

OnStar Public REST API

Brian Gregg, Sr. Systems Architect, OnStar

T.N. Subramaniam, Sr. Systems Architect, OnStar

Suresh Munagapati, Sr. Systems Architect

Revision History

Date	Version	Author	Description
05/25/2012	V1	Brian Gregg, Sr. Systems Architect T.N. Subramaniam, Sr. Systems Architect	Initial revision
06/08/2012	V2	Suresh Munagapati, Sr. Systems Architect	Document formatted, added sample request and responses, sections API catalogue and references.
6/14/2012	V3	Brian Gregg, Sr. Systems Architect	Updated taxonomy diagram and cleaned up some verbiage and fixed URL's.

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1. General Principles

1. The taxonomy of the OnStar resources is depicted below.

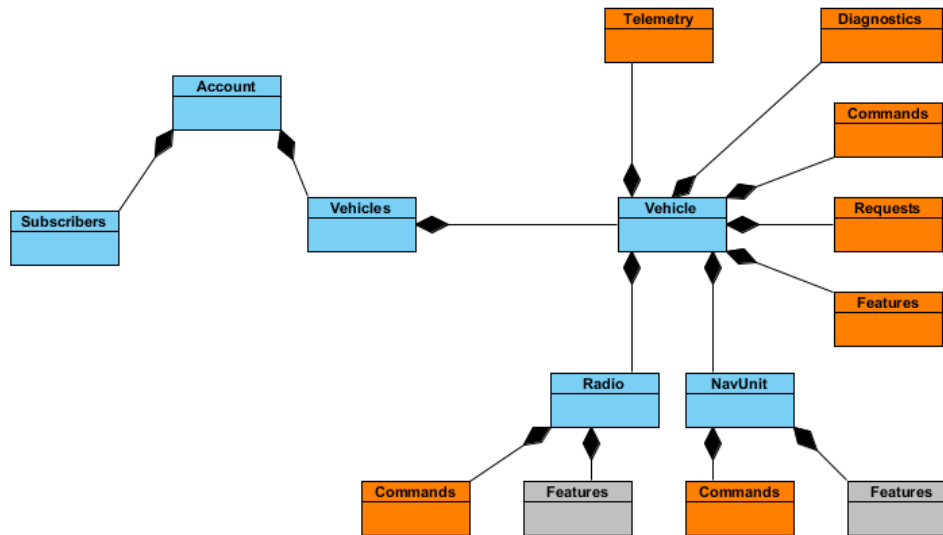


Figure 1. OnStar Resource API Taxonomy

A taxonomy is a decomposition of the domain into potentially addressable elements *that are related*. The / separator allows hierarchical navigation. Thus /account/subscribers is the collection of subscribers on an account. For each of these resources there is an implicit containment of two collections called 'commands' and 'features' which are the remote commands offered by that node. For example doing a GET on /account/vehicles/{vin}/commands will return the remote commands available that vehicle such as lock/unlock. Note that 'features' is currently only supported for vehicle.

2. The URL language for this domain is to be understood as follows.
 - a. All URLs will be prefixed by a version number. For instance /api/v1/account/ subscribers URL returns a collection of subscribers belonging to the account associated with the authentication token credentials. This resource URL is prefixed with v1 denoting the version of the API as v1.

- b. Currently all OnStar API is qualified with a root belonging to the account. In the future fleet may be supported by another root. The current scope of this document focuses on individual accounts only.
 - c. A user's credentials are implicitly tied to an account. Hence there is no reason to specify the account Id.
 - d. Resources that appear in a collection are denoted by plural nouns such as Subscribers and a specific instance of a resource such as Subscriber can be identified with subscriber id. Some resources are always singular such as /vehicle/navUnit.
 - e. A GET on a collection will return that collection. Thus GET /api/v1/account/subscribers will return the list of subscribers for that account. Note that this applies to the implicit 'commands' collection and features collection as well. Thus GET /api/v1/account/subscribers/vehicle/{vin}/commands will return data on the services available on that vehicle.
 - f. GET /api/v1/account/subscribers/{subscriberId} will return the data about the specified subscriber. *While every such URL has a semantic meaning it does not follow that every such URL is actually supported nor for that matter is every verb for a supported URL.* For instance, GET /api/v1/account/vehicles/{vin}/radio may return a HTTP status of 405 ("Method Not Allowed") since there may be nothing to be described about the radio. This API guide shows which such URLs are supported.
 - g. When a collection is returned, if the items in the collection are addressable, then each item in the collection will contain the URL to address that item.
 - h. When a list of resources returned is large, the client may wish to paginate the results and specify the number of results per page (limit) and offset to start (offset). This can be specified via query parameters. For instance ?limit=25&offset=50 means return 25 results per page starting with the 50th record i.e. the 50th to the 74th record. The default pagination parameters are limit=10 and offset=1. If the number of results is less than limit then all the records are returned.
 - i. A collection will always have two attributes, 'size' which is the size of the collection and 'next' which is the offset of the next 'page' of results. This is accomplished by having all collections extend a base object of type AbstractCollection.
3. In general the HTTP verbs are used as follows
- a. GET : to **get** the resource itself

- b. PUT: to **update** the (state) of a resource or **insert** a resource.
 - c. POST: for an **asynchronous** vehicle command invocations.
 - d. DELETE: to **delete** a resource (usually this is not available)
- 4. OnStar REST API supports only UTF-8 character set encoding.
- 5. The response will be either in XML or JSON format. To get the required format of the response the client can specify the MIME type in the **Accept Type** HTTP header. The response will contain Content-Type HTTP header with the requested MIME type. The default MIME type is JSON.

Accept Type: application/xml

Accept Type: application/json

If more than one MIME type is specified the default MIME type JSON will be used

- 6. The HTTP response will always contain the following HTTP Headers
 - a. Content-Type
 - b. Content-Length
 - c. Last-Modified
- 7. Successful invocation will return with HTTP status code of
 - a. 200 ("OK") for non-specific success code. In this case the payload will be the taxonomy object specified in the API guide for that URL and Verb.
 - b. 202 ("Accepted") is used for asynchronous invocations where the response is pending (hence for POST). In this case the payload will be Request element/object.
- 8. An unsuccessful invocation will return a HTTP status code that depends on the nature of the failure. The 4XX series denotes failure due to client and server failures are denoted by 5XX series.
- 9. Client errors will always result in HTTP response code with a 4XX series code and no body content as the response codes are self-explanatory.
 - a. 400 ("Bad Request") for non-specific failures.
 - b. 401 ("Unauthorized") when there is a problem with the client's credentials.
 - c. 403 ("Forbidden") if the client is not authorized to use the resource. This is an application level control. For instance only some classes of users may be allowed to do a PUT on some

- resource. The mostly likely occurrence of this error is due to accessing VINs that are not authorized.
- d. 404 ("Not Found") when a client's URI cannot be mapped to a resource.
 - e. 405 ("Method Not Allowed") when the HTTP method is not supported, for instance DELETE.
 - f. 406 ("Not Acceptable") when the requested media type cannot be served.
10. Unsuccessful invocations due to Server error are returned with 500 ("Internal Server Error"). This response will contain a body further detailing the error.
- a. In JSON the structure will be an instance of the Error data type in OnStar REST JSON datatypes.
 - b. In XML the structure will be according to error element in osrapi.xsd
11. Some resource API invocations are serviced synchronously with response containing appropriate taxonomy elements. Such invocations will have HTTP response code as 200 which will contain response body that can be processed by the client. For instance a successful invocation of GET /api/v1/account/subscribers/{subscriberId} results in HTTP response code of 200 with the response body containing Subscriber element defined in JSON or XML depending on the MIME type.
12. Some resource API invocations such as Vehicle Commands are asynchronous as the supported use case cannot be executed synchronously. In this case the request-response sequence can be broken down into following phases.
- a. Invoke the API to submit the request. Successful invocation results in HTTP response code of 202 "Accepted" with a body of CommandResponse with status attribute set to 'pending'. The CommandResponse object contains the attribute URL for the polling URL which has the form /api/v1/account/vehicles/{vin}/requests/{correlationId}.
 - b. Poll the resource with the correlation Id to retrieve the result. For instance to poll a previously submitted start Vehicle command poll Vehicle Requests API with previously obtained correlation id. The polling interval should not be less than 5 seconds.
 - I. If the processing is completed then HTTP response code of 200 "OK" is returned with a body of CommandResponse, with status attribute set to completed. In case there is a response body to be returned, the body element is populated in accordance with the type attribute.
 - II. If the processing is still pending then step # b can be repeated to retrieve the current status.

- III. Processing may fail in a case where the URL is just fine but the asynchronous request could not be executed due to some failure such as calling the vehicle. In this case an HTTP status code of 200 “OK” is returned with CommandResponse body with status attribute set to failure. The type in this case will be error and the body will be an object of type Error.
13. Since a polling URL is opaque, it makes it necessary for the client to maintain some state to know which original request the polling URL corresponds to. To help the client be completely stateless, the CommandResponse object has a type attribute to specify what the type of the expected response is, such as location or lockDoor.
14. All APIs must be invoked over HTTPs and will use OAuth2 based security.

2. Security

All the services described in this document are protected using OAuth 2.0 security schemes. The security framework allows the third-party application to obtain access to the HTTP resources on its own behalf. The current security implementation supports the client credentials grant type. The client can request an access token using its client credentials.

2.1 Developer Registration

The developer who needs to invoke the API should have registered with OnStar developer portal. The client application should be capable of leveraging OAuth 2.0 security to obtain and handle the token from the OnStar authorization server representing User credentials.

The OnStar authorization server can be accessed at URL: <https://developer.gm.com/>

2.2 Access Token Request

The token end point URL is https://developer.gm.com/oauth/access_token

The client application needs to request and obtain the token from this endpoint by adding the following parameters using the “application/x-www-form-urlencoded” format in the HTTP request body:

grant_type – REQUIRED, must be set to “client_credentials”

Confidential clients or other clients issued client credentials MUST authenticate with the authorization server. Clients in possession of a client password must use the HTTP Basic authentication scheme as defined in [RFC2617] to authenticate with the authorization server. The client identifier is used as the username, and the client password is used as the password.

i.e. *Authorization: Basic czZCaGRSa3F0MzpnWDFmQmF0M2JW*

The client can choose to receive the response in either JSON, or XML by specifying the Accept HTTP header.

For example, to put it all together the client makes the following HTTP request using transport layer security to authorization server to obtain the token:

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HTTP Headers: Content-Type: application/x-www-form-urlencoded;charset=UTF-8,
Authorization: Basic czZCaGRSa3F0MzpnWDFmQmF0M2JW, Accept: application/json

GET
/api/v1/oauth/access_token

Body:
grant_type=client_credentials

An example successful response:

HTTP/1.1 200 OK
Content-Type: application/json;charset=UTF-8
Cache-Control: no-store
Pragma: no-cache

```
{  
    "access_token": "2YotnFZFEjr1zCsicMWpAA",  
    "token_type": "Bearer",  
    "expires_in": 3600  
}
```

Alternatively, a successful response in XML would like like this:

HTTP/1.1 200 OK
Content-Type: application/xml;charset=UTF-8
Cache-Control: no-store
Pragma: no-cache

```
<?xml version="1.0" encoding="UTF-8" ?>  
<OAuth>  
    <access_token>2YotnFZFEjr1zCsicMWpAA </access_token>  
    <expires_in>3600</expires_in>  
    <token_type>Bearer</token_type>  
</OAuth>
```

Possible Errors while retrieving Access Token

The authorization server responds with an HTTP 400 (Bad Request) status code and includes the following parameters with the response:

A single error code from the following:

`invalid_request`

The request is missing a required parameter, includes an unsupported parameter value, repeats parameter, includes multiple credentials, utilizes more than one mechanism for authenticating the client, or is otherwise malformed.

`invalid_client`

Client authentication failed (e.g. unknown client, no client authentication included, or unsupported authentication method).

`invalid_grant`

The provided authorization grant (e.g. authorization code, resource owner credentials) is invalid, expired, revoked, does not match the redirection URI used in the authorization request, or was issued to another client.

`unauthorized_client`

The authenticated client is not authorized to use this authorization grant type.

`unsupported_grant_type`

The authorization grant type is not supported by the authorization server.

For example:

HTTP/1.1 400 Bad Request

Content-Type: application/json;charset=UTF-8

Cache-Control: no-store

Pragma: no-cache

```
{
  "error": "invalid_request"
}
```

2.3 Attach the Token to invoke API

Attaching the token to the API Request

All authenticated API calls shall use the “Authorization” request header field to make authenticated requests with bearer tokens. The client shall use the “Bearer” authentication scheme to transmit the access token.

Sample Request attaching token :

```
GET /api/v1/account/subscribers HTTP/1.1
Host: api.onstar.com
Authorization: Bearer vF9dft4qmT
.....
```

The “Authorization” header field uses the framework defined by HTTP/1.1 as follows:
credentials = “Bearer” 1*SP b64token

If the token is valid a valid response with HTTP status code of 200 or 202 can be expected with appropriate taxonomy object as response body.

Authentication Failures

If the protected API request does not include the authentication credentials or contains an invalid access token the server will include the WWW-Authenticate response header field.

For Example:

```
HTTP/1.1 401 Unauthorized
WWW-Authenticate: Bearer realm="api.onstar.com",
                  error="invalid_token",
                  error_description="The access token is expired"
```

The other possible errors during authentication failure are listed below.

invalid_request

The request is missing a required parameter, includes an unsupported parameter or parameter value, repeats the same parameter, uses more than one method for including an access token, or is otherwise malformed. The resource server SHOULD respond with the HTTP 400 (Bad Request) status code.

invalid_token

The access token provided is expired, revoked, malformed, or invalid for other reasons. The resource SHOULD respond with the HTTP 401 (Unauthorized) status code. The client MAY request a new access token and retry the protected resource request.

insufficient_scope

The request requires higher privileges than provided by the access token. The resource server SHOULD respond with the HTTP 403 (Forbidden) status code and MAY include the "scope" attribute.

3. The API

3.1 API Catalogue

The following table summarizes the available API services. Please note that HTTP Codes denotes successful completion of the business process supported by API.

Category	No	API Name	Taxonomy Object	HTTP Verb	Type	HTTP Code	Description
Subscriber and Vehicle Data Services	1	Subscribers	Subscriber	GET	Sync	200	List subscribers on an Account
	2	Subscriber	Subscriber	GET	Sync	200	Get a specific subscriber on an Account
	3	Vehicles	Vehicle	GET	Sync	200	List vehicles on an Account
	4	Vehicle	Vehicle	GET	Sync	200	Get a specific vehicle on an Account
	5	Vehicle Requests	Requests	GET	Sync	200	All Requests submitted on the Vehicle
	6	Vehicle Features	Features	GET	Sync	200	List features of a vehicle on a specific account
	7	Vehicle Commands	Commands	GET	Sync	200	List commands that can be executed on a specific vehicle on an Account
Vehicle Commands	8	Vehicle Telemetry	Commands	GET	Sync	200	Get previously collected traffic probe data of a specific vehicle on an account
	9	Start Vehicle	Commands	POST	Async	202	Remotely start the vehicle
	10	Cancel Start Vehicle	Commands	POST	Async	202	Remotely stop the Vehicle ??
	11	Lock Vehicle Door	Commands	POST	Async	202	Remotely lock the vehicle doors
	12	Unlock Vehicle Door	Commands	POST	Async	202	Remotely unlock Vehicle doors
	13	Vehicle Location	Commands	POST	Async	202	Retrieve latitude/longitude of the current location of a specific vehicle on an account
	14	Alert	Commands	POST	Async	202	Remotely alert (horn/honk/flash lights) a specific vehicle on an account

	15	Turn By Turn Route	Commands	POST	Async	202	Request to send directions to a specific vehicle on an account based on given destination and start location
	16	Send Destination	NavUnit	POST	Async	202	Request to send destination to the onboard navigation unit of a specific vehicle on an account
	17	Retrieve Diagnostics	Commands	POST	Async	202	Query a specific vehicle on an account for specific diagnostics

3.2 API Description

Each of the supported services is described. These are the ONLY supported services in version 1 irrespective of whether some URL makes sense or not according to the rules specified above. The mechanism for asynchronous requests has been described above. In this case both the initial request and the polling request as described. No error cases are described since they have already been described in Section 1 General Principles above.

3.2.1 Subscriber and Vehicle Data Services

The following table lists the common errors for all Subscriber and Vehicle Data Services. A specific service may have more errors listed in its description.

Possible Errors across Subscriber and Vehicle Information Services

Possible Errors

Error Code	Description
ONS-101	User session expired.
ONS-105	User input is not valid.
ONS-900	Unknown System Error
ONS-901	Service not available

3.2.1.1 Subscribers

URL	/api/v1/account/subscribers			
Verb	GET			
Type	Synchronous			
Description	Get the list of subscribers on the account			
Limitations	<p>Mock API Rate Limits</p> <p>Each App key will be limited to 3 requests per sec</p> <p>OnStar's Mock API rate limit to 30 requests per sec</p> <p>When a call exceeds a request limit, an error will not be returned.</p> <p>Production API Rate Limits</p> <p>The production API request limit will be based on user/commercial agreements and will be designed to support the capacity for the application or organization.</p>			
Requires Authorization	Yes			
Response Formats	json, xml			
Request				
Query Parameters	Name	Description	Required	Default Value
	offset	Zero based index of the first result to return.	No	0
	limit	Number of results to return. Max 100.	No	10
	type	Specify the type of subscriber to return. Valid value(s) are: OWNER	No	
Body	None			
Response				
HTTP Status Code	200 ("OK")			
Body	Defined by the 'subscribers' element in the osrapi.xsd			

Possible Additional Errors

Error Code	Description
ONS-108	Unable to retrieve Subscriptions

Examples

JSON Request

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/json'

GET <https://developer.gm.com/api/v1/account/subscribers?offset=0&limit=2>

JSON Response

HTTP Status Code: 200

Body:

```
{
  "subscribers":
  {
    "size":2,
    "next":2,
    "subscriber":[
      {
        "id":450984732,
        "fname":"Jane",
        "lname":"Smith",
        "email":"jane.smith@fake-email.com",
        "phone":555552940,
        "type":"OWNER",
        "url":"https://developer.gm.com/api/v1/account/subscribers/450984732"
      },
      {
        "id":450438292,
        "fname":"Joe",
        "lname":"Smith",
        "email":"joe.smith@fake-email.com",
        "phone":555558834,
        "type":"OTHER",
        "url":"https://developer.gm.com/api/v1/account/subscribers/450438292"
      }
    ]
  }
}
```

XML Request

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/xml'

GET <https://developer.gm.com/api/v1/account/subscribers?offset=0&limit=2>

XML Response

HTTP Status Code: 200

Body:

```
<?xml version="1.0"?>
<subscribers>
  <size>2</size>
  <next>2</next>
  <subscriber>
    <id>450984732</id>
    <fname>Jane</fname>
    <lname>Smith</lname>
    <email>jane.smith@fake-email.com</email>
    <phone>5555552940</phone>
    <type>OWNER</type>
    <url>https://developer.gm.com/api/v1/account/subscribers/450984732</url>
  </subscriber>
  <subscriber>
    <id>450438292</id>
    <fname>Joe</fname>
    <lname>Smith</lname>
    <email>joe.smith@fake-email.com</email>
    <phone>5555558834</phone>
    <type>OTHER</type>
    <url>https://developer.gm.com/api/v1/account/subscribers/450438292</url>
  </subscriber>
</subscribers>
```

3.2.1.2 Subscriber Information

URL	/api/v1/account/subscribers/{subscriberId}
Verb	GET
Type	Synchronous
Description	Get information on the specific subscriber
Limitations	Mock API Rate Limits

	Each App key will be limited to 3 requests per sec
Requires Authorization	Yes
Response Formats	json, xml
Request	
Query Parameters	None
Body	None
Response	
HTTP Status Code	200 ("OK")
Body	Defined by the 'subscriber' element in the osrapi.xsd

Possible Additional Errors

Error Code	Description
ONS-108	Unable to retrieve Subscriptions

Examples**JSON Request**

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/json'

GET <https://developer.gm.com/api/v1/account/subscribers/450984732>

JSON Response

HTTP Status Code: 200

Body:

```
{
  "subscriber":
  {
    "id":450984732,
    "fname":"Jane",
    "lname":"Smith",
    "email":"jane.smith@fake-email.com",
    "phone":5555552940,
    "type":"OWNER",
```

```

    "url": "https://developer.gm.com/api/v1/account/subscribers/450984732"
  }
}

```

XML Request

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/xml'

GET <https://developer.gm.com/api/v1/account/subscribers/450984732>

XML Response

HTTP Status Code: 200

Body:

```

<?xml version="1.0"?>
<subscriber>
  <id>450984732</id>
  <fname>Jane</fname>
  <lname>Smith</lname>
  <email>jane.smith@fake-email.com</email>
  <phone>5555552940</phone>
  <type>OWNER</type>
  <url>https://developer.gm.com/api/v1/account/subscribers/450984732</url>
</subscriber>

```

3.2.1.3 Vehicles

URL	/api/v1/account/vehicles
Verb	GET
Type	Synchronous
Description	Get information on the vehicles associated with this account
Limitations	<p>Mock API Rate Limits</p> <p>Each App key will be limited to 3 requests per sec</p> <p>OnStar's Mock API rate limit to 30 requests per sec</p> <p>When a call exceeds a request limit, an error will not be returned.</p> <p>Production API Rate Limits</p>

	The production API request limit will be based on user/commercial agreements and will be designed to support the capacity for the application or organization.			
Requires Authorization	Yes			
Response Formats	json, xml			
Request				
Query Parameters	<i>Name</i>	<i>Description</i>	<i>Required</i>	<i>Default Value</i>
	offset	Zero based index of the first result to return.	No	0
	limit	Number of results to return. Max 100.	No	10
Body	None			
Response				
HTTP Status Code	200 ("OK")			
Body	Defined by the 'vehicles' element in the osrapi.xsd			

Possible Additional Errors

Error Code	Description
ONS-106	Invalid or Unsupported Vehicle selection

Examples**JSON Request**

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/json'

GET <https://developer.gm.com/api/v1/account/vehicles?offset=0&limit=2>

JSON Response

HTTP Status Code: 200

Body:

```
{
  "vehicles":
```

```
{
  "size":2,
  "next":2,
  "vehicle":[
    {
      "vin":"1GKUKEEF9AR000010",
      "make":"GMC",
      "model":"Denali",
      "year":2010,
      "manufacturer":"General Motors",
      "phone":3132200010,
      "unitType":"EMBEDDED",
      "primaryDriverId":548392002,
      "url":"https://developer.gm.com/api/v1/account/vehicles/1GKUKEEF9AR000010",
      "primaryDriverUrl":"https://developer.gm.com/api/v1/account/subscribers/548392002"
    },
    {
      "vin":"1G1PJ5595B7000009",
      "make":"Chevrolet",
      "model":"Cruze",
      "year":2011,
      "manufacturer":"General Motors",
      "phone":8035553074,
      "unitType":"EMBEDDED",
      "primaryDriverId":548392002,
      "url":"https://developer.gm.com/api/v1/account/vehicles/1G1PJ5595B7000009",
      "primaryDriverUrl":"https://developer.gm.com/api/v1/account/subscribers/548392002"
    },
  ]
}
```

XML Request

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/xml'

GET <https://developer.gm.com/api/v1/account/vehicles?offset=0&limit=2>

XML Response

HTTP Status Code: 200

Body:

```
<?xml version="1.0"?>
<vehicles>
```

```

<size>2</size>
<next>2</next>
<vehicle>
  <vin>1GKUKEEF9AR000010</vin>
  <make>GMC</make>
  <model>Denali</model>
  <year>2010</year>
  <manufacturer>General Motors</manufacturer>
  <phone>3132200010</phone>
  <unitType>EMBEDDED</unitType>
  <primaryDriverId>548392002</primaryDriverId>
  <url>https://developer.gm.com/api/v1/account/vehicles/1GKUKEEF9AR000010</url >
  <primaryDriverUrl>https://developer.gm.com/api/v1/account/subscribers/548392002</primaryDriverUrl >
</vehicle>
<vehicle>
  <vin>1G1PJ5S95B7000009</vin>
  <make>Chevrolet</make>
  <model>Cruze</model>
  <year>2011</year>
  <manufacturer>General Motors</manufacturer>
  <phone>8035553074</phone>
  <unitType>EMBEDDED</unitType>
  <primaryDriverId>548392002</primaryDriverId>
  <url>https://developer.gm.com/api/v1/account/vehicles/1G1PJ5S95B7000009</url >
  <primaryDriverUrl>https://developer.gm.com/api/v1/account/subscribers/548392002</primaryDriverUrl >
</vehicle>
</vehicles>

```

3.2.1.4 Vehicle

URL	/api/v1/account/vehicles/{vin}
Verb	GET
Type	Synchronous
Description	Get information on a specific vehicle
Limitations	<p>Mock API Rate Limits</p> <p>Each App key will be limited to 3 requests per sec</p> <p>OnStar's Mock API rate limit to 30 requests per sec</p> <p>When a call exceeds a request limit, an error will not be returned.</p> <p>Production API Rate Limits</p> <p>The production API request limit will be based on user/commercial agreements and</p>

	will be designed to support the capacity for the application or organization.			
Requires Authorization	Yes			
Response Formats	json, xml			
Request				
Query Parameters	<i>Name</i>	<i>Description</i>	<i>Required</i>	<i>Default Value</i>
	includeCommands	Flag to set whether or not ‘commands’ should be included in the vehicle response.	No	false
	includeFeatures	Flag to set whether or not ‘features’ should be included in the vehicle response.	No	false
Body	None			
Response				
HTTP Status Code	200 (“OK”)			
Body	Defined by the ‘vehicle’ element in the osrapi.xsd			

Possible Additional Errors

Error Code	Description
ONS-106	Invalid or Unsupported Vehicle selection

Examples**JSON Request**

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/json'

GET

<https://developer.gm.com/api/v1/account/vehicles/1GKUKEEF9AR000010?includeCommands=true&includeFeatures=true>

JSON Response

HTTP Status Code: 200

Body:

```
{
  "vehicle":
  {
    "vin": "1GKUKEEF9AR000010",
    "make": "GMC",
    "model": "Denali",
    "year": 2010,
    "manufacturer": "General Motors",
    "phone": 3132200010,
    "unitType": "EMBEDDED",
    "primaryDriverId": 548392002,
    "url": "https://developer.gm.com/api/v1/account/vehicles/1GKUKEEF9AR000010",
    "primaryDriverUrl": "https://developer.gm.com/api/v1/account/subscribers/548392002",
    "commands":
    {
      "command": [
        {
          "name": "alert",
          "description": "Triggers a vehicle alert (honk horns\\flash lights).",
          "url": "https://developer.gm.com/api/v1/account/vehicles/1GKUKEEF9AR000010/commands/alert"
        },
        {
          "name": "unlockDoor",
          "description": "Unlocks the doors.",
          "url": "https://developer.gm.com/api/v1/account/vehicles/1GKUKEEF9AR000010/commands/unlockDoor"
        },
        {
          "name": "diagnostics",
          "description": "Retrieves diagnostic vehicle data.",
          "commandData":
          {
            "supportedDiagnostics":
            {
              "supportedDiagnostic": [
                "LIFETIME FUEL USED",
                "LIFETIME FUEL ECON",
                "ODOMETER",
                "TIRE PRESSURE",
                "OIL LIFE",
                "FUEL TANK INFO",
                "VEHICLE RANGE"
              ]
            }
          }
        }
      ]
    }
  }
}
```

```

    ]
  }
},
"url":"https://developer.gm.com/api/v1/account/vehicles/1GKUKEEF9AR000010/commands/diagnostics"
},
{
  "name":"lockDoor",
  "description":"Locks the doors.",
  "url":"https://developer.gm.com/api/v1/account/vehicles/1GKUKEEF9AR000010/commands/lockDoor"
},
{
  "name":"sendTBTRoute",
  "description":"Calculates route and initiate download of turn by turn directions to the vehicle.",
  "url":"https://developer.gm.com/api/v1/account/vehicles/1GKUKEEF9AR000010/commands/sendTBTRoute"
},
{
  "name":"location",
  "description":"Retrieves the vehicle's current location.",
  "url":"https://developer.gm.com/api/v1/account/vehicles/1GKUKEEF9AR000010/commands/location"
}
]
},
"features":
{
  "feature":[
    "AntiLockBraking",
    "TirePressure",
    "BlueTooth",
    "VirtualAdvisor",
    "POIDownload",
    "LockUnlock",
    "Slowdown",
    "TurnByTurn"
  ]
},
"url":"https://developer.gm.com/api/v1/account/subscribers/1GKUKEEF9AR000010"
}
}

```

XML Request

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/xml'

GET

<https://developer.gm.com/api/v1/account/vehicles/1GKUKEEF9AR000010?includeCommands=true&includeFeatures=true>

XML Response

HTTP Status Code: 200

Body:

```

<?xml version="1.0"?><?xml version="1.0"?>
<vehicle>
  <vin>1GKUKEEF9AR000010</vin>
  <make>GMC</make>
  <model>Denali</model>
  <year>2010</year>
  <manufacturer>General Motors</manufacturer>
  <phone>3132200010</phone>
  <unitType>EMBEDED</unitType>
  <primaryDriverId>548392002</primaryDriverId>
  <url>https://developer.gm.com/api/v1/account/vehicles/1GKUKEEF9AR000010</url>
  <primaryDriverUrl>https://developer.gm.com/api/v1/account/subscribers/548392002</primaryDriverUrl>
  <commands>
    <command>
      <name>alert</name>
      <description>Triggers a vehicle alert (honk horns/flash lights).</description>
      <url>https://developer.gm.com/api/v1/account/vehicles/1GKUKEEF9AR000010/commands/alert</url>
    </command>
    <command>
      <name>unlockDoor</name>
      <description>Unlocks the doors.</description>
      <url>https://developer.gm.com/api/v1/account/vehicles/1GKUKEEF9AR000010/commands/unlockDoor</url>
    </command>
    <command>
      <name>diagnostics</name>
      <description>Retrieves diagnostic vehicle data.</description>
      <commandData>
        <supportedDiagnostics>
          <supportedDiagnostic>LIFETIME FUEL USED</supportedDiagnostic>
          <supportedDiagnostic>LIFETIME FUEL ECON</supportedDiagnostic>
          <supportedDiagnostic>ODOMETER</supportedDiagnostic>
          <supportedDiagnostic>TIRE PRESSURE</supportedDiagnostic>
          <supportedDiagnostic>OIL LIFE</supportedDiagnostic>
          <supportedDiagnostic>FUEL TANK INFO</supportedDiagnostic>
          <supportedDiagnostic>VEHICLE RANGE</supportedDiagnostic>
        </supportedDiagnostics>
      </commandData>
      <url>https://developer.gm.com/api/v1/account/vehicles/1GKUKEEF9AR000010/commands/diagnostics</url>
    </command>
    <command>
      <name>lockDoor</name>

```

```

    <description>Locks the doors.</description>
    <url>https://developer.gm.com/api/v1/account/vehicles/1GKUKEEF9AR000010/commands/lockDoor</url>
</command>
<command>
    <name>sendTBTRoute</name>
    <description>Calculates route and initiate download of turn by turn directions to the vehicle.</description>
    <url>https://developer.gm.com/api/v1/account/vehicles/1GKUKEEF9AR000010/commands/sendTBTRoute</url>
</command>
<command>
    <name>location</name>
    <description>Retrieves the vehicle's current location.</description>
    <url>https://developer.gm.com/api/v1/account/vehicles/1GKUKEEF9AR000010/commands/location</url>
</command>
</commands>
<features>
    <feature>AntiLockBraking</feature>
    <feature>TirePressure</feature>
    <feature>BlueTooth</feature>
    <feature>VirtualAdvisor</feature>
    <feature>POIDownload</feature>
    <feature>LockUnlock</feature>
    <feature>Slowdown</feature>
    <feature>TurnByTurn</feature>
</features>
<url>https://developer.gm.com/api/v1/account/subscribers/1GKUKEEF9AR000010</url>
</vehicle>

```

3.2.1.5 Vehicle Requests

URL	/api/v1/account/vehicles/{vin}/requests
Verb	GET
Type	Synchronous
Description	Requests a specific number of requests made on a vehicle, completed or not.
Limitations	<p>Mock API Rate Limits</p> <p>Each App key will be limited to 3 requests per sec OnStar's Mock API rate limit to 30 requests per sec When a call exceeds a request limit, an error will not be returned.</p> <p>Production API Rate Limits</p> <p>The production API request limit will be based on user/commercial agreements and will be designed to support the capacity for the application or organization.</p>

	<p>This service should not be polled more frequently than every 5 seconds.</p> <p>Additionally, requests will not stay 'InProgress' indefinitely, they should either result in 'success' or 'failure'. It is suggested that clients consider a request timeout value of 10 minutes.</p>				
Requires Authorization	Yes				
Response Formats	json, xml				
Request					
Query Parameters	Name	Description	Required	Default Value	
	offset	Zero based index of the first result to return.	No	0	
	limit	Number of results to return. Max 100.	No	10	
Body	None				
Response					
HTTP Status Code	200 ("OK")				
Body	Defined by the 'commandResponses' element in the osrapi.xsd				

Possible Additional Errors

Error Code	Description
ONS-106	Invalid or Unsupported Vehicle selection
ONS-115	Vehicle is not registered

Examples**JSON Request**

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/json'

GET

<https://developer.gm.com/api/v1/account/vehicles/1GKUKEEF9AR000010/requests?offset=0&limit=2>

JSON Response

HTTP Status Code: 200

Body:

```
{
  "commandResponses":
  {
    "size":2,
    "next":2,
    "commandResponse":[
      {
        "requestTime":"2012-06-18T13:30:18Z",
        "completionTime":"2012-06-18T13:30:33Z",
        "status":"success",
        "type":"lockDoor",
        "url":"https://developer.gm.com/V1GKUKEEF9AR000010/requests/49"
      },
      {
        "requestTime":"2012-06-18T13:24:15Z",
        "completionTime":"2012-06-18T13:24:30Z",
        "status":"success",
        "type":"unlockDoor",
        "url":"https://developer.gm.com/V1GKUKEEF9AR000010/requests/47"
      }
    ]
  }
}
```

XML Request

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/xml'

GET

<https://developer.gm.com/api/v1/account/vehicles/1GKUKEEF9AR000010/requests?offset=0&limit=2>

XML Response

HTTP Status Code: 200

Body:

```
<?xml version="1.0"?>
<commandResponses>
```

```

<size>2</size>
<next>2</next>
<commandResponse>
  <requestTime>2012-06-18T13:30:18Z</requestTime>
  <completionTime>2012-06-18T13:30:33Z</completionTime>
  <status>success</status>
  <type>lockDoor</type>
  <url>https://developer.gm.com/1GKUKEEF9AR000010/requests/49</url>
</commandResponse>
<commandResponse>
  <requestTime>2012-06-18T13:24:15Z</requestTime>
  <completionTime>2012-06-18T13:24:30Z</completionTime>
  <status>success</status>
  <type>unlockDoor</type>
  <url>https://developer.gm.com/1GKUKEEF9AR000010/requests/47</url>
</commandResponse>
</commandResponses>

```

3.2.1.6 Vehicle Request

URL	/api/v1/account/vehicles/{vin}/requests/{requestId}
Verb	GET
Type	Synchronous
Description	Request the status of a previous request, completed or not
Limitations	<p>Mock API Rate Limits</p> <p>Each App key will be limited to 3 requests per sec</p> <p>OnStar's Mock API rate limit to 30 requests per sec</p> <p>When a call exceeds a request limit, an error will not be returned.</p> <p>Production API Rate Limits</p> <p>The production API request limit will be based on user/commercial agreements and will be designed to support the capacity for the application or organization.</p> <p>This service should not be polled more frequently than every 5 seconds.</p> <p>Additionally, requests will not stay 'inProgress' indefinitely, they should either result in 'success' or 'failure'. It is suggested that clients consider a request timeout value of 10 minutes.</p>
Requires	Yes

Authorization	
Response Formats	json, xml
Request	
Query Parameters	None
Body	None
Response	
HTTP Status Code	200 ("OK")
Body	Defined by the 'commandResponse' element in the osrapi.xsd <i>Note: The body tag will be null if there is not data to return for the command invoked (i.e. lockDoor), but will be populated when there is an error, or data returned from the vehicle (i.e. location). See each command for details.</i>

Possible Additional Errors

Error Code	Description
ONS-106	Invalid or Unsupported Vehicle selection
ONS-115	Vehicle is not registered

Examples**JSON Request**

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/json'

GET <https://developer.gm.com/api/v1/account/vehicles/1GKUKEEF9AR000010/requests/49>

JSON Response

HTTP Status Code: 200

Body:

```
{
  "commandResponse": {
    "requestTime": "2012-06-18T13:30:18Z",
    "completionTime": "2012-06-18T13:30:33Z",
    "status": "success",
```

```

    "type": "lockDoor",
    "url": "https://developer.gm.com/1GKUKEEF9AR000010/requests/49"
  }
}

```

XML Request

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/xml'

GET

<https://developer.gm.com/api/v1/account/vehicles/1GKUKEEF9AR000010/requests?offset=0&limit=2>

XML Response

HTTP Status Code: 200

Body:

```

<?xml version="1.0"?>
<commandResponse>
  <requestTime>2012-06-18T13:30:18Z</requestTime>
  <completionTime>2012-06-18T13:30:33Z</completionTime>
  <status>success</status>
  <type>lockDoor</type>
  <url>https://developer.gm.com/1GKUKEEF9AR000010/requests/49</url>
</commandResponse>

```

3.1.1.1 Vehicle Commands

URL	/api/v1/account/vehicles/{vin}/commands
Verb	GET
Type	Synchronous
Description	Services available on this vehicle
Limitations	<p>Mock API Rate Limits</p> <p>Each App key will be limited to 3 requests per sec</p> <p>OnStar's Mock API rate limit to 30 requests per sec</p> <p>When a call exceeds a request limit, an error will not be returned.</p> <p>Production API Rate Limits</p> <p>The production API request limit will be based on user/commercial agreements and</p>

	will be designed to support the capacity for the application or organization.
Requires Authorization	Yes
Response Formats	json, xml
Request	
Query Parameters	None
Body	None
Response	
HTTP Status Code	200 ("OK")
Body	Defined by the 'commands' element in the osrapi.xsd

Possible Additional Errors

Error Code	Description
ONS-106	Invalid or Unsupported Vehicle selection
ONS-115	Vehicle is not registered

Examples**JSON Request**

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/json'

GET <https://developer.gm.com/api/v1/account/vehicles/1GKUKEEF9AR000010/commands>

JSON Response

HTTP Status Code: 200

Body:

```
{
  "commands":
  {
    "command":{
```

```

{
  "name": "alert",
  "description": "Triggers a vehicle alert (honk horns\\flash lights).",
  "url": "https:\\\\developer.gm.com\\api\\v1\\account\\vehicles\\1GKUKEEF9AR000010\\commands\\alert"
},
{
  "name": "unlockDoor",
  "description": "Unlocks the doors.",
  "url": "https:\\\\developer.gm.com\\api\\v1\\account\\vehicles\\1GKUKEEF9AR000010\\commands\\unlockDoor"
},
{
  "name": "diagnostics",
  "description": "Retrieves diagnostic vehicle data.",
  "commandData": {
    "supportedDiagnostics": {
      "supportedDiagnostic": [
        "LIFETIME FUEL USED",
        "LIFETIME FUEL ECON",
        "ODOMETER",
        "TIRE PRESSURE",
        "OIL LIFE",
        "FUEL TANK INFO",
        "VEHICLE RANGE"
      ]
    }
  },
  "url": "https:\\\\developer.gm.com\\api\\v1\\account\\vehicles\\1GKUKEEF9AR000010\\commands\\diagnostics"
},
{
  "name": "lockDoor",
  "description": "Locks the doors.",
  "url": "https:\\\\developer.gm.com\\api\\v1\\account\\vehicles\\1GKUKEEF9AR000010\\commands\\lockDoor"
},
{
  "name": "sendTBTRoute",
  "description": "Calculates route and initiate download of turn by turn directions to the vehicle.",
  "url": "https:\\\\developer.gm.com\\api\\v1\\account\\vehicles\\1GKUKEEF9AR000010\\commands\\sendTBTRoute"
},
{
  "name": "location",
  "description": "Retrieves the vehicle's current location.",
  "url": "https:\\\\developer.gm.com\\api\\v1\\account\\vehicles\\1GKUKEEF9AR000010\\commands\\location"
}
]
}

```

```
}
```

XML Request

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/xml'

GET <https://developer.gm.com/api/v1/account/vehicles/1GKUKEEF9AR000010/commands>

XML Response

HTTP Status Code: 200

Body:

```
<?xml version="1.0"?>
<commands>
  <command>
    <name>alert</name>
    <description>Triggers a vehicle alert (honk horns/flash lights).</description>
    <url>https://developer.gm.com/api/v1/account/vehicles/1GKUKEEF9AR000010/commands/alert</url>
  </command>
  <command>
    <name>unlockDoor</name>
    <description>Unlocks the doors.</description>
    <url>https://developer.gm.com/api/v1/account/vehicles/1GKUKEEF9AR000010/commands/unlockDoor</url>
  </command>
  <command>
    <name>diagnostics</name>
    <description>Retrieves diagnostic vehicle data.</description>
    <commandData>
      <supportedDiagnostics>
        <supportedDiagnostic>LIFETIME FUEL USED</supportedDiagnostic>
        <supportedDiagnostic>LIFETIME FUEL ECON</supportedDiagnostic>
        <supportedDiagnostic>ODOMETER</supportedDiagnostic>
        <supportedDiagnostic>TIRE PRESSURE</supportedDiagnostic>
        <supportedDiagnostic>OIL LIFE</supportedDiagnostic>
        <supportedDiagnostic>FUEL TANK INFO</supportedDiagnostic>
        <supportedDiagnostic>VEHICLE RANGE</supportedDiagnostic>
      </supportedDiagnostics>
    </commandData>
    <url>https://developer.gm.com/api/v1/account/vehicles/1GKUKEEF9AR000010/commands/diagnostics</url>
  </command>
  <command>
    <name>lockDoor</name>
    <description>Locks the doors.</description>
    <url>https://developer.gm.com/api/v1/account/vehicles/1GKUKEEF9AR000010/commands/lockDoor</url>
```

```

</command>
<command>
  <name>sendTBTRoute</name>
  <description>Calculates route and initiate download of turn by turn directions to the vehicle.</description>
  <url>https://developer.gm.com/api/v1/account/vehicles/1GKUKEEF9AR000010/commands/sendTBTRoute</url>
</command>
<command>
  <name>location</name>
  <description>Retrieves the vehicle's current location.</description>
  <url>https://developer.gm.com/api/v1/account/vehicles/1GKUKEEF9AR000010/commands/location</url>
</command>
</commands>

```

3.1.1.2 Vehicle Features

URL	/api/v1/account/vehicles/{vin}/features
Verb	GET
Type	Synchronous
Description	List vehicle features
Limitations	<p>Mock API Rate Limits</p> <p>Each App key will be limited to 3 requests per sec OnStar's Mock API rate limit to 30 requests per sec When a call exceeds a request limit, an error will not be returned.</p> <p>Production API Rate Limits</p> <p>The production API request limit will be based on user/commercial agreements and will be designed to support the capacity for the application or organization.</p>
Requires Authorization	Yes
Response Formats	json, xml
Request	
Query Parameters	None
Body	None
Response	
HTTP Status	200 ("OK")

Code	
Body	Defined by the 'features' element in the osrapi.xsd

Possible Additional Errors

Error Code	Description
ONS-106	Invalid or Unsupported Vehicle selection
ONS-115	Vehicle is not registered

Examples**JSON Request**

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/json'

GET <https://developer.gm.com/api/v1/account/vehicles/1GKUKEEF9AR000010/features>

JSON Response

HTTP Status Code: 200

Body:

```
{
  "features":
  {
    "feature":[
      "AntiLockBraking",
      "TirePressure",
      "BlueTooth",
      "VirtualAdvisor",
      "POIDownload",
      "LockUnlock",
      "Slowdown",
      "TurnByTurn"
    ]
  }
}
```

XML Request

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/xml'

GET <https://developer.gm.com/api/v1/account/vehicles/1GKUKEEF9AR000010/features>

XML Response

HTTP Status Code: 200

Body:

```
<?xml version="1.0"?>
<features>
  <feature>AntiLockBraking</feature>
  <feature>TirePressure</feature>
  <feature>Bluetooth</feature>
  <feature>VirtualAdvisor</feature>
  <feature>POIDownload</feature>
  <feature>LockUnlock</feature>
  <feature>Slowdown</feature>
  <feature>TurnByTurn</feature>
</features>
```

3.1.2 Vehicle Commands

The following table lists the common errors for Vehicle Services. A specific service may have more errors listed in its description.

Possible Errors across Vehicle Services

Error Code	Description
ONS-101	User session expired.
ONS-105	User input is not valid.
ONS-900	Unknown System Error
ONS-901	Service not available
ONS-106	Invalid or Unsupported Vehicle selection
ONS-115	Vehicle is not registered
ONS-200	Vehicle Error
ONS-201	Vehicle connection lost
ONS-210	Unable to connect to vehicle

ONS-212	Unable to connect to vehicle(Invalid information)
ONS-213	Unable to get data (Partial read)
ONS-214	Unable to get data
ONS-215	Unable to execute request
ONS-216	Unable to establish packet session to the vehicle
ONS-217	Unable to initiate request through SMS
ONS-218	Vehicle Request Type Not Supported
ONS-219	This feature is not supported for the Vehicle
ONS-220	Failed to execute vehicle request.
ONS-221	Vehicle Request partially complete
ONS-233	Disconnect from vehicle
ONS-234	Unable to find enrollment for vehicle

3.1.2.1 Vehicle Telemetry

URL	/api/v1/account/vehicles/{vin}/telemetry			
Verb	GET			
Type	Synchronous			
Description	This service provides the function to retrieve vehicle telemetry data.			
Limitations	<p>Mock API Rate Limits</p> <p>Each App key will be limited to 3 requests per sec</p> <p>OnStar's Mock API rate limit to 30 requests per sec</p> <p>When a call exceeds a request limit, an error will not be returned.</p> <p>Production API Rate Limits</p> <p>The production API request limit will be based on user/commercial agreements and will be designed to support the capacity for the application or organization.</p>			
Requires Authorization	Yes			
Response Formats	json, xml			
Request				
Query	Name	Description	Required	Default

Parameters				<i>Value</i>
	begintimestamp	From date/time to begin fetching metrics. Format: yyyy-MM-dd'T'HH:mm:ss.	Yes	None
	endtimestamp	‘To’ date/time to begin fetching metrics. Format: yyyy-MM-dd'T'HH:mm:ss.	Yes	None
	offset	Zero based index of the first result to return.	No	0
	limit	Number of results to return. Max 100.	No	10
Body	None			
Response				
HTTP Status Code	200 (“OK”)			
Body	Defined by the ‘telemetries’ element in the osrapi.xsd			

Possible Additional Errors

None identified.

Examples**JSON Request**

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/json'

GET

<https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/telemetry?begintimestamp=2012-06-20T14:11:11&endtimestamp=2012-06-20T15:11:11&offset=0&limit=2>

JSON Response

HTTP Status Code: 200

Body:

```
{
  "telemetries": {
    "size": 2,
    "next": 2,
```

```

"telemetry": [
  {
    "timestamp": "2012-06-20T18:08:41Z",
    "location": {
      "lat": 42.60674161,
      "long": -83.18250197
    },
    "speedInKM": "0",
    "speedInMiles": "0",
    "direction": "0"
  },
  {
    "timestamp": "2012-06-20T18:06:16Z",
    "location": {
      "lat": 42.6067852,
      "long": -83.203862
    },
    "speedInKM": 54,
    "speedInMiles": 34,
    "direction": 91.69999695
  }
]
}
}

```

XML Request

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/xml'

GET

<https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/telemetry?beginTimestamp=2012-06-20T14:11:11&endTimestamp=2012-06-20T15:11:11&offset=0&limit=2>

XML Response

HTTP Status Code: 200

Body:

```

<?xml version="1.0"?>
<telemetries>
  <size>2</size>
  <next>2</next>
  <telemetry>
    <timestamp>2012-06-20T18:08:41Z</timestamp>

```

```

<location>
  <lat>42.60674161</lat>
  <long>-83.18250197</long>
</location>
<speedInKM>0</speedInKM>
<speedInMiles>0</speedInMiles>
<direction>0</direction>
</telemetry>
<telemetry>
  <timestamp>2012-06-20T18:06:16Z</timestamp>
  <location>
    <lat>42.6067852</lat>
    <long>-83.203862</long>
  </location>
  <speedInKM>54</speedInKM>
  <speedInMiles>34</speedInMiles>
  <direction>91.69999695</direction>
</telemetry>
<telemetries>

```

3.1.2.2 Start Vehicle

URL	/api/v1/account/vehicles/{vin}/commands/start
Verb	POST
Type	Asynchronous
Description	This async service provides the ability to remotely start the vehicle. See the description of asynchronous services above.
Limitations	<p>Mock API Rate Limits</p> <p>Each App key will be limited to 3 requests per sec OnStar's Mock API rate limit to 30 requests per sec When a call exceeds a request limit, an error will not be returned.</p> <p>Production API Rate Limits</p> <p>The production API request limit will be based on user/commercial agreements and will be designed to support the capacity for the application or organization.</p>
Requires Authorization	Yes
Response Formats	json, xml

Request	
Query Parameters	None
Body	None
Response	
HTTP Status Code	202 ("Accepted")
Body	Defined by the 'commandResponse' element in the osrapi.xsd. See Vehicle Requests / Vehicle Request services for details on polling for a response.

Possible Additional Errors

Error Code	Description
ONS-211	Vehicle command cannot be executed due to invalid vehicle state

Examples**JSON Request**

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/json'

POST <https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/commands/start>

JSON Response

HTTP Status Code: 202

Body:

```
{
  "commandResponse":
  {
    "requestTime":"2012-06-21T08:45:14Z",
    "completionTime":"2012-06-21T08:45:14Z",
    "url":"https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/requests/92",
    "status":"InProgress",
    "type":"start"
  }
}
```

}

XML Request

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/xml'

POST <https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/commands/start>

XML Response

HTTP Status Code: 202

Body:

```
<?xml version="1.0"?>
<commandResponse>
  <requestTime>2012-06-20T15:35:45Z</requestTime>
  <completionTime>2012-06-20T15:35:45Z</completionTime>
  <url>https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/requests/86</url>
  <status>InProgress</status>
  <type>start</type>
</commandResponse>
```

3.1.2.3 Cancel Start Vehicle

URL	/api/v1/account/vehicles/{vin}/commands/cancelStart
Verb	POST
Type	Asynchronous
Description	This async service provides the ability to cancel a previous remote start on the vehicle. See the description of asynchronous services above.
Limitations	<p>Mock API Rate Limits</p> <p>Each App key will be limited to 3 requests per sec</p> <p>OnStar's Mock API rate limit to 30 requests per sec</p> <p>When a call exceeds a request limit, an error will not be returned.</p> <p>Production API Rate Limits</p> <p>The production API request limit will be based on user/commercial agreements and will be designed to support the capacity for the application or organization.</p>
Requires Authorization	Yes

Response Formats	json, xml
Request	
Query Parameters	None
Body	None
Response	
HTTP Status Code	202 ("Accepted")
Body	Defined by the 'commandResponse' element in the osrapi.xsd. See Vehicle Requests / Vehicle Request services for details on polling for a response.

Possible Additional Errors

Error Code	Description
ONS-211	Vehicle command cannot be executed due to invalid vehicle state

Examples**JSON Request**

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/json'

POST <https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/commands/cancelStart>

JSON Response

HTTP Status Code: 202

Body:

```
{
  "commandResponse": {
    "requestTime": "2012-06-20T15:35:45Z",
    "completionTime": "2012-06-20T15:35:45Z",
    "url": "https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/requests/86",
    "status": "InProgress",
    "type": "cancelStart"
  }
}
```

```

}
}

```

XML Request

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/xml'

POST

<https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/commands/cancelStart>

XML Response

HTTP Status Code: 202

Body:

```

<?xml version="1.0"?>
<commandResponse>
  <requestTime>2012-06-20T15:35:45Z</requestTime>
  <completionTime>2012-06-20T15:35:45Z</completionTime>
  <url>https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/requests/86</url>
  <status>InProgress</status>
  <type>cancelStart</type>
</commandResponse>

```

3.1.2.4 Lock Vehicle Door

URL	/api/v1/account/vehicles/{vin}/commands/lockDoor
Verb	POST
Type	Asynchronous
Description	This async service provides the ability to remotely lock the doors. See the description of asynchronous services above.
Limitations	<p>Mock API Rate Limits</p> <p>Each App key will be limited to 3 requests per sec</p> <p>OnStar's Mock API rate limit to 30 requests per sec</p> <p>When a call exceeds a request limit, an error will not be returned.</p> <p>Production API Rate Limits</p> <p>The production API request limit will be based on user/commercial agreements and will be designed to support the capacity for the application or organization.</p>

Requires Authorization	Yes
Response Formats	json, xml
Request	
Query Parameters	None
Body	Defined by the 'lockDoorRequest' element in the osrapi.xsd
Response	
HTTP Status Code	202 ("Accepted")
Body	Defined by the 'commandResponse' element in the osrapi.xsd. See Vehicle Requests / Vehicle Request services for details on polling for a response.

Possible Additional Errors

Error Code	Description
ONS-211	Vehicle command cannot be executed due to invalid vehicle state

Examples**JSON Request**

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/json'

POST <https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/commands/lockDoor>

Body:

```
{
  "lockDoorRequest":
  {
    "delay": "0"
  }
}
```

JSON Response

HTTP Status Code: 202

Body:

```
{
  "commandResponse": {
    "requestTime": "2012-06-20T15:35:45Z",
    "completionTime": "2012-06-20T15:35:45Z",
    "url": "https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/requests/86",
    "status": "InProgress",
    "type": "lockDoor"
  }
}
```

XML Request

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/xml'

POST <https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/commands/lockDoor>

Body:

```
<?xml version="1.0"?>
<lockDoorRequest>
  <delay>0</delay>
</lockDoorRequest>
```

XML Response

HTTP Status Code: 202

Body:

```
<?xml version="1.0"?>
<commandResponse>
  <requestTime>2012-06-20T15:35:45Z</requestTime>
  <completionTime>2012-06-20T15:35:45Z</completionTime>
  <url>https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/requests/86</url>
  <status>InProgress</status>
  <type>lockDoor</type>
</commandResponse>
```

3.1.2.5 Unlock Vehicle Door

URL	/api/v1/account/vehicles/{vin}/commands/unlockDoor
Verb	POST
Type	Asynchronous
Description	This async service provides the ability to remotely unlock the doors. See the description of asynchronous services above.
Limitations	<p>Mock API Rate Limits</p> <p>Each App key will be limited to 3 requests per sec</p> <p>OnStar's Mock API rate limit to 30 requests per sec</p> <p>When a call exceeds a request limit, an error will not be returned.</p> <p>Production API Rate Limits</p> <p>The production API request limit will be based on user/commercial agreements and will be designed to support the capacity for the application or organization.</p> <p>Command will not be performed unless vehicle prindle (gear shift) is in P or N position and vehicle speed = 0.</p> <p>When a command is requested that meets this limitation(s), an error will be returned.</p>
Requires Authorization	Yes
Response Formats	json, xml
Request	
Query Parameters	None
Body	Defined by the 'unlockDoorRequest' element in the osrapi.xsd
Response	
HTTP Status Code	202 ("Accepted")
Body	Defined by the 'commandResponse' element in the osrapi.xsd See Vehicle Requests / Vehicle Request services for details on polling for a response.

Possible Additional Errors

Error Code	Description
ONS-211	Vehicle command cannot be executed due to invalid vehicle state

Examples

JSON Request

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/json'

POST

<https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/commands/unlockDoor>

Body:

```
{
  "unlockDoorRequest":
  {
    "delay": "0"
  }
}
```

JSON Response

HTTP Status Code: 202

Body:

```
{
  "commandResponse": {
    "requestTime": "2012-06-20T15:35:45Z",
    "completionTime": "2012-06-20T15:35:45Z",
    "url": "https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/requests/86",
    "status": "InProgress",
    "type": "unlockDoor"
  }
}
```

XML Request

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/xml'

POST

<https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/commands/unlockDoor>

Body:

```
<?xml version="1.0"?>
<unlockDoorRequest>
  <delay>0</delay>
</unlockDoorRequest>
```

XML Response

HTTP Status Code: 202

Body:

```
<?xml version="1.0"?>
<commandResponse>
  <requestTime>2012-06-20T15:35:45Z</requestTime>
  <completionTime>2012-06-20T15:35:45Z</completionTime>
  <url>https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/requests/86</url>
  <status>inProgress</status>
  <type>unlockDoor</type>
</commandResponse>
```

3.1.2.6 Vehicle Location

URL	/api/v1/account/vehicles/{vin}/commands/location
Verb	POST
Type	Asynchronous
Description	This async service provides the lat/long of the current location of the vehicle. See the description of asynchronous services above.
Limitations	<p>Mock API Rate Limits</p> <p>Each App key will be limited to 3 requests per sec</p> <p>OnStar's Mock API rate limit to 30 requests per sec</p> <p>When a call exceeds a request limit, an error will not be returned.</p> <p>Production API Rate Limits</p> <p>The production API request limit will be based on user/commercial agreements and</p>

	will be designed to support the capacity for the application or organization.
Requires Authorization	Yes
Response Formats	json, xml
Request	
Query Parameters	None
Body	None
Response	
HTTP Status Code	202 ("Accepted")
Body	Defined by the 'commandResponse' element in the osrapi.xsd. See Vehicle Requests / Vehicle Request services for details on polling for a response. <i>Note: Body will be populated with a 'location' element on successful completions.</i>

Possible Additional Errors

Error Code	Description
ONS-230	Unable to create get vehicle location request
ONS-232	Failed to get current vehicle location

Examples**JSON Request**

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/json'

POST <https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/commands/location>

JSON Response

HTTP Status Code: 202

Body:

```
{
  "commandResponse": {
    "requestTime": "2012-06-20T15:35:45Z",
    "completionTime": "2012-06-20T15:35:45Z",
    "url": "https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/requests/86",
    "status": "InProgress",
    "type": "location"
  }
}
```

JSON Completed Response (polling result)

HTTP Status Code: 200

Body:

```
{
  "commandResponse":
  {
    "requestTime": "2012-06-20T15:35:45Z",
    "completionTime": "2012-06-20T15:36:00Z",
    "status": "success",
    "type": "location",
    "url": "https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/requests/86",
    "body":
    {
      "location":
      {
        "lat": 42.606741,
        "long": -83.182501
      }
    }
  }
}
```

XML Request

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/xml'

POST <https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/commands/location>

XML Response

HTTP Status Code: 202

Body:

```
<?xml version="1.0"?>
<commandResponse>
  <requestTime>2012-06-20T15:35:45Z</requestTime>
  <completionTime>2012-06-20T15:35:45Z</completionTime>
  <url>https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/requests/86</url>
  <status>InProgress</status>
  <type>location</type>
</commandResponse>
```

XML Completed Response (polling result)

HTTP Status Code: 200

Body:

```
<?xml version="1.0"?>
<commandResponse>
  <requestTime>2012-06-25T08:16:00Z</requestTime>
  <completionTime>2012-06-25T08:16:19Z</completionTime>
  <status>success</status>
  <type>GetVehicleLocationRequest</type>
  <url>https://developer.gm.com/api/v1/account/vehicles/1GKUKEEF9AR000010/requests/29</url>
  <body>
    <location>
      <lat>42.624285</lat>
      <long>-82.945742</long>
    </location>
  </body>
</commandResponse>
```

3.1.2.7 Alert

URL	/api/v1/account/vehicles/{vin}/commands/alert
Verb	POST
Type	Asynchronous
Description	This async service provides the ability to send vehicle alert requests to a vehicle to honk, horn, and flash lights based on user requirements. See the description of asynchronous services above.
Limitations	Mock API Rate Limits Each App key will be limited to 3 requests per sec OnStar's Mock API rate limit to 30 requests per sec When a call exceeds a request limit, an error will not be returned.

	Production API Rate Limits The production API request limit will be based on user/commercial agreements and will be designed to support the capacity for the application or organization.
Requires Authorization	Yes
Response Formats	json, xml
Request	
Query Parameters	None
Body	Defined by the 'alertRequest' element in the osrapi.xsd
Response	
HTTP Status Code	202 ("Accepted")
Body	Defined by the 'commandResponse' element in the osrapi.xsd. See Vehicle Requests / Vehicle Request services for details on polling for a response.

Possible Additional Errors

None identified.

Examples

JSON Request

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/json'

POST <https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/commands/alert>

Body:

```
{
  "alertRequest": {
    "delay": "0",
    "duration": "60",
    "action": [
      "Honk",
      "Flash"
    ]
  },
}
```

```

    "override": [
      "DoorOpen",
      "IgnitionOn"
    ]
  }
}

```

JSON Response

HTTP Status Code: 202

Body:

```

{
  "commandResponse": {
    "requestTime": "2012-06-20T15:35:45Z",
    "completionTime": "2012-06-20T15:35:45Z",
    "url": "https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/requests/86",
    "status": "InProgress",
    "type": "alert"
  }
}

```

XML Request

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/xml'

POST <https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/commands/alert>

Body:

```

<?xml version="1.0"?>
<alertRequest>
  <delay>0</delay>
  <duration>60</duration>
  <action>Honk</action>
  <action>Flash</action>
  <override>DoorOpen</override>
  <override>IgnitionOn</override>
</alertRequest>

```

XML Response

HTTP Status Code: 202

Body:

```
<?xml version="1.0"?>
<commandResponse>
  <requestTime>2012-06-20T15:35:45Z</requestTime>
  <completionTime>2012-06-20T15:35:45Z</completionTime>
  <url>https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/requests/86</url>
  <status>InProgress</status>
  <type>alert</type>
</commandResponse>
```

3.1.2.8 Turn by Turn Route

URL	/api/v1/account/vehicles/{vin}/commands/sendTBTRoute
Verb	POST
Type	Asynchronous
Description	This async service provides the ability to send directions based on a given destination and a start location. See the description of asynchronous services above.
Limitations	<p>Mock API Rate Limits</p> <p>Each App key will be limited to 3 requests per sec</p> <p>OnStar's Mock API rate limit to 30 requests per sec</p> <p>When a call exceeds a request limit, an error will not be returned.</p> <p>Production API Rate Limits</p> <p>The production API request limit will be based on user/commercial agreements and will be designed to support the capacity for the application or organization.</p> <p>Command will not be performed unless vehicle is successfully receiving cellular data coverage.</p> <p>Command will fail if user requests an origin destination pair which is not navigable by road (i.e. Dallas, Texas to Honolulu, Hawaii).</p> <p>When a command is requested that meets this limitation(s), an error will be returned.</p>
Requires Authorization	Yes
Response Formats	json, xml
Request	
Query Parameters	None

Body	Defined by the 'tbtDestination' element in the osrapi.xsd
Response	
HTTP Status Code	202 ("Accepted")
Body	Defined by the 'commandResponse' element in the osrapi.xsd See Vehicle Requests / Vehicle Request services for details on polling for a response.

Possible Additional Errors

Error Code	Description
ONS-235	Unable to create sendToNav vehicle request

Examples**JSON Request**

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/json'

POST

<https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/commands/sendTBTRoute>

Body:

```
{
  "tbtDestination": {
    "destinationLocation": {
      "lat": "42.328442",
      "long": "-83.039989"
    }
  }
}
```

JSON Response

HTTP Status Code: 202

Body:

```
{
  "commandResponse": {
    "requestTime": "2012-06-20T15:35:45Z",
```

```

    "completionTime": "2012-06-20T15:35:45Z",
    "url": "https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/requests/86",
    "status": "InProgress",
    "type": "sendTBTRoute"
  }
}

```

XML Request

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/xml'

POST

<https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/commands/sendTBTRoute>

Body:

```

<?xml version="1.0"?>
<tbtDestination>
  <destinationLocation>
    <lat>42.328442</lat>
    <long>-83.039989</long>
  </destinationLocation>
</tbtDestination>

```

XML Response

HTTP Status Code: 202

Body:

```

<?xml version="1.0"?>
<commandResponse>
  <requestTime>2012-06-20T15:35:45Z</requestTime>
  <completionTime>2012-06-20T15:35:45Z</completionTime>
  <url>https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/requests/86</url>
  <status>InProgress</status>
  <type>sendTBTRoute</type>
</commandResponse>

```

3.1.2.9 Send Destination

URL	/api/v1/account/vehicles/{vin}/navUnit/commands/sendNavDestination
Verb	POST
Type	Asynchronous

Description	This async service provides the ability to send a destination to a nav unit. See the description of asynchronous services above.
Limitations	<p>Mock API Rate Limits</p> <p>Each App key will be limited to 3 requests per sec</p> <p>OnStar's Mock API rate limit to 30 requests per sec</p> <p>When a call exceeds a request limit, an error will not be returned.</p> <p>Production API Rate Limits</p> <p>The production API request limit will be based on user/commercial agreements and will be designed to support the capacity for the application or organization.</p>
Requires Authorization	Yes
Response Formats	json, xml
Request	
Query Parameters	None
Body	Defined by the 'navDestination' element in the osrapi.xsd
Response	
HTTP Status Code	202 ("Accepted")
Body	Defined by the 'commandResponse' element in the osrapi.xsd. See Vehicle Requests / Vehicle Request services for details on polling for a response.

Possible Additional Errors

Error Code	Description
ONS-231	Unable to create send destination to vehicle request

Examples**JSON Request**

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/json'

POST

<https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/navUnit/commands/sendNavDestination>

Body:

```
{
  "navDestination": {
    "destinationLocation": {
      "lat": "42.328442",
      "long": "-83.039989"
    }
  }
}
```

JSON Response

HTTP Status Code: 202

Body:

```
{
  "commandResponse": {
    "requestTime": "2012-06-20T15:35:45Z",
    "completionTime": "2012-06-20T15:35:45Z",
    "url": "https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/requests/86",
    "status": "InProgress",
    "type": "sendNavRoute"
  }
}
```

XML Request

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/xml'

POST

<https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/navUnit/commands/sendNavDestination>

Body:

```
<?xml version="1.0"?>
<navDestination>
  <destinationLocation>
    <lat>42.328442</lat>
```

```

    <long>-83.039989</long>
  </destinationLocation>
</navDestination>

```

XML Response

HTTP Status Code: 202

Body:

```

<?xml version="1.0"?>
<commandResponse>
  <requestTime>2012-06-20T15:35:45Z</requestTime>
  <completionTime>2012-06-20T15:35:45Z</completionTime>
  <url>https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/requests/86</url>
  <status>InProgress</status>
  <type>sendNavRoute</type>
</commandResponse>

```

3.1.2.10 Retrieve Diagnostics

URL	/api/v1/account/vehicles/{vin}/commands/diagnostics
Verb	POST
Type	Asynchronous
Description	This async service provides the ability to query a vehicle for diagnostic data specifying the items for which diagnostics are requested in the body. See the description of asynchronous services above.
Limitations	<p>Mock API Rate Limits</p> <p>Each App key will be limited to 3 requests per sec</p> <p>OnStar's Mock API rate limit to 30 requests per sec</p> <p>When a call exceeds a request limit, an error will not be returned.</p> <p>Production API Rate Limits</p> <p>The production API request limit will be based on user/commercial agreements and will be designed to support the capacity for the application or organization.</p>
Requires Authorization	Yes

Response Formats	json, xml
Request	
Query Parameters	None
Body	Defined by the 'diagnosticRequest' element in the osrapi.xsd. <i>Note: If unsupported diagnostic elements are requested those items will be ignore and the request will complete as long as there is at least one supported element in the request.</i>
Response	
HTTP Status Code	202 ("Accepted")
Body	Defined by the 'commandResponse' element in the osrapi.xsd. See Vehicle Requests / Vehicle Request services for details on polling for a response. <i>Note: Body will be populated with a 'DiagnosticResponse' element on successful completions.</i>

Possible Additional Errors

None identified.

Examples**JSON Request**

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/json'

POST <https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/commands/diagnostics>

Body:

```
{
  "DiagnosticRequest": {
    "diagnosticItem": [
      "GET COMMUTE SCHEDULE",
      "GET CHARGE MODE",
      "EV BATTERY LEVEL",
      "EV CHARGE STATE",
      "EV ESTIMATED CHARGE END",
      "EV PLUG STATE",
    ]
  }
}
```

```

    "EV PLUG VOLTAGE",
    "EV SCHEDULED CHARGE START",
    "FUEL TANK INFO",
    "LAST TRIP DISTANCE",
    "LAST TRIP FUEL ECONOMY",
    "LIFETIME EV ODOMETER",
    "LIFETIME FUEL ECON",
    "LIFETIME FUEL USED",
    "ODOMETER",
    "OIL LIFE",
    "TIRE PRESSURE",
    "VEHICLE RANGE"
  ]
}
}

```

JSON Response

HTTP Status Code: 202

Body:

```

{
  "commandResponse": {
    "requestTime": "2012-06-20T15:35:45Z",
    "completionTime": "2012-06-20T15:35:45Z",
    "url": "https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/requests/86",
    "status": "InProgress",
    "type": "diagnostics"
  }
}

```

JSON Completed Response (polling result)

HTTP Status Code: 200

Body:

```

{
  "commandResponse":
  {
    "requestTime": "2012-06-20T15:35:45Z",
    "completionTime": "2012-06-20T15:36:00Z",
    "status": "success",
    "type": "diagnostics",
    "url": "https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/requests/86",
    "body":
    {

```

```

"DiagnosticResponse": [
  {
    "name": "FUEL TANK INFO",
    "diagnosticElement": [
      {
        "name": "FUEL CAPACITY",
        "message": "na",
        "value": 26.35,
        "unit": "Gallon"
      },
      {
        "name": "FUEL LEVEL",
        "message": "na",
        "value": 64,
        "unit": "%"
      },
      {
        "name": "FUEL LEVEL IN GAL",
        "message": "na",
        "value": 16.74095169,
        "unit": "Gallon"
      }
    ]
  },
  {
    "name": "LIFETIME FUEL ECON",
    "diagnosticElement": {
      "name": "LIFETIME FUEL ECON",
      "message": "na",
      "value": 14.73,
      "unit": "MPG"
    }
  },
  {
    "name": "LIFETIME FUEL USED",
    "diagnosticElement": {
      "name": "LIFETIME FUEL USED",
      "message": "na",
      "value": 2774.62,
      "unit": "Gallon"
    }
  },
  {
    "name": "ODOMETER",
    "diagnosticElement": {
      "name": "ODOMETER",
      "message": "na",

```

```

        "value": 40870.1,
        "unit": "Miles"
    },
    {
        "name": "OIL LIFE",
        "diagnosticElement": {
            "name": "OIL LIFE",
            "message": "GREEN",
            "value": 63.5,
            "unit": "%"
        }
    },
    {
        "name": "TIRE PRESSURE",
        "diagnosticElement": [
            {
                "name": "TIRE PRESSURE LF",
                "message": "GREEN",
                "value": 39.4502545,
                "unit": "psi"
            },
            {
                "name": "TIRE PRESSURE LR",
                "message": "GREEN",
                "value": 36.5495004,
                "unit": "psi"
            },
            {
                "name": "TIRE PRESSURE PLACARD FRONT",
                "message": "na",
                "value": 31.908294,
                "unit": "psi"
            },
            {
                "name": "TIRE PRESSURE PLACARD REAR",
                "message": "na",
                "value": 31.908294,
                "unit": "psi"
            },
            {
                "name": "TIRE PRESSURE RF",
                "message": "GREEN",
                "value": 38.2899528,
                "unit": "psi"
            }
        ]
    }

```

```

        "name": "TIRE PRESSURE RR",
        "message": "GREEN",
        "value": 37.1296512,
        "unit": "psi"
      }
    ]
  },
  {
    "name": "VEHICLE RANGE",
    "diagnosticElement": {
      "name": "GAS RANGE",
      "message": "na",
      "value": 239.84868544,
      "unit": "Miles"
    }
  }
]
}
}
}

```

XML Request

HTTP Headers: Authorization='Bearer 84bf0e73ab443a5e5aed1c2f58e860d6', Accept='application/xml'

POST

<https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/commands/diagnostics>

Body:

```

<?xml version="1.0"?>
<DiagnosticRequest>
  <diagnosticItem>GET COMMUTE SCHEDULE</diagnosticItem>
  <diagnosticItem>GET CHARGE MODE</diagnosticItem>
  <diagnosticItem>EV BATTERY LEVEL</diagnosticItem>
  <diagnosticItem>EV CHARGE STATE</diagnosticItem>
  <diagnosticItem>EV ESTIMATED CHARGE END</diagnosticItem>
  <diagnosticItem>EV PLUG STATE</diagnosticItem>
  <diagnosticItem>EV PLUG VOLTAGE</diagnosticItem>
  <diagnosticItem>EV SCHEDULED CHARGE START</diagnosticItem>
  <diagnosticItem>FUEL TANK INFO</diagnosticItem>
  <diagnosticItem>LAST TRIP DISTANCE</diagnosticItem>
  <diagnosticItem>LAST TRIP FUEL ECONOMY</diagnosticItem>
  <diagnosticItem>LIFETIME EV ODOMETER</diagnosticItem>
  <diagnosticItem>LIFETIME FUEL ECON</diagnosticItem>
  <diagnosticItem>LIFETIME FUEL USED</diagnosticItem>

```

```

<diagnosticItem>ODOMETER</diagnosticItem>
<diagnosticItem>OIL LIFE</diagnosticItem>
<diagnosticItem>TIRE PRESSURE</diagnosticItem>
<diagnosticItem>VEHICLE RANGE</diagnosticItem>
</DiagnosticRequest>

```

XML Response

HTTP Status Code: 202

Body:

```

<?xml version="1.0"?>
<commandResponse>
  <requestTime>2012-06-20T15:35:45Z</requestTime>
  <completionTime>2012-06-20T15:35:45Z</completionTime>
  <url>https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/requests/86</url>
  <status>InProgress</status>
  <type>diagnostics</type>
</commandResponse>

```

XML Completed Response (polling result)

HTTP Status Code: 200

```

<?xml version="1.0"?>
<commandResponse>
  <requestTime>2012-06-20T15:35:45Z</requestTime>
  <completionTime>2012-06-20T15:36:00Z</completionTime>
  <url>https://developer.gm.com/api/v1/account/vehicles/1G6DH5E53C0000003/requests/86</url>
  <status>success</status>
  <type>diagnostics</type>
  <body>
    <DiagnosticResponse>
      <name>FUEL TANK INFO</name>
      <diagnosticElement>
        <name>FUEL CAPACITY</name>
        <message>na</message>
        <value>26.35</value>
        <unit>Gallon</unit>
      </diagnosticElement>
      <diagnosticElement>
        <name>FUEL LEVEL</name>
        <message>na</message>
        <value>64</value>
        <unit>%</unit>
      </diagnosticElement>
    </diagnosticElement>
  </body>
</commandResponse>

```

```

    <name>FUEL LEVEL IN GAL</name>
    <message>na</message>
    <value>16.74095169</value>
    <unit>Gallon</unit>
  </diagnosticElement>
</DiagnosticResponse>
<DiagnosticResponse>
  <name>LIFETIME FUEL ECON</name>
  <diagnosticElement>
    <name>LIFETIME FUEL ECON</name>
    <message>na</message>
    <value>14.73</value>
    <unit>MPG</unit>
  </diagnosticElement>
</DiagnosticResponse>
<DiagnosticResponse>
  <name>LIFETIME FUEL USED</name>
  <diagnosticElement>
    <name>LIFETIME FUEL USED</name>
    <message>na</message>
    <value>2774.62</value>
    <unit>Gallon</unit>
  </diagnosticElement>
</DiagnosticResponse>
<DiagnosticResponse>
  <name>ODOMETER</name>
  <diagnosticElement>
    <name>ODOMETER</name>
    <message>na</message>
    <value>40870.1</value>
    <unit>Miles</unit>
  </diagnosticElement>
</DiagnosticResponse>
<DiagnosticResponse>
  <name>OIL LIFE</name>
  <diagnosticElement>
    <name>OIL LIFE</name>
    <message>GREEN</message>
    <value>63.5</value>
    <unit>%</unit>
  </diagnosticElement>
</DiagnosticResponse>
<DiagnosticResponse>
  <name>TIRE PRESSURE</name>
  <diagnosticElement>
    <name>TIRE PRESSURE LF</name>
    <message>GREEN</message>

```

```

    <value>39.45025450</value>
    <unit>psi</unit>
  </diagnosticElement>
</diagnosticElement>
  <name>TIRE PRESSURE LR</name>
  <message>GREEN</message>
  <value>36.54950040</value>
  <unit>psi</unit>
</diagnosticElement>
<diagnosticElement>
  <name>TIRE PRESSURE PLACARD FRONT</name>
  <message>na</message>
  <value>31.9082940</value>
  <unit>psi</unit>
</diagnosticElement>
<diagnosticElement>
  <name>TIRE PRESSURE PLACARD REAR</name>
  <message>na</message>
  <value>31.9082940</value>
  <unit>psi</unit>
</diagnosticElement>
<diagnosticElement>
  <name>TIRE PRESSURE RF</name>
  <message>GREEN</message>
  <value>38.28995280</value>
  <unit>psi</unit>
</diagnosticElement>
<diagnosticElement>
  <name>TIRE PRESSURE RR</name>
  <message>GREEN</message>
  <value>37.12965120</value>
  <unit>psi</unit>
</diagnosticElement>
</DiagnosticResponse>
<DiagnosticResponse>
  <name>VEHICLE RANGE</name>
  <diagnosticElement>
    <name>GAS RANGE</name>
    <message>na</message>
    <value>239.84868544</value>
    <unit>Miles</unit>
  </diagnosticElement>
</DiagnosticResponse>
</body>
</commandResponse>

```


4. References

1. OnStar REST xml schema (XSD): <https://developer.gm.com/sites/default/files/osrapi.xsd>