.1.1 Request

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

6.2.3.1.2 Response

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

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

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

6.2.3.2.1 Request

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

6.2.3.2.2 Response

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

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

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

6.2.3.3.1 Request

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

6.2.3.3.2 Response

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

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



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

6.2.4 PUT

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

6.2.5 POST

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

6.2.6 DELETE

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

6.3 Resource: Terminal roaming status

The resource used is:

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

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

6.3.1 Request URL variables

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

| Name | Description |
|------------|---|
| serverRoot | Server base url: hostname+port+base path. Example: example.com/exampleAPI |
| apiVersion | Version of the API client wants to use. The value of this variable is defined in section 5.1. |

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

6.3.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

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

6.3.3 GET

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

Request URL parameter is:

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

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

6.3.3.1.1 Request

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

6.3.3.1.2 Response

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

<?xml version="1.0" encoding="UTF-8"?>
<ts:terminalRoamingStatusList xmlns:ts="urn:oma:xml:rest:netapi:terminalstatus:1">
  <roaming>
    <address>tel:+19585550100</address>
    <retrievalStatus>Retrieved</retrievalStatus>
    <currentRoaming>InternationalRoaming</currentRoaming>
    <-servingMccMnc>
      <mcc>310</mcc>
      <mnc>010</mnc>
    </-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>

```

6.3.4 PUT

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

6.3.5 POST

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

6.3.6 DELETE

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

6.4 Resource: Terminal connection type

The resource used is:

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

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

6.4.1 Request URL variables

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

| Name | Description |
|------------|---|
| serverRoot | Server base url: hostname+port+base path. Example: example.com/exampleAPI |
| apiVersion | Version of the API client wants to use. The value of this variable is defined in section 5.1. |

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

6.4.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

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

6.4.3 GET

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

Request URL parameter is:

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

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

6.4.3.1.1 Request

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

6.4.3.1.2 Response

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

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

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

6.4.3.2.1 Request

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

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

6.4.3.2.2 Response

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

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

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

6.4.3.3.1 Request

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

6.4.3.3.2 Response

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

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

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

6.4.4 PUT

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

6.4.5 POST

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

6.4.6 DELETE

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

6.5 Resource: Status collection change notification subscriptions

The resource used is:

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

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

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

6.5.1 Request URL variables

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

| Name | Description |
|------------|---|
| serverRoot | Server base url: hostname+port+base path. Example: example.com/exampleAPI |
| apiVersion | Version of the API client wants to use. The value of this variable is defined in section 5.1. |

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

6.5.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

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

6.5.3 GET

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

6.5.3.1 Example: Get status collection subscriptions (Informative)

6.5.3.1.1 Request

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

6.5.3.1.2 Response

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

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


6.5.4 PUT

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

6.5.5 POST

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

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

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

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

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

6.5.5.1.1 Request

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

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

6.5.5.1.2 Response

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

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

```

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

```

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

6.5.5.2.1 Request

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

Content-Type: application/xml

Content-Length: nnnn

Accept: application/xml

Host: example.com

```

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

```

6.5.5.2.2 Response

HTTP/1.1 201 Created

Content-Type: application/xml

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

Content-Length: nnnn

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

```

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

```

```

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

```

6.5.6 DELETE

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

6.6 Resource: Individual status collection change notification subscription

The resource used is:

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

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

6.6.1 Request URL variables

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

| Name | Description |
|----------------|---|
| serverRoot | Server base url: hostname+port+base path. Example: example.com/exampleAPI |
| apiVersion | Version of the API client wants to use. The value of this variable is defined in section 5.1. |
| subscriptionId | Identifier of the subscription. Example: sub123 |

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

6.6.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

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

6.6.3 GET

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

6.6.3.1 Example: Read individual status collection subscription (Informative)

6.6.3.1.1 Request

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

6.6.3.1.2 Response

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

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

6.6.4 PUT

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

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

6.6.4.1 Example: Update individual status collection subscription (Informative)

6.6.4.1.1 Request

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

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

```

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

```

6.6.4.1.2 Response

```

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

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

```

6.6.5 POST

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

6.6.6 DELETE

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

6.6.6.1 Example: Delete individual status collection subscription (Informative)

6.6.6.1.1 Request

```

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

```

6.6.6.1.2 Response

```

HTTP/1.1 204 No Content

```

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

6.7 Resource: Accessibility status change notification subscriptions

The resource used is:

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

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

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

6.7.1 Request URL variables

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

| Name | Description |
|------------|---|
| serverRoot | Server base url: hostname+port+base path. Example: example.com/exampleAPI |
| apiVersion | Version of the API client wants to use. The value of this variable is defined in section 5.1. |

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

6.7.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

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

6.7.3 GET

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

6.7.3.1 Example: Get accessibility status subscriptions (Informative)

6.7.3.1.1 Request

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

6.7.3.1.2 Response

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

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

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

6.7.4 PUT

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

6.7.5 POST

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

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

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

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

6.7.5.1 Example: Create new accessibility status subscription (Informative)

6.7.5.1.1 Request

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

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

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

6.7.5.1.2 Response

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

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

6.7.6 DELETE

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

6.8 Resource: Individual accessibility status change notification subscription

The resource used is:

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

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

6.8.1 Request URL variables

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

| Name | Description |
|----------------|---|
| serverRoot | Server base url: hostname+port+base path. Example: example.com/exampleAPI |
| apiVersion | Version of the API client wants to use. The value of this variable is defined in section 5.1. |
| subscriptionId | Identifier of the subscription. Example: sub123 |

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

6.8.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

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

6.8.3 GET

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

6.8.3.1 Example: Read individual accessibility status subscription (Informative)

6.8.3.1.1 Request

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

6.8.3.1.2 Response

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

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

6.8.4 PUT

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

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

6.8.4.1 Example: Update individual accessibility status subscription (Informative)

6.8.4.1.1 Request

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

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

6.8.4.1.2 Response

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

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

6.8.5 POST

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

6.8.6 DELETE

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

6.8.6.1 Example: Delete individual accessibility status subscription (Informative)

6.8.6.1.1 Request

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

6.8.6.1.2 Response

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

6.9 Resource: Roaming status change notification subscriptions

The resource used is:

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

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

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

6.9.1 Request URL variables

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

| Name | Description |
|------------|---|
| serverRoot | Server base url: hostname+port+base path. Example: example.com/exampleAPI |
| apiVersion | Version of the API client wants to use. The value of this variable is defined in section 5.1. |

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

6.9.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

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

6.9.3 GET

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

6.9.3.1 Example: Get roaming status subscriptions

(Informative)

6.9.3.1.1 Request

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

6.9.3.1.2 Response

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

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

6.9.4 PUT

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

6.9.5 POST

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

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

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

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

6.9.5.1 Example: Create new roaming status subscription (Informative)

6.9.5.1.1 Request

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

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

6.9.5.1.2 Response

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

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

6.9.6 DELETE

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

6.10 Resource: Individual roaming status change notification subscription

The resource used is:

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

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

6.10.1 Request URL variables

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

| Name | Description |
|----------------|---|
| serverRoot | Server base url: hostname+port+base path. Example: example.com/exampleAPI |
| apiVersion | Version of the API client wants to use. The value of this variable is defined in section 5.1. |
| subscriptionId | Identifier of the subscription. Example: sub123 |

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

6.10.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

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

6.10.3 GET

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

6.10.3.1 Example: Read individual roaming status subscription (Informative)

6.10.3.1.1 Request

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

6.10.3.1.2 Response

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

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

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

6.10.4 PUT

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

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

6.10.4.1 Example: Update individual roaming status subscription (Informative)

6.10.4.1.1 Request

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

Content-Type: application/xml

Accept: application/xml

Content-Length: nnnn

Host: example.com

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

6.10.4.1.2 Response

HTTP/1.1 200 OK

Content-Type: application/xml

Content-Length: nnnn

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

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

```

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

```

6.10.5 POST

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

6.10.6 DELETE

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

6.10.6.1 Example: Delete individual roaming status subscription (Informative)

6.10.6.1.1 Request

```

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

```

6.10.6.1.2 Response

```

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

```

6.11 Resource: Connection type change notification subscriptions

The resource used is:

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

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

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

6.11.1 Request URL variables

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

| Name | Description |
|------------|---|
| serverRoot | Server base url: hostname+port+base path. Example: example.com/exampleAPI |
| apiVersion | Version of the API client wants to use. The value of this variable is defined in section 5.1. |

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

6.11.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

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

6.11.3 GET

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

6.11.3.1 Example: Get connection type subscriptions (Informative)

6.11.3.1.1 Request

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

6.11.3.1.2 Response

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

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

```

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

```

6.11.4 PUT

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

6.11.5 POST

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

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

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

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

6.11.5.1 Example: Create new connection type subscription (Informative)

6.11.5.1.1 Request

```

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

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

```

6.11.5.1.2 Response

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

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

6.11.6 DELETE

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

6.12 Resource: Individual connection type change notification subscription

The resource used is:

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

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

6.12.1 Request URL variables

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

| Name | Description |
|----------------|---|
| serverRoot | Server base url: hostname+port+base path. Example: example.com/exampleAPI |
| apiVersion | Version of the API client wants to use. The value of this variable is defined in section 5.1. |
| subscriptionId | Identifier of the subscription. Example: sub123 |

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

6.12.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

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

6.12.3 GET

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

6.12.3.1 Example: Read individual connection type subscription (Informative)

6.12.3.1.1 Request

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

6.12.3.1.2 Response

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

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

6.12.4 PUT

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

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

6.12.4.1 Example: Update individual connection type subscription (Informative)

6.12.4.1.1 Request

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

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

```

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

```

6.12.4.1.2 Response

```

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

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

```

6.12.5 POST

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

6.12.6 DELETE

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

6.12.6.1 Example: Delete individual connection type subscription (Informative)

6.12.6.1.1 Request

```

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

```

6.12.6.1.2 Response

```

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

```

6.13 Resource: Client notification about terminal status changes

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

The RESTful TerminalStatus API does not make any assumption about the structure of this URL. If this URL is a Client-side Notification URL, the server will POST notifications directly to it. If this URL is a Server-side Notification URL, the server uses it to determine the address of the Notification Server to which the notifications will subsequently be POSTed. The way the server determines the address of the Notification Server is out of scope of this specification.

Note: In the case when the client has set up a Notification Channel to obtain the notifications, the client needs to use the mechanisms described in [REST_NetAPI_NotificationChannel], instead of the mechanism described below in section 6.13.4.

6.13.1 Request URL variables

Client provided.

6.13.2 Response Codes and Error Handling

For HTTP response codes, see [REST_NetAPI_Common].

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

6.13.3 GET

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

6.13.4 PUT

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

6.13.5 POST

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

6.13.5.1 Example1: Status collection change notification (Informative)

6.13.5.1.1 Request

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

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

```

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

```

6.13.5.1.2 Response

```

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

```

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

6.13.5.2.1 Request

```

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

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

```

6.13.5.2.2 Response

```

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

```

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

6.13.5.3.1 Request

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

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

6.13.5.3.2 Response

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

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

6.13.5.4.1 Request

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

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


6.13.5.4.2 Response

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

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

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

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

6.13.5.5.2 Response

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

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

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

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

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

6.13.5.6.2 Response

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

6.13.6 DELETE

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

7. Fault definitions

7.1 Service Exceptions

For common Service Exceptions refer to [REST_NetAPI_Common].

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

7.2 Policy Exceptions

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

7.2.1 POL0200: Busy criteria not supported

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

Appendix A. Change History (Informative)

A.1 Approved Version History

| Reference | Date | Description |
|-----------|------|------------------|
| n/a | n/a | No prior version |

A.2 Draft/Candidate Version 1.0 History

| Document Identifier | Date | Sections | Description |
|---|-------------|----------|---|
| Draft Versions: 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_Notification |
| Draft Version: REST_NetAPI_TerminalStatus-V1_0 | 28 Feb 2013 | Cover | Date on the cover page corrected Editorial change |
| Candidate Version: REST_NetAPI_TerminalStatus-V1_0 | 01 Jul 2013 | n/a | Status changed to Candidate by TP TP Ref # OMA-TP-2013-0212- INP_REST_NetAPI_TerminalStatus_V1_0_ERP_for_Notification |
| Draft Version: REST_NetAPI_TerminalStatus-V1_0 | 28 Aug 2013 | 2.1, 3.3, 4.1, 5.2.2.7, 5.2.2.9, 5.2.2.21, 5.2.2.22, 5.2.2.23, 5.2.3.4, 5.3.4, 6, 6.13.5.5, 6.13.5.6, D.37, D.38 | Incorporated CR: OMA-ARC-REST-NetAPI-2013-0049- CR_TerminalStatus_extend_roaming_status_functionality Editorial changes |
| | 24 Sep 2013 | 6.13.5.5.1, 6.13.5.6.1, D.37, D.38 | Incorporated CR: OMA-ARC-REST-NetAPI-2013-0060- CR_TerminalStatus_TS_XML_JSON_examples_correction Editorial changes |
| Candidate Version: REST_NetAPI_TerminalStatus-V1_0 | 08 Oct 2013 | n/a | Status changed to Candidate by TP TP Ref # OMA-TP-2013-0314- INP_REST_NetAPI_TerminalStatus_V1_0_ERP_for_Candidate_re_approval |

Appendix B. Static Conformance Requirements (Normative)

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

B.1 SCR for REST.TerminalStatus Server

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

B.1.1 SCR for REST.TerminalStatus.StatusCollection Server

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

B.1.2 SCR for REST.TerminalStatus.AccessibilityStatus Server

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

B.1.3 SCR for REST.TerminalStatus.RoamingStatus Server

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

B.1.4 SCR for REST.TerminalStatus.ConnectionType Server

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

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

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

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

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

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

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

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

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

| Item | Function | Reference | Requirement |
|------|----------|-----------|-------------|
| | DELETE | | |

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

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

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

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

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

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

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

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

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

B.1.13 SCR for REST.TerminalStatus.ClientNotificationCallback Server

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

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

This section defines a format for the RESTful Terminal Status API requests where the body of the request is encoded using the application/x-www-form-urlencoded MIME type.

Note: only the request body is encoded as application/x-www-form-urlencoded, the response is still encoded as XML or JSON depending on the preference of the client and the capabilities of the server.

Names and values MUST follow the application/x-www-form-urlencoded character escaping rules from [W3C_URLENC].

The encoding is defined below for the following Terminal Status REST operations which are based on POST requests:

C.1 Create status collection subscription

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

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

The request parameters are as follows:

| Name | Type/Values | Optional | Description |
|--------------------|---------------------------|----------|---|
| clientCorrelator | xsd:string | Yes | A correlator that the client can use to tag this particular resource representation during a request to create a resource on the server. This element MAY be present. Note: this allows the client to recover from communication failures during resource creation and therefore avoids duplicate subscription creation in such situations. In case the element is present, the server SHALL not alter its value, and SHALL provide it as part of the representation of this resource. In case the element is not present, the server SHALL NOT generate it. |
| notifyURL | xsd:anyURI | No | Notification endpoint definition. |
| callbackData | xsd:string | Yes | Data the application can register with the server when subscribing to notifications, and that are passed back unchanged in each of the related notifications. |
| notificationFormat | common:NotificationFormat | Yes | Default: XML Application can specify format of the resource representation in notifications that are related to this subscription. The choice is between {XML, JSON}. |
| requester | xsd:anyURI | Yes | It identifies the entity that is requesting the information(e.g. 'sip' URI, 'tel' URI, 'acr' URI). The application invokes this operation on |

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

C.1.1 Example 1, using tel URI

(Informative)

C.1.1.1 Request

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

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

C.1.1.2 Response

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

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

C.1.2 Example 2, using ACR

(Informative)

C.1.2.1 Request

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

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

C.1.2.2 Response

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

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

C.2 Create accessibility status subscription

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

The request parameters are as follows:

| Name | Type/Values | Optional | Description |
|------------------|-------------|----------|---|
| clientCorrelator | xsd:string | Yes | <p>A correlator that the client can use to tag this particular resource representation during a request to create a resource on the server.</p> <p>This element MAY be present.</p> <p>Note: this allows the client to recover from communication failures during resource creation and therefore avoids duplicate subscription creation in such situations.</p> <p>In case the element is present, the server SHALL not alter its value,</p> |

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

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

C.2.1 Example

(Informative)

C.2.1.1 Request

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

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

C.2.1.2 Response

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

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

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

C.3 Create roaming status subscription

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

The request parameters are as follows:

| Name | Type/Values | Optional | Description |
|--------------------|---------------------------|----------|--|
| clientCorrelator | xsd:string | Yes | <p>A correlator that the client can use to tag this particular resource representation during a request to create a resource on the server.</p> <p>This element MAY be present.</p> <p>Note: this allows the client to recover from communication failures during resource creation and therefore avoids duplicate subscription creation in such situations.</p> <p>In case the element is present, the server SHALL not alter its value, and SHALL provide it as part of the representation of this resource. In case the element is not present, the server SHALL NOT generate it.</p> |
| notifyURL | xsd:anyURI | No | Notification endpoint definition. |
| callbackData | xsd:string | Yes | Data the application can register with the server when subscribing to notifications, and that are passed back unchanged in each of the related notifications. |
| notificationFormat | common:NotificationFormat | Yes | <p>Default: XML</p> <p>Application can specify format of the resource representation in notifications that are related to this subscription. The choice is between {XML, JSON}.</p> |
| requester | xsd:anyURI | Yes | <p>It identifies the entity that is requesting the information(e.g. 'sip' URI, 'tel' URI, 'acr' URI).</p> <p>The application invokes this operation on behalf of this entity. However, it does not imply that the application has authenticated the requester.</p> <p>If this element is not present, the requesting entity is the application</p> |

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

C.3.1 Example

(Informative)

C.3.1.1 Request

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

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

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

C.3.1.2 Response

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

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

C.4 Create connection type subscription

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

The request parameters are as follows:

| Name | Type/Values | Optional | Description |
|------------------|-------------|----------|--|
| clientCorrelator | xsd:string | Yes | <p>A correlator that the client can use to tag this particular resource representation during a request to create a resource on the server.</p> <p>This element MAY be present.</p> <p>Note: this allows the client to recover from communication failures during resource creation and therefore avoids duplicate subscription creation in such situations.</p> <p>In case the element is present, the server SHALL not alter its value, and SHALL provide it as part of the representation of this resource. In case the element is not present, the server SHALL NOT generate it.</p> |

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

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

C.4.1 Example

(Informative)

C.4.1.1 Request

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

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

C.4.1.2 Response

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

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

Appendix D. JSON examples (Informative)

JSON (JavaScript Object Notation) is a light-weight, text-based, language-independent data interchange format. It provides a simple means to represent basic name-value pairs, arrays and objects. JSON is relatively trivial to parse and evaluate using standard JavaScript libraries, and hence is suited for REST invocations from browsers or other processors with JavaScript engines. Further information on JSON can be found at [RFC4627].

The following examples show the request and response for various operations using the JSON data format. The examples follow the XML to JSON serialization rules in [REST_NetAPI_Common]. A JSON response can be obtained by using the content type negotiation mechanism specified in [REST_NetAPI_Common].

For full details on the operations themselves please refer to the section number indicated.

D.1 Get status collection of multiple terminal addresses (section 6.1.3.1)

Request:

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

Response:

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

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

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

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

Request:

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

Response:

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

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

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

Request:

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

Response:

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

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

```

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

```

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

Request:

```

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

```

Response:

```

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

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

```

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

Request:

```

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

```

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

Response:

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

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

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

Request:

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

Response:

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

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


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

Request:

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

Response:

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

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

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

Request:

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

Response:

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

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

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

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

Request:

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

Response:

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

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

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

Request:

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

Response:

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

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

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

Request:

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

Response:

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

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

D.12 Get status collection subscriptions (section 6.5.3.1)

Request:

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

Response:

```

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

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

```

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

Request:

```

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

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

```

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

Response:

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

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

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

Request:

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

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

Response:

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

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

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

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

Request:

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

Response:

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

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

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

Request:

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

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

Response:

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

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

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

Request:

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

Response:

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

D.18 Get accessibility status subscriptions (section 6.7.3.1)

Request:

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

Host: example.com

Response:

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

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

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

Request:

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

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


Response:

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

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

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

Request:

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

Response:

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

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

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

Request:

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

Host: example.com

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

Response:

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

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

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

Request:

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

Response:

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

D.23 Get roaming status subscriptions (section 6.9.3.1)

Request:

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

Response:

```

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

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

```

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

Request:

```

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

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

```

Response:

```

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

```

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

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

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

Request:

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

Response:

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

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

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

Request:

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

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

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

Response:

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

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

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

Request:

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

Response:

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

D.28 Get connection type subscriptions (section 6.11.3.1)

Request:

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

Response:

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

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

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

Request:

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

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

Response:

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

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

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

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

Request:

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

Response:

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

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

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

Request:

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

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

```
}}
```

Response:

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

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

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

Request:

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

Response:

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

D.33 Status collection change notification (section 6.13.5.1)

Request:

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

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



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

Response:

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

D.34 Accessibility status change notification (section 6.13.5.2)

Request:

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

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

Response:

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

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

Request:

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

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

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

Response:

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

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

Request:

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

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

Response:

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

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

Request:

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

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

Response:

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

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

Request:

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

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

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

Response:

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

Appendix E. Parlay X operations mapping (Informative)

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

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

Table 1 Parlay X operations mapping

Appendix F. Light-weight resources (Informative)

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

Appendix G. Authorization aspects (Normative)

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

G.1 Use with OMA Authorization Framework for Network APIs

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

A RESTful Terminal Status API supporting [Autho4API_10]:

- SHALL conform to section D.1 of [REST_NetAPI_Common];
- SHALL conform to this section G.1.

G.1.1 Scope values

G.1.1.1 Definitions

In compliance with [Autho4API_10], an authorization server serving clients requests for getting authorized access to the resources exposed by the RESTful Terminal Status API:

- SHALL support the scope values defined in the table below;
- MAY support scope values not defined in this specification.

| Scope value | Description | For one-time access token |
|--|---|---------------------------|
| oma_rest_terminalstatus.all_{apiVersion} | Provide access to all defined operations on the resources in this version of the API. The {apiVersion} part of this identifier SHALL have the same value as the “apiVersion” URL variable which is defined in section 5.1. This scope value is the union of the other scope values listed in next rows of this table. | No |
| oma_rest_terminalstatus.poll | Provide access to all defined operations on poll terminal status collection, poll terminal accessibility status, poll terminal roaming status, and poll connection type. | No |
| oma_rest_terminalstatus.subscr | Provide access to all defined operations on status subscriptions. | No |

Table 2 Scope values for RESTful Terminal Status API

G.1.1.2 Downscoping

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

- “oma_rest_terminalstatus.poll”
- “oma_rest_terminalstatus.subscr”

G.1.1.3 Mapping with resources and methods

Tables in this section specify how the scope values defined in section G.1.1.1 for the RESTful Terminal Status API map to the REST resources and methods of this API. In these tables, the root “oma_rest_terminalstatus.” of scope values is omitted for readability reasons.

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

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

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

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

Table 4 Required scope values for: status subscriptions