



# HP NV Web Services API

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For Windows and Linux

## User Guide

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# Network Virtualization for Mobile Web Services API

Network Virtualization for Mobile's API is included with the Network Virtualization for Mobile installation. It uses the Representation State Transfer (REST) interface.

The Web Services API contains the following services:

- "Emulation Services" on page 9
- "Traffic Resource Services" on page 51
- "Statistics Services" on page 62
- "Transaction Services" on page 71
- "Configuration Services" on page 95
- "License Services" on page 115
- "Test Analysis Services" on page 136
- "Location Editor Services" on page 138

**Note:** To run the Network Virtualization for Mobile API on a 64 bit machine, use a 32 bit JRE.

## Web Services Authentication

All calls to API services must be authenticated. Authentication is with a preexisting user on the NV Test Manager you are sending the request to. In standalone mode, this is the user provided during installation. In server mode, this can be any user configured on the NV Server.

To authenticate a request:

Each request sent to the API should include the header

**Authorization: Basic <username:password>**

where username:password are encoded in Base64.

**Example:**

```
username = davidsmith  
password = changeit
```

```
davidsmith:changeit > Base64 encoded > ZGF2aWRzbWI0aDpjaGFuZ2VpdA==
```

The header sent with the request is: **Authorization: Basic**  
**ZGF2aWRzbWI0aDpjaGFuZ2VpdA==**

**Note:** If you have installed the NV Location Editor on a computer that does not contain the NV Test Manager, no authentication is required to use Location Editor Services. Requests are sent without the **Authorization** header.

## Web Services Command Line Interface

Many of the web services can be accessed from the Network Virtualization for Mobile Command Line Interface (CLI). For more information, see "[Network Virtualization for Mobile Command Line Interface](#)" on page 160.

# Chapter 1: Emulation Services

The following API functions are described:

|                           |    |
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## Start Test

The Start Test API functions allow you to define and start Network Virtualization for Mobile tests.

The following test modes are supported:

- ["NTX Mode" below](#): Run a test using the network configuration specified in an .ntxx file.
- ["Custom Mode" on page 12](#): Run a test using a network configuration specified in the API call.
- ["Location Based Mode" on page 21](#): Run a test using a location created in the NV Location Editor.

## NTX Mode

This API allows use of predefined .ntxx files that have been created in the NV Test Manager and NV Global Library.

**Note:** .ntxx files used for this API function must contain client and server IP ranges.

### Request

Parameters:

**Mode:** Sets emulation mode to SINGLE\_USER or MULTI\_USER. This parameter is optional and by default set to Multi User mode.

**overrideIp:** Set to **true** or **false**. **False** by default. If set to **true**, allows you to override the client IP defined in the .ntxx file with an ActiveAdapter value. If this parameter is true, it requires the .ntxx file to be single flow and the mode to be SINGLE\_USER only.

**Note:** The first Start determines the mode; if a test was started in one mode following tests must use the same mode.

### JSON

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/emulation/ntx?mode=MULTI_USER&overrideIp=false   |
| HTTP Method  | <b>POST</b>  |
| HTTP Headers | <b>Content-Type:</b> multipart/form-data<br><b>Accept:</b> application/json<br><b>Authorization:</b> See <a href="#">"Web Services Authentication" on page 7</a> . |

|           |   |
|-----------|---|
| Form Data | <p>Two form data objects should be provided:</p> <ol style="list-style-type: none"> <li>1. "fileUpload" with .ntxx file.</li> <li>2. "metadata": <pre>{ "testName": "myNtx", "networkScenario": "3G", "description": "This is my ntx" }</pre> </li> </ol> <p>See RFC 1867, "Form-based File Upload in HTML"</p> <p><a href="http://www.ietf.org/rfc/rfc1867.txt">www.ietf.org/rfc/rfc1867.txt</a></p> |
|-----------|---|

### XML

|              |   |
|--------------|---|
| URL          | <a href="http://ip:port/shunra/api/emulation/ntx?mode=MULTI_USER&amp;overridelp=false">http://ip:port/shunra/api/emulation/ntx?mode=MULTI_USER&amp;overridelp=false</a>   |
| HTTP Method  | <b>POST</b>   |
| HTTP Headers | <p><b>Content-Type:</b> multipart/form-data</p> <p><b>Accept:</b> application/xml</p> <p><b>Authorization:</b> See "<a href="#">Web Services Authentication</a>" on page 7.</p>   |
| Form Data    | <p>Two form data objects should be provided:</p> <ol style="list-style-type: none"> <li>1. "fileUpload" with .ntxx file.</li> <li>2. "metadata": <pre>&lt;testMetadata&gt;   &lt;testName&gt;myNtx&lt;/testName&gt;   &lt;description&gt;This is my ntx&lt;/description&gt;   &lt;networkScenario&gt;3G&lt;/networkScenario&gt; &lt;/testMetadata&gt;</pre> </li> </ol> <p>See RFC 1867, "Form-based File Upload in HTML"</p> <p><a href="http://www.ietf.org/rfc/rfc1867.txt">www.ietf.org/rfc/rfc1867.txt</a></p> |

### Response

On success, the Response body will contain a test token for the test that has started.

### JSON

|                    |   |
|--------------------|---|
| HTTP Response Code | 201 - Created   |
| HTTP Headers       | <p><b>Content-Type:</b> application/json; charset=UTF-8</p> <p><b>Location:</b> <a href="http://ip:port/shunra/emulation/ntx/testToken">http://ip:port/shunra/emulation/ntx/testToken</a></p> |

|           |  |
|-----------|--|
| HTTP Body | <pre>{ "testToken": "133a1a9e-2885-443f-9ea5-4de373d4a57a372572b2-0d25-4852-91f8-fb849056c89a" }</pre> |
|-----------|--|

### XML

|                    |   |
|--------------------|---|
| HTTP Response Code | 201 - Created   |
| HTTP Headers       | <b>Content-Type:</b> application/xml; charset=UTF-8<br><b>Location:</b> http://ip:port/shunra/emulation/ntx/testToken   |
| HTTP Body          | <pre>&lt;emulationResponse&gt;<br/>  &lt;testToken&gt;<br/>    b00b960c-ee8b-4965-8d41-572a3da5c6e1071776abd448-<br/>    4f0e-8834-8f3057a6c072<br/>  &lt;/testToken&gt;<br/>&lt;/emulationResponse&gt;</pre> |

## Custom Mode

This API is used to define custom values for latency, packet loss and bandwidth without using a pre-defined .ntxx file.

### Request

The Query parameter sets the emulation mode as either Single User or Multi user. This parameter is optional and by default set to Multi User mode.

**Note:** The first Start determines the mode; if a test was started in one mode following tests must use the same mode.

The body of the HTTP request defines the flow parameters: flow ID, source IP, destination IP, latency, loss, bandwidth-in, bandwidth-out and capture client PL. In addition, one of the flows can be defined as a default flow.

A flow represents traffic conditions between two locations or different networks and is defined by:

- **Flow ID:** a unique identifier that will be used later on by the user for real time update, statistics and other requests. Flow ID is a mandatory parameter. No special characters allowed.
- **Source IP/Source IP Range:** (optional) defines the client IP address; if no value is provided, the Source IP takes the IP of the Active Adapter. Either a Source IP or a Source IP Range can be used per flow.
- **Destination IP/Destination IP Range:** (optional) defines the server IP address; if no value is provided, the Destination IP will be translated to the entire network (0.0.0.1-255.255.255.255), excluding all Sources IPs in the emulation, to prevent ambiguity. Either a Destination IP or a Destination IP Range can be used per flow.

- **isCaptureClientPL:** determines if the packet list is captured or not captured in a specific flow
- **Default flow mode:** defines the default network emulation conditions without defining any Source and Destination IP addresses. When the only flow currently running is the default one, all traffic on the NV Test Manager machine undergoes the network conditions defined in this flow. If the default flow is running in addition to other flows only traffic that does not fit any flow, will obtain the default flow conditions. Default flow is supported only in Single User mode, and cannot be changed using a Real Time Update request. The exclude range protocol and port settings cannot be set for a default flow.
- **testMetadata:** (optional) Represents test display properties as they appear when viewing the test from the Network Virtualization for Mobile UI.
- **Query parameter:** sets the entire test mode: SINGLE\_USER mode or MULTI\_USER, i.e. the first start is the one that counts. If the mode parameter is omitted the default value is MULTI\_USER.

### Limitations

- "Default flow" is only allowed in one flow and only in Single User mode.
- An empty source IP is accepted only if the destination IP is also empty; this is a shortcut to get the active adapter in the Source IP and the entire network (0.0.0.1-255.255.255.255) in the Destination IP.
- Both the Source and the Destination IP can be empty only if the request contains only one flow. In this case the Source is assigned as the Active Adapter and the Destination is [0.0.0.1-255.255.255.255, with the exception of the Active Adapter].  
If more than one flow is sent on the Play or Add Flows request, the Source IP must be present. In this case, if the Destination IP is blank, the IP is set at [0.0.0.1-255.255.255.255, except for the Source IP].
- When using IP ranges do not leave the Source or Destination IP address empty.
- It is not recommended to leave both the Source and the Destination IP blank when using Multi User mode since it will affect only the first user; later requests will cause ambiguity and the test will not start.

### Request (All Parameters are Given)

The test contains two flows that use the emulation parameters defined by the user.

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/emulation/custom?mode=MULTI_USER   |
| HTTP Method  | <b>POST</b>  |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |

|      |   |
|------|---|
| Body | <pre> {   "flows": [{     "flowId": "my_flow",     "srcIp": "1.1.1.1",     "destIp": "2.2.2.2",     "latency": 500,     "packetloss": 20.0,     "bandwidthIn": 2048.0,     "bandwidthOut": 2048.0,     "isCaptureClientPL": "true"   }, {     "flowId": "my_flow2",     "srcIp": "1.1.2.2",     "destIp": "2.1.1.1",     "latency": 500,     "packetloss": 10.0,     "bandwidthIn": 2048.0,     "bandwidthOut": 148.0,     "isCaptureClientPL": "true"   }],   "testMetadata": {     "testName": "myNtx",     "description": "it is my ntx",     "networkScenario": "3G"   } } </pre> |
|------|---|

**Request (Empty Source and/or Destination IP in a Single Flow)**

A single flow with an empty source IP and an empty destination IP is interpreted as a flow with the active adapter IP in the client Endpoint and the entire network (0.0.0.1-255.255.255.255) excluded active adapter in the server Endpoint.

**JSON**

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/emulation/custom?mode=MULTI_USER   |
| HTTP Method  | <b>POST</b>  |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See <a href="#">"Web Services Authentication" on page 7.</a> |

|      |  |
|------|--|
| Body | <pre>{   "flows": [{     "flowId": "my_flow",     "latency": 500,     "packetloss": 20.0,     "bandwidthIn": 2048.0,     "bandwidthOut": 2048.0,     "isCaptureClientPL": "true"   }],   "testMetadata": {     "testName": "myNtx",     "description": "it is my ntx",     "networkScenario": "3G"   } }</pre> |
|------|--|

### XML

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/emulation/custom?mode=MULTI_USER   |
| HTTP Method  | <b>POST</b>  |
| HTTP Headers | <p><b>Content-Type:</b> application/xml</p> <p><b>Accept:</b> application/xml</p> <p><b>Authorization:</b> See <a href="#">"Web Services Authentication"</a> on page 7.</p>  |
| Body         | <pre>&lt;emulationCustomRequest&gt;   &lt;flows&gt;     &lt;flowId&gt;my_flow&lt;/flowId&gt;     &lt;latency&gt;500.0&lt;/latency&gt;     &lt;packetloss&gt;20.0&lt;/packetloss&gt;     &lt;bandwidthIn&gt;2048.0&lt;/bandwidthIn&gt;     &lt;bandwidthOut&gt;2048.0&lt;/bandwidthOut&gt;     &lt;isCaptureClientPL&gt;true&lt;/isCaptureClientPL&gt;   &lt;/flows&gt;   &lt;testMetadata&gt;     &lt;testName&gt;myNtx&lt;/testName&gt;     &lt;description&gt;it is my ntx&lt;/description&gt;     &lt;networkScenario&gt;3G&lt;/networkScenario&gt;   &lt;/testMetadata&gt; &lt;/emulationCustomRequest&gt;</pre> |

### Request (Empty Destination IP in Single and Multi User Flows)

A flow with an empty destination IP is interpreted as a flow with destination IP range to entire network (0.0.0.1-255.255.255.255). It excludes all sources IPs in the emulation, in order to pass validation.

### JSON

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/emulation/custom?mode=MULTI_USER   |
| HTTP Method  | <b>POST</b>  |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7.   |
| Body         | <pre>{   "flows": [{     "flowId": "flow33",     "srcIp": "1.1.1.1",     "latency": 500,     "packetloss": 20.0,     "bandwidthIn": 2048.0,     "bandwidthOut": 2048.0,     "isCaptureClientPL": "false"   }],   "testMetadata": {     "testName": "myNtx",     "description": "it is my ntx",     "networkScenario": "3G"   } }</pre> |

**XML**

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/emulation/custom?mode=MULTI_USER   |
| HTTP Method  | <b>POST</b>  |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |

|      |  |
|------|--|
| Body | <pre> &lt;emulationCustomRequest&gt;   &lt;flows&gt;     &lt;flowId&gt;my_flow2&lt;/flowId&gt;     &lt;srcIp&gt;1.1.1.1&lt;/srcIp&gt;     &lt;latency&gt;500.0&lt;/latency&gt;     &lt;packetloss&gt;10.0&lt;/packetloss&gt;     &lt;bandwidthIn&gt;2048.0&lt;/bandwidthIn&gt;     &lt;bandwidthOut&gt;148.0&lt;/bandwidthOut&gt;     &lt;isCaptureClientPL&gt;false&lt;/isCaptureClientPL&gt;   &lt;/flows&gt;   &lt;testMetadata&gt;     &lt;testName&gt;myNtx&lt;/testName&gt;     &lt;description&gt;it is my ntx&lt;/description&gt;     &lt;networkScenario&gt;3G&lt;/networkScenario&gt;   &lt;/testMetadata&gt; &lt;/emulationCustomRequest&gt; </pre> |
|------|--|

**Request (Default Flow Mode)**

This flag is supported in Single User mode only. The given IPs are ignored since the default flow mode set all traffic to be emulated.

**JSON**

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/emulation/custom?mode=SINGLE_USER  |
| HTTP Method  | <b>POST</b>  |
| HTTP Headers | <p><b>Content-Type:</b> application/json</p> <p><b>Accept:</b> application/json</p> <p><b>Authorization:</b> See <a href="#">"Web Services Authentication"</a> on page 7.</p>  |
| Body         | <pre> {   "flows": [{     "flowId": "flow33",     "srcIp": "1.1.1.1",     "latency": 500,     "packetloss": 20.0,     "bandwidthIn": 2048.0,     "bandwidthOut": 2048.0,     "isCaptureClientPL": "true",     "isDefaultFlow": "true"   }],   "testMetadata": {     "testName": "myNtx",     "description": "it is my ntx",     "networkScenario": "3G"   } } </pre> |

**XML**

|              |   |
|--------------|---|
| URL          | http://ip:port/shunra/api/emulation/custom?mode=SINGLE_USER   |
| HTTP Method  | <b>POST</b>   |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7.  |
| Body         | <pre> &lt;emulationCustomRequest&gt;   &lt;flows&gt;     &lt;flowId&gt;my_flow&lt;/flowId&gt;     &lt;srcIp&gt;1.1.1.1&lt;/srcIp&gt;     &lt;latency&gt;500.0&lt;/latency&gt;     &lt;packetloss&gt;20.0&lt;/packetloss&gt;     &lt;bandwidthIn&gt;2048.0&lt;/bandwidthIn&gt;     &lt;bandwidthOut&gt;2048.0&lt;/bandwidthOut&gt;     &lt;isCaptureClientPL&gt;true&lt;/isCaptureClientPL&gt;     &lt;isDefaultFlow&gt;true&lt;/isDefaultFlow&gt;   &lt;/flows&gt;   &lt;testMetadata&gt;     &lt;testName&gt;myNtx&lt;/testName&gt;     &lt;description&gt;it is my ntx&lt;/description&gt;     &lt;networkScenario&gt;3G&lt;/networkScenario&gt;   &lt;/testMetadata&gt; &lt;/emulationCustomRequest&gt;           </pre> |

**Request (Source IP in Range Format)**

In order to pass a range of IPs, the request contains the optional property "srcIpRange", with the list of exclude and include ranges.

This functionality can be applied on the destination IP in the exact same way, under the property "destIpRange".

**JSON**

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/emulation/custom?mode=SINGLE_USER  |
| HTTP Method  | <b>POST</b>  |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |

|      |  |
|------|--|
| Body | <pre> {   "flows": [{     "flowId": "flow33",     "srcIpRange": {       "include": [{         "from": "1.1.1.1",         "to": "7.7.7.7",         "port": 5555,         "protocol": 17       }, {         "from": "172.30.4.5",         "to": "198.168.4.5",         "port": 5555,         "protocol": 17       }     ],     "exclude": [{       "from": "1.2.3.4",       "to": "1.3.4.5",       "port": 5555,       "protocol": 17     }   ] },   "latency": 500,   "packetloss": 20.0,   "bandwidthIn": 2048.0,   "bandwidthOut": 2048.0,   "isCaptureClientPL": "true" }],   "testMetadata": {     "testName": "myNtx",     "description": "it is my ntx",     "networkScenario": "3G"   } } </pre> |
|------|--|

**XML**

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/emulation/custom?mode=SINGLE_USER  |
| HTTP Method  | <b>POST</b>  |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See <a href="#">"Web Services Authentication" on page 7.</a> |

|      |  |
|------|--|
| Body | <pre> &lt;emulationCustomRequest&gt;   &lt;flows&gt;     &lt;flowId&gt;my_flow&lt;/flowId&gt;     &lt;destIp&gt;2.2.2.2&lt;/destIp&gt;     &lt;srcIpRange&gt;       &lt;include&gt;         &lt;from&gt;1.1.8.1&lt;/from&gt;         &lt;to&gt;1.1.10.1&lt;/to&gt;         &lt;port&gt;80&lt;/port&gt;         &lt;protocol&gt;17&lt;/protocol&gt;       &lt;/include&gt;       &lt;exclude&gt;         &lt;from&gt;1.2.3.4&lt;/from&gt;         &lt;to&gt;1.3.4.5&lt;/to&gt;         &lt;port&gt;5555&lt;/port&gt;         &lt;protocol&gt;17&lt;/protocol&gt;       &lt;/exclude&gt;     &lt;/srcIpRange&gt;     &lt;latency&gt;500.0&lt;/latency&gt;     &lt;packetloss&gt;20.0&lt;/packetloss&gt;     &lt;bandwidthIn&gt;2048.0&lt;/bandwidthIn&gt;     &lt;bandwidthOut&gt;2048.0&lt;/bandwidthOut&gt;     &lt;isCaptureClientPL&gt;true&lt;/isCaptureClientPL&gt;     &lt;isDefaultFlow&gt;false&lt;/isDefaultFlow&gt;   &lt;/flows&gt;   &lt;testMetadata&gt;     &lt;testName&gt;myNtx&lt;/testName&gt;     &lt;description&gt;it is my ntx&lt;/description&gt;     &lt;networkScenario&gt;3G&lt;/networkScenario&gt;   &lt;/testMetadata&gt; &lt;/emulationCustomRequest&gt; </pre> |
|------|--|

### Response

On success, the response body will contain the test token for the running test.

### JSON

|                    |  |
|--------------------|--|
| HTTP Response Code | 201 - Created  |
| HTTP Headers       | <p><b>Content-Type:</b> application/json; charset=UTF-8</p> <p><b>Location:</b> http://ip:port/shunra/emulation/ntx/92d8ebb2-012d-4fef-94ac-b8c0e3288918f8572958-833a-4cb7-84d9-97ad5ff7aa67</p> |
| HTTP Body          | <pre> {"testToken": "133a1a9e-2885-443f-9ea5-4de373d4a57a372572b2-0d25-4852-91f8-fb849056c89a"} </pre>   |

### XML

|                    |  |
|--------------------|--|
| HTTP Response Code | 201 - Created  |
| HTTP Headers       | <b>Content-Type:</b> application/xml; charset=UTF-8<br><b>Location:</b> http://ip:port/shunra/emulation/ntx/92d8ebb2-012d-4fef-94ac-b8c0e3288918f8572958-833a-4cb7-84d9-97ad5ff7aa67       |
| HTTP Body          | <pre>&lt;emulationResponse&gt;   &lt;testToken&gt;     b00b960c-ee8b-4965-8d41-572a3da5c6e1071776ab-     d448-4f0e-8834-8f3057a6c072   &lt;/testToken&gt; &lt;/emulationResponse&gt;</pre> |

## Location Based Mode

The API is used to start an emulation based on predefined locations generated in the NV Location Editor. For more information, see the *NV Location Editor User Guide*.

### Request

- **Locations:** the request body should contain a list of the Locations' metadata as returned by the NV Location Editor. Each Location must have a unique "ID".
- **Locations' Source IPs and Destination IPs:** Source IP ("srcIp") or Source IP Range ("srcIpRange") and Destination IP ("destIp") or Destination IP Range ("destIpRange") can be defined for each Location in one of the following methods:
  - Both Source and Destination IP/IP Range are defined.
  - Only a "srcIp" is defined for a location, its Destination IP Range will automatically be completed with the entire IP range (0.0.0.1-255.255.255.255) excluding all of the Locations' "srcIp" (to prevent ambiguity between the Locations).  
  
Automatic Destination IP Range is not supported when using "srcIpRange". In Single-User mode, Automatic Destination IP Range is supported only when there is a single Location in the request.
  - Both Source and Destination IPs are not defined; in this case the Dynamic Filter functionality will be used. Dynamic Filter functionality is explained in the end of the section.
- **isCaptureClientPI:** set "isCaptureClientPI" to True for capturing packets for a location. Set the flag to False in order to disable packet capture. The parameter is optional and its default value is false.
- **excludeIPRange:** Excluded IP ranges define traffic that should not be affected by emulation. It will be added to all Locations in the request.

**Note:** Note: Do not define an excluded IP range if you are going to use the Dynamic Filter

functionality.

- **Query parameter “mode”:** sets the emulation mode as either Single-User (“SINGLE\_USER”) or Multi-User (“MULTI\_USER”). This parameter is optional and its default value is Multi-User.

**Note:**

- Real Time Updates are not supported if the test was started in the Location Based Mode.
- The first Start Test request determines whether NV is in Single-User mode or Multi-User mode.
- Playing recorded data, dynamic filter and non-shared bandwidth functionality are supported only in Single User mode and not supported in Multi-User mode.

**Request**

**JSON**

|              |   |
|--------------|---|
| URL          | http://ip:port/shunra/api/emulation/bylocations?mode=SINGLE_USER  |
| HTTP Method  | <b>POST</b>   |
| HTTP Headers | <p><b>Content-Type:</b> application/json</p> <p><b>Accept:</b> application/json</p> <p><b>Authorization:</b> See <a href="#">"Web Services Authentication" on page 7.</a></p>   |
| Body         | <pre>{   "locations": [{     "id": "My_uniq_Id",     "locationMetadata": {       "id": "My_uniq_Id",       "type": "CUSTOM",       "latency": 10,       "packetloss": 12.5,       "bandwidthIn": 0.0,       "bandwidthOut": 0.0,       "isCaptureClientPl": false,       "sharedBandwidth": true     },   },   "destIp": "5.6.7.8",   "srcIpRange": {     "include": [{       "from": "8.8.8.8",       "to": "8.8.8.9",     }   ] }</pre> |

```

    "port": 8183,
    "protocol": 6
  ]],
  "exclude": []
}
}, {
  "id": "My_uniq_Id2",
  "locationMetadata": {
    "id": "My_uniq_Id2",
    "type": "CUSTOM",
    "latency": 12,
    "packetloss": 15.0,
    "bandwidthIn": 0.0,
    "bandwidthOut": 0.0,
    "isCaptureClientP1": false,
    "sharedBandwidth": true
  },
  "destIp": "5.6.7.9",
  "srcIpRange": {
    "include": [{
      "from": "8.8.8.3",
      "to": "8.8.8.4",
      "port": 8183,
      "protocol": 6
    }],
    "exclude": []
  }
}],
"excludeIpRange": [{
  "from": "1.1.1.1",
  "to": "2.2.2.2",
  "protocol": 6,
  "port": 8182
}],
"isCaptureClientP1": false
}

```

**XML**

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/emulation/bylocations?mode=SINGLE_USER   |
| HTTP Method  | <b>POST</b>  |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See <a href="#">"Web Services Authentication" on page 7.</a> |

|      |   |
|------|---|
| Body | <pre>&lt;emulationByLocationsRequest&gt;   &lt;locations&gt;     &lt;id&gt;My_uniq_Id&lt;/id&gt;     &lt;locationMetadata&gt;       &lt;id&gt;My_uniq_Id&lt;/id&gt;       &lt;type&gt;CUSTOM&lt;/type&gt;       &lt;latency&gt;10&lt;/latency&gt;       &lt;packetloss&gt;12.5&lt;/packetloss&gt;       &lt;bandwidthIn&gt;0&lt;/bandwidthIn&gt;       &lt;bandwidthOut&gt;0&lt;/bandwidthOut&gt;       &lt;isCaptureClientPl&gt;false&lt;/isCaptureClientPl&gt;       &lt;sharedBandwidth&gt;true&lt;/sharedBandwidth&gt;     &lt;/locationMetadata&gt;     &lt;destIp&gt;5.6.7.8&lt;/destIp&gt;     &lt;srcIpRange&gt;       &lt;include&gt;         &lt;from&gt;8.8.8.8&lt;/from&gt;         &lt;to&gt;8.8.8.9&lt;/to&gt;         &lt;port&gt;8183&lt;/port&gt;         &lt;protocol&gt;6&lt;/protocol&gt;       &lt;/include&gt;     &lt;/srcIpRange&gt;   &lt;/locations&gt;   &lt;locations&gt;     &lt;id&gt;My_uniq_Id2&lt;/id&gt;     &lt;locationMetadata&gt;       &lt;id&gt;My_uniq_Id2&lt;/id&gt;       &lt;type&gt;CUSTOM&lt;/type&gt;       &lt;latency&gt;12&lt;/latency&gt;       &lt;packetloss&gt;15&lt;/packetloss&gt;       &lt;bandwidthIn&gt;0&lt;/bandwidthIn&gt;       &lt;bandwidthOut&gt;0&lt;/bandwidthOut&gt;       &lt;isCaptureClientPl&gt;false&lt;/isCaptureClientPl&gt;       &lt;sharedBandwidth&gt;true&lt;/sharedBandwidth&gt;     &lt;/locationMetadata&gt;     &lt;destIp&gt;5.6.7.9&lt;/destIp&gt;     &lt;srcIpRange&gt;       &lt;include&gt;         &lt;from&gt;8.8.8.3&lt;/from&gt;         &lt;to&gt;8.8.8.4&lt;/to&gt;         &lt;port&gt;8183&lt;/port&gt;         &lt;protocol&gt;6&lt;/protocol&gt;       &lt;/include&gt;     &lt;/srcIpRange&gt;   &lt;/locations&gt;   &lt;excludeIpRange&gt;     &lt;from&gt;1.1.1.1&lt;/from&gt;     &lt;to&gt;2.2.2.2&lt;/to&gt;</pre> |
|------|---|

|  |  |
|--|--|
|  | <pre>                 &lt;protocol&gt;6&lt;/protocol&gt;                 &lt;port&gt;8182&lt;/port&gt;             &lt;/excludeIpRange&gt;             &lt;isCaptureClientP1&gt;&gt;false&lt;/isCaptureClientP1&gt;          &lt;/emulationByLocationsRequest&gt;             </pre> |
|--|--|

### Response

On success, the response body will contain Test Token for the started test.

### JSON

|                    |   |
|--------------------|---|
| HTTP Response Code | 201 - Created   |
| HTTP Headers       | <b>Content-Type:</b> application/json; charset=UTF-8  |
| HTTP Body          | <pre> {   "testToken": "133a1a9e-2885-443f-9ea5- 4de373d4a57a372572b2-0d25-4852-91f8-fb849056c89a" }             </pre> |

### XML

|                    |   |
|--------------------|---|
| HTTP Response Code | 201 - Created   |
| HTTP Headers       | <b>Content-Type:</b> application/xml; charset=UTF-8   |
| HTTP Body          | <pre> &lt;emulationResponse&gt;   &lt;testToken&gt;b00b960c-ee8b-4965-8d41- 572a3da5c6e1071776abd448-4f0e-8834-8f3057a6c072&lt;/testToken&gt; &lt;/emulationResponse&gt;             </pre> |

### Dynamic Filter

Dynamic filters are designed to support testing concurrent process instances, where each instance may create multiple TCP connections without prior knowledge of connection details (i.e. <IP:port> pair). This is achieved by setting up locations with pre-defined network conditions but without IP range specifications. Whenever a given process instance starts a TCP connection, it provides its assigned location ID using the addDynamicFilter API, and thus the emulation agent will know which flow to use for traffic carried on that connection.

For tests with heavy loads with where new connections are created very frequently (up to a few thousand per second) Real Time Updates in these situations are not efficient. The API to connect and disconnect Dynamic Filter is not a web API, but is a Java-based API. Therefore, no validations are performed on Connect or Disconnect requests. This API is used to assign and unassign the IP\Ports dynamically and to communicate with the native emulation engine code.

Once a location-based emulation has been started without a Source and Destination IP\Range, the test runs in Dynamic Filter mode. In this mode the Source and Destination IPs can be added dynamically.

### Public API Usage

To call the public Java API:

From your code, reference the `dynamicfilter.jar` library. This jar is located under **<NV Test Manager installation>/lib/shunra/vcat** folder.

The API implements class `'com.shunra.dynamicfilter.impl.DynamicFilterProxy'`. Use it from your code.

The class has three public methods:

- **public void configure(String configFile)**

Use to initialize the class by `snvcontroller.properties` file location; a one-time call at test start. `Snvcontroller.properties` file is located in `<NV Test Manager installation>\conf` folder.

- **public int addDynamicFilter(String clientIp, String serverIp, short clientPort, short serverPort, String locationId, short userId);**

Use it to add a dynamic filter whenever a new TCP connection is initiated. If possible, we recommend tying a hook to the socket Connect function for this purpose.

If a system call hooking is not supported by the development environment, or if the developer decides not to use it, the second best option is to call it immediately after successful return from socket connect. Note that with the second option the connection establishment exchange is not affected by emulation.

The **locationId** is the value that was returned during the `createLocation` operation. If you do not know the exact client side IP, you can provide `0.0.0.0` and NV agent will determine it according to the traffic. If no port is provided, the default value=`allPorts` is used.

**userId:** This is very important when dynamic filters are used in conjunction with non-shared bandwidth. There may be many users (process instances) assigned the same location. The emulation driver will allocate bandwidth based on user ID, such that there will be no competition for bandwidth between users (only between different connections for the same user). Assuming a process instance simulates a virtual user, a unique user ID should be assigned to each such instance. Note that there is no significance to the number in `userId`, provided that it is unique in the test scope.

- **public int deleteDynamicFilter(String clientIp, String serverIp, short clientPort, short serverPort);**

use to remove the dynamic filter after the socket is closed.

The example of java API usage:

```
try {  
    DynamicFilterProxy proxy = new DynamicFilterProxy();  
    proxy.configure("<NV Test Manager home>\conf\snvcontroller.properties");  
    short cport = 0;  
    short sport = 0;  
    short uid = 0;  
    proxy.addDynamicFilter("172.30.2.80", "172.30.2.101", cport, sport,
```

```
"myLocation_id", uid);  
} catch (Exception e) {  
    System.out.println("Operation failed: " + e.getMessage());  
}
```

### Command Line Execution

The Command Line used when integrating with non-Java applications.

The API can be executed by the command line from **<NV Test Manager installation>/lib/shunra/vcat** folder:

To connect a new Client-Server IP\Port pair (example):

```
java -classpath dynamicfilter.jar com.shunra.dynamicfilter.impl.DynamicFilterProxy  
-operation connect -clientIp 172.30.2.80 -serverIp 172.30.2.101 -clientPort 0 -  
serverPort 0 -locationId My_location_uniq_Id -userId 0
```

The **locationId** is the value that was returned during the createLocation operation. If you do not know the exact client side IP, you can provide 0.0.0.0 and Network Virtualization for Mobile will determine it according to the traffic. If no port is provided, the default value=allPorts is used.

The example above will add the IPs for location **My\_location\_uniq\_Id** according to the **clientIp**, **serverIp**, **clientPort**, **serverPort** parameters.

To disconnect (example):

```
java -classpath dynamicfilter.jar com.shunra.dynamicfilter.impl.DynamicFilterProxy  
-operation disconnect -clientIp 172.30.2.80 -serverIp 172.30.2.101 -clientPort 0 -  
serverPort 0
```

## Real Time Update

This API performs real time updates on tests that are already playing. Real time updates can be performed in two modes, NTX mode or Custom mode.

- **NTX mode:** The complete .ntxx file can be used, or only the parts of the file that include the shapes which require updates. Partial shape updates are not supported; all shape attributes must be provided: latency and packet loss must be updated together and all bandwidth parameters must be updated together.
- **Custom mode:** the Flow ID must be provided, Partial shape updates are not supported; all shape attributes must be provided: latency and packet loss must be updated together and all bandwidth parameters must be updated together.

### Limitations

- IP changes are not allowed, instead, use the Add Flow functionality in Multi User mode, or start an additional test.

- A Custom real time update request is supported only if the start request was made in Custom mode (and not through the .ntxx file).
- The "Default flow" cannot be changed through the real time update request.

## NTX Mode

### Request

The HTTP request holds an .ntxx string.

### JSON

|              |   |
|--------------|---|
| URL          | http://ip:port/shunra/api/emulation/ntx/{testToken}   |
| HTTP Method  | <b>PUT</b>  |
| HTTP Headers | <b>Content-Type:</b> multipart/form-data<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7.   |
| Form Data    | Two form data objects should be provided:<br><ol style="list-style-type: none"><li>1. "fileUpload" with .ntxx file.</li><li>2. "metadata":<br/><pre>{<br/>  "testName": "myNtx",<br/>  "networkScenario": "3G",<br/>  "description": "This is my ntx"<br/>}</pre></li></ol><br>See RFC 1867, "Form-based File Upload in HTML"<br><a href="http://www.ietf.org/rfc/rfc1867.txt">www.ietf.org/rfc/rfc1867.txt</a> |

### XML

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/emulation/ntx/{testToken}  |
| HTTP Method  | <b>PUT</b>   |
| HTTP Headers | <b>Content-Type:</b> multipart/form-data<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |

|           |   |
|-----------|---|
| Form Data | <p>Two form data objects should be provided:</p> <ol style="list-style-type: none"> <li>1. "fileUpload" with .ntxx file.</li> <li>2. "metadata":           <pre>&lt;testMetadata&gt;             &lt;testName&gt;myNtx&lt;/testName&gt;             &lt;description&gt;This is my ntx&lt;/description&gt;             &lt;networkScenario&gt;3G&lt;/networkScenario&gt;           &lt;/testMetadata&gt;</pre> </li> </ol> <p>See RFC 1867, "Form-based File Upload in HTML"<br/> <a href="http://www.ietf.org/rfc/rfc1867.txt">www.ietf.org/rfc/rfc1867.txt</a></p> |
|-----------|---|

**Response**

|                    |                  |
|--------------------|------------------|
| HTTP Response Code | 204 - No content |
| HTTP Headers       |                  |
| HTTP Body          |                  |

## Custom Mode

**Request**

The body of the request holds an array of flow objects to update. Although partial updates are supported, when providing parameters, values for Latency and Packet Loss must be provided together; also values for BandwidthIn and BandwidthOut must be provided together.

**JSON**

|              |   |
|--------------|---|
| URL          | <code>http://ip:port/shunra/api/emulation/custom/{testToken}</code>   |
| HTTP Method  | <b>PUT</b>  |
| HTTP Headers | <p><b>Content-Type:</b> application/json</p> <p><b>Accept:</b> application/json</p> <p><b>Authorization:</b> See "<a href="#">Web Services Authentication</a>" on page 7.</p> |

|      |   |
|------|---|
| Body | <pre>{   "flows": [{     "flowId": "flow33",     "latency": 500,     "packetloss": 20.0,     "bandwidthIn": 2048.0,     "bandwidthOut": 2048.0,     "isDefaultFlow": "true"   }],   "testMetadata": {     "testName": "myNtx",     "description": "it is my ntx",     "networkScenario": "3G"   } }</pre> |
|------|---|

**XML**

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/emulation/custom/{testToken}   |
| HTTP Method  | <b>PUT</b>   |
| HTTP Headers | <p><b>Content-Type:</b> application/xml</p> <p><b>Accept:</b> application/xml</p> <p><b>Authorization:</b> See <a href="#">"Web Services Authentication" on page 7.</a></p>  |
| Body         | <pre>&lt;emulationCustomRequest&gt;   &lt;flows&gt;     &lt;flowId&gt; flow33&lt;/flowId&gt;     &lt;latency&gt;500.0&lt;/latency&gt;     &lt;packetloss&gt;20.0&lt;/packetloss&gt;     &lt;bandwidthIn&gt;2048.0&lt;/bandwidthIn&gt;     &lt;bandwidthOut&gt;2048.0&lt;/bandwidthOut&gt;     &lt;isDefaultFlow&gt;true&lt;/isDefaultFlow&gt;   &lt;/flows&gt;   &lt;testMetadata&gt;     &lt;testName&gt;myNtx&lt;/testName&gt;     &lt;description&gt;it is my ntx&lt;/description&gt;     &lt;networkScenario&gt;3G&lt;/networkScenario&gt;   &lt;/testMetadata&gt; &lt;/emulationCustomRequest&gt;</pre> |

**Response**

|                    |                  |
|--------------------|------------------|
| HTTP Response Code | 204 - No content |
| HTTP Headers       |                  |
| HTTP Body          |                  |

## Stop Test

The Stop Test API functions allow you to end tests that are currently running. This API supports the following functions:

- ["Stop All Tests" below](#): Stops all currently running tests.
- ["Stop Test by Tokens" on the next page](#): Stops one or more specific tests.
- ["Force Stop \(Reset All\)" on page 34](#): Resets the NV Driver, forcibly stopping all tests.

Once a test stops, the following occur:

- Packet Lists of the flows in the test are downloaded
- A .shunra results file is generated

## Stop All Tests

This API stops all the running tests.

### Request

#### JSON

|              |   |
|--------------|---|
| URL          | http://ip:port/shunra/api/emulation   |
| HTTP Method  | <b>DELETE</b>   |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See <a href="#">"Web Services Authentication" on page 7</a> . |
| Body         | None  |

#### XML

|              |   |
|--------------|---|
| URL          | http://ip:port/shunra/api/emulation   |
| HTTP Method  | <b>DELETE</b>   |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See <a href="#">"Web Services Authentication" on page 7</a> . |
| Body         | None  |

## Response

A list of Shunra files (one .shunra file per test).

### JSON

|                    |  |
|--------------------|--|
| HTTP Response Code | 200 - OK   |
| HTTP Headers       | <b>Content-Type:</b> application/json; charset=UTF-8   |
| HTTP Body          | <pre>{   "analysisResourcesLocation": {     "073bac1a-48a9-4f70-9c22-df23ff21473db3673d23-     f4d4-47c1-817a-b619f7d7b032":     "C:\\tmp\\TrafficResources\\073bac1a-48a9-4f70-9c22-     -df23ff21473d\\b3673d23-f4d4-47c1-817ab619f7d7b032\\     AnalysisResources.shunra"   } }</pre> |

### XML

|                    |  |
|--------------------|--|
| HTTP Response Code | 200 - OK   |
| HTTP Headers       | <b>Content-Type:</b> application/xml; charset=UTF-8  |
| HTTP Body          | <pre>&lt;emulationStopResponse&gt;   &lt;analysisResourcesLocation&gt;     &lt;entry&gt;       &lt;key&gt;a446ca8a-c0e0-48c9-9ca2-a552b07c6431c8bb0dc9-       3e26-4c4c-adf9-2d3ed82c9a66&lt;/key&gt;       &lt;value&gt;         C:\tmp\TrafficResources\a446ca8a-c0e0-48c9-9ca2-         a552b07c6431\c8bb0dc9-3e26-4c4c-adf9-2d3ed82c9a66\         AnalysisResources.shunra       &lt;/value&gt;     &lt;/entry&gt;   &lt;/analysisResourcesLocation&gt; &lt;/emulationStopResponse&gt;</pre> |

## Stop Test by Tokens

Stops test(s) according to the test identifiers.

### Request

#### JSON

|              |   |
|--------------|---|
| URL          | http://ip:port/shunra/api/emulation/stop  |
| HTTP Method  | <b>PUT</b>  |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7.              |
| Body         | {<br>testTokens: ["666232a3-b534-4965-ac5f-b47c407f3fa02ec9efc8-2dac-4a12-bfe7-5fd53d1b7312", "666232a3-b534-4965-ac5fb47c407f3fa077b25cb1-7062-466d-8dca-c7238b4cba4d"]<br>} |

### XML

|              |   |
|--------------|---|
| URL          | http://ip:port/shunra/api/emulation/stop  |
| HTTP Method  | <b>PUT</b>  |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7.  |
| Body         | <stopRequest><br><testTokens><br>666232a3-b534-4965-ac5f-b47c407f3fa02ec9efc8-2dac-4a12-bfe7-5fd53d1b7312<br></testTokens><br><testTokens><br>666232a3-b534-4965-ac5f-b47c407f3fa077b25cb1-7062-466d-8dca-c7238b4cba4d<br></testTokens><br></stopRequest> |

### Response

A list of Shunra files (Shunra file per test).

### JSON

|                    |  |
|--------------------|--|
| HTTP Response Code | 200 - OK   |
| HTTP Headers       | <b>Content-Type:</b> application/json; charset=UTF-8 |

|           |  |
|-----------|--|
| HTTP Body | <pre>{   "analysisResourcesLocation": {     "073bac1a-48a9-4f70-9c22-df23ff21473db3673d23-f4d4-47c1-817a-b619f7d7b032": "C:\\tmp\\TrafficResources\\073bac1a-48a9-4f70-9c22-df23ff21473d\\b3673d23-f4d4-47c1-817ab619f7d7b032\\AnalysisResources.shunra"   } }</pre> |
|-----------|--|

**XML**

|                    |  |
|--------------------|--|
| HTTP Response Code | 200 - OK   |
| HTTP Headers       | <b>Content-Type:</b> application/xml; charset=UTF-8  |
| HTTP Body          | <pre>&lt;emulationStopResponse&gt;   &lt;analysisResourcesLocation&gt;     &lt;entry&gt;       &lt;key&gt;         bb9e32c4-8b22-477e-801f-c8b1991256a4daf2a64e-ffec-493a-8b19-f497e3946f7b       &lt;/key&gt;       &lt;value&gt;         C:\tmp\TrafficResources\bb9e32c4-8b22-477e-801fc8b1991256a4\daf2a64e-ffec-493a-8b19-f497e3946f7b\AnalysisResources.shunra       &lt;/value&gt;     &lt;/entry&gt;   &lt;/analysisResourcesLocation&gt; &lt;/emulationStopResponse&gt;</pre> |

## Force Stop (Reset All)

This API restarts the driver and naturally will stop the emulation on the specified emulation engine.

**Request**

**JSON**

|             |  |
|-------------|--|
| URL         | http://ip:port/shunra/api/emulation/resetall |
| HTTP Method | <b>PUT</b>                                   |

|              |  |
|--------------|--|
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | None   |

### XML

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/emulation/resetall   |
| HTTP Method  | <b>PUT</b>   |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | None   |

### Response

|                    |                  |
|--------------------|------------------|
| HTTP Response Code | 204 - No content |
| HTTP Body          | None             |

## Test Tokens

Returns all running test tokens.

### Request

Parameters:

**all:** Set to **true** to return test tokens of all users, not just the user used for API authentication. The user used for API authentication must have administrator privileges to use this parameter.

### JSON

|             |   |
|-------------|---|
| URL         | http://ip:port/shunra/api/emulation/tokens?all=true |
| HTTP Method | <b>GET</b>  |

|              |  |
|--------------|--|
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | None   |

### XML

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/emulation/tokens?all=true  |
| HTTP Method  | <b>GET</b>   |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | None   |

### Response

#### JSON

|                    |   |
|--------------------|---|
| HTTP Response Code | 204- No Content in case no emulation is running<br>200 - OK   |
| HTTP Headers       | <b>Content-Type:</b> application/json; charset=UTF-8  |
| HTTP Body          | <pre>{   "tests": [{     "userId": "admin",     "emulationEngine": {       "IL-Igor-LT.shunra.net": {         "testTokens": ["fe7aff67-6eef-4c92-b357-80da7becf50937d7cb1d-4a18-42ae-8533-992e4f2945a7"],         "emulationMode": "SINGLE_USER"       }     }   }] }</pre> |

### XML

|                    |   |
|--------------------|---|
| HTTP Response Code | 204- No Content in case no emulation is running<br>200 - OK |
|--------------------|---|

|              |   |
|--------------|---|
| HTTP Headers | <b>Content-Type:</b> application/xml; charset=UTF-8   |
| HTTP Body    | <pre> &lt;multiUserEmulationTokensResponse&gt;   &lt;tests&gt;     &lt;userId&gt;admin&lt;/userId&gt;     &lt;emulationEngine&gt;       &lt;entry&gt;         &lt;key&gt;IL-Igor-LT.shunra.net&lt;/key&gt;         &lt;value xsi:type="emulationTokens"&gt;           &lt;testTokens&gt;             d7293a7d-6ee7-4550-a4a3-1b15e374487c0effbd0c             -43de-4ab2-b832-afaa79c212b0           &lt;/testTokens&gt;           &lt;emulationMode&gt;MULTI_USER&lt;/emulationMode&gt;         &lt;/value&gt;       &lt;/entry&gt;     &lt;/emulationEngine&gt;   &lt;/tests&gt; &lt;/multiUserEmulationTokensResponse&gt; </pre> |

## Get Test Parameters

This API is valid only when at least one test is running. It returns data which includes shape IDs, end points etc. per test.

## Get Test Parameters Aggregated by Shape

### Request

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/emulation/parameters/byshape/{testToken}   |
| HTTP Method  | <b>GET</b>   |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See <a href="#">"Web Services Authentication"</a> on page 7. |
| Body         | None   |

### Response

The Response includes the HTTP body in JSON format which holds the requested info.

|                    |  |
|--------------------|--|
| HTTP Response Code | 204 - No Content in case no emulation is running<br>200 - OK |
| HTTP Headers       | <b>Content-Type:</b> application/json; charset=UTF-8         |

|           |  |
|-----------|--|
| HTTP Body | <pre>"parameters": {   [{     "userId": "admin",     "emulationEngine": {       "SERVER2008R2SP1": {         "emulationParameters": {           "0c9fbd86-cd3f-46a3-aff7-6cd876b2ed2a70a89f3f-f2ad-4df8-a263-d7e4317ddf7": {             "shapesIdentificationCollection": [{               "id": "ID_CLIENT",               "type": "ENDPOINT",               "name": "Client"             }, {               "id": "ID_SERVER",               "type": "ENDPOINT",               "name": "Server"             }, {               "id": "ID_CLIENT_GW",               "type": "GATEWAY",               "name": "Client Gateway"             }, {               "id": "ID_CLIENT_GW_NIC_1",               "type": "NIC",               "name": "Clent Uplink"             }, {               "id": "ID_CLIENT_GW_NIC_2",               "type": "NIC",               "name": "Clent Downlink"             }, {               "id": "ID_SERVER_GW",               "type": "GATEWAY",               "name": "Server Gateway"             }, {               "id": "ID_SERVER_GW_NIC_1",               "type": "NIC",               "name": "Server Downlink"             }, {               "id": "ID_SERVER_GW_NIC_2",               "type": "NIC",               "name": "Server Uplink"             }, {               "id": "ID_WAN_CLOUD",               "type": "WAN_CLOUD",               "name": "Wan"             }           ]}],           "endpointsCollection": [{             "id": "ID_CLIENT",             "name": "Client",</pre> |
|-----------|--|



|           |   |
|-----------|---|
| HTTP Body | <pre>{   "parameters": [{     "userId": "admin",     "emulationEngine": {       "SERVER2008R2SP1": {         "emulationParameters": {           "bb224830-3d38-4579-b84b-8b6264d8efbd39572dcd-413e-40c5-ba46-c2fadd65f777": {             "flowsParams": {               "FLOWS_10": {                 "shapesIdentificationCollection": [{                   "id": "ID_WAN_CLOUD_FLOWS_10",                   "type": "WAN_CLOUD",                   "name": "Wan"                 }, {                   "id": "ID_CLIENT_GW_FLOWS_10",                   "type": "GATEWAY",                   "name": "Clientgateway"                 }, {                   "id": "ID_CLIENT_GW__NIC_1_FLOWS_10",                   "type": "NIC",                   "name": "ClientUplink"                 }, {                   "id": "ID_CLIENT_GW__NIC_2_FLOWS_10",                   "type": "NIC",                   "name": "ClientDownlink"                 }, {                   "id": "ID_SERVER_GW_FLOWS_10",                   "type": "GATEWAY",                   "name": "Servergateway"                 }, {                   "id": "ID_SERVER_GW__NIC_2_FLOWS_10",                   "type": "NIC",                   "name": "ServerDownlink"                 }, {                   "id": "ID_SERVER_GW__NIC_1_FLOWS_10",                   "type": "NIC",                   "name": "ServerUplink"                 }, {                   "id": "ID_CLIENT_FLOWS_10",                   "type": "ENDPOINT",                   "name": "Client"                 }               ]             }           }         }       }     }   ] }</pre> |
|-----------|---|

```
    }, {
      "id": "ID_SERVER_FLOWS_10",
      "type": "ENDPOINT",
      "name": "Server"
    }, {
      "id":
        "ID_PACKET_LIST_CLIENT_FLOWS_10",
      "type": "PACKET_LIST",
      "name":
        "PACKET_LIST_CLIENT_FLOWS_10"
    }
  ],
  "endpointsCollection": [{
    "id": "ID_CLIENT_FLOWS_10",
    "name": "Client",
    "includeIpRanges": [{
      "from": "172.30.1.1",
      "to": "172.30.254.254",
      "port": 0,
      "protocol": 0
    }
  ],
  "excludeIpRanges": []
}, {
  "id": "ID_SERVER_FLOWS_10",
  "name": "Server",
  "includeIpRanges": [{
    "from": "50.50.50.19",
    "to": "50.50.50.19",
    "port": 0,
    "protocol": 0
  }
  ],
  "excludeIpRanges": []
}],
  "isDefaultModeFlow": false
}
},
"emulationName": "VE Desktop
Professional Sample",
"executingNtx": "<NETWOR_X>... </NETWOR_X>"
}
}
}
}
}
}
}
}
}
}
```

## Add Flows

This API enables the addition of flows to a test; it is relevant for Multi User mode only.

**Note:** It is not recommended to add flows if transactions were run already in the test.

## Custom mode

As in the Custom Start Emulation API, the body of the HTTP request holds a list of Flow parameters including: Flow ID, source IP/Range, destination IP/Range, latency, loss, bandwidth-in, bandwidth-out, capture client PL.

See Start Test: "[Custom Mode](#)" on page 12 for more information.

### Request

#### JSON

|              |  |
|--------------|--|
| URL          | <code>http://ip:port/shunra/api/emulation/flow/custom/{testToken}</code>   |
| HTTP Method  | <b>PUT</b>   |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |

|      |  |
|------|--|
| Body | <pre>{   "flows": [{     "flowId": "my_flow",     "srcIp": "1.1.1.1",     "destIp": "2.2.2.2",     "latency": 500,     "packetloss": 20.0,     "bandwidthIn": 2048.0,     "bandwidthOut": 2048.0,     "isCaptureClientPL": "true"   }, {     "flowId": "my_flow2",     "srcIp": "1.1.2.2",     "destIp": "2.1.1.1",     "latency": 500,     "packetloss": 10.0,     "bandwidthIn": 2048.0,     "bandwidthOut": 148.0,     "isCaptureClientPL": "true"   }] }</pre> |
|------|--|

**XML**

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/emulation/flow/custom/{testToken}  |
| HTTP Method  | <b>PUT</b>   |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See <a href="#">"Web Services Authentication"</a> on page 7. |

|      |   |
|------|---|
| Body | <pre>&lt;emulationCustomRequest&gt;   &lt;flows&gt;     &lt;flowId&gt;flow33&lt;/flowId&gt;     &lt;srcIpRange&gt;       &lt;include&gt;         &lt;from&gt;1.1.1.1&lt;/from&gt;         &lt;to&gt;7.7.7.7&lt;/to&gt;         &lt;port&gt;5555&lt;/port&gt;         &lt;protocol&gt;17&lt;/protocol&gt;       &lt;/include&gt;       &lt;include&gt;         &lt;from&gt;172.30.4.5&lt;/from&gt;         &lt;to&gt;198.168.4.5&lt;/to&gt;         &lt;port&gt;5555&lt;/port&gt;         &lt;protocol&gt;17&lt;/protocol&gt;       &lt;/include&gt;       &lt;exclude&gt;         &lt;from&gt;1.2.3.4&lt;/from&gt;         &lt;to&gt;1.3.4.5&lt;/to&gt;         &lt;port&gt;5555&lt;/port&gt;         &lt;protocol&gt;17&lt;/protocol&gt;       &lt;/exclude&gt;     &lt;/srcIpRange&gt;     &lt;destIpRange&gt;       &lt;exclude&gt;         &lt;from&gt;1.1.1.1&lt;/from&gt;         &lt;to&gt;7.7.7.7&lt;/to&gt;         &lt;port&gt;5555&lt;/port&gt;         &lt;protocol&gt;17&lt;/protocol&gt;       &lt;/exclude&gt;       &lt;exclude&gt;         &lt;from&gt;172.30.4.5&lt;/from&gt;         &lt;to&gt;198.168.4.5&lt;/to&gt;         &lt;port&gt;5555&lt;/port&gt;         &lt;protocol&gt;17&lt;/protocol&gt;       &lt;/exclude&gt;       &lt;include&gt;         &lt;from&gt;1.2.3.4&lt;/from&gt;         &lt;to&gt;1.3.4.5&lt;/to&gt;         &lt;port&gt;5555&lt;/port&gt;         &lt;protocol&gt;17&lt;/protocol&gt;       &lt;/include&gt;     &lt;/destIpRange&gt;     &lt;latency&gt;500&lt;/latency&gt;     &lt;packetloss&gt;20&lt;/packetloss&gt;     &lt;bandwidthIn&gt;2048&lt;/bandwidthIn&gt;     &lt;bandwidthOut&gt;2048&lt;/bandwidthOut&gt;     &lt;isCaptureClientPL&gt;true&lt;/isCaptureClientPL&gt;   &lt;/flows&gt; &lt;/emulationCustomRequest&gt;</pre> |
|------|---|

|  |   |
|--|---|
|  | <pre>&lt;/flows&gt;<br/>&lt;/emulationCustomRequest&gt;</pre> |
|--|---|

### Request (Source IP in Range Format)

In order to pass IP Ranges, the request will contain the optional property "srcIpRange", with the list of excluded and included ranges. The previous srcIp property MUST be omitted.

This functionality can be applied on the Destination IP in the exact same way, under the property "destIpRange". Valid in Single User mode only.

### JSON

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/emulation/flow/custom/{testToken}  |
| HTTP Method  | <b>PUT</b>   |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |

|      |  |
|------|--|
| Body | <pre>{   "flows": [{     "flowId": "flow33",     "srcIpRange": {       "include": [{         "from": "1.1.1.1",         "to": "7.7.7.7",         "port": 5555,         "protocol": 17       }], {         "from": "172.30.4.5",         "to": "198.168.4.5",         "port": 5555,         "protocol": 17       }],       "exclude": [{         "from": "1.2.3.4",         "to": "1.3.4.5",         "port": 5555,         "protocol": 17       }]     },     "destIpRange": {       "exclude": [{         "from": "1.1.1.1",         "to": "7.7.7.7",         "port": 5555,         "protocol": 17       }], {         "from": "172.30.4.5",         "to": "198.168.4.5",         "port": 5555,         "protocol": 17       }],       "include": [{         "from": "1.2.3.4",         "to": "1.3.4.5",         "port": 5555,         "protocol": 17       }]     },     "latency": 500,     "packetloss": 20.0,     "bandwidthIn": 2048.0,     "bandwidthOut": 2048.0,     "isCaptureClientPL": "true"   } }</pre> |
|------|--|

|  |         |
|--|---------|
|  | }]<br>} |
|--|---------|

**XML**

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/emulation/flow/custom/{testToken}  |
| HTTP Method  | <b>PUT</b>   |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |

|      |   |
|------|---|
| Body | <pre>&lt;emulationCustomRequest&gt;   &lt;flows&gt;     &lt;flowId&gt;flow33&lt;/flowId&gt;     &lt;srcIpRange&gt;       &lt;include&gt;         &lt;from&gt;1.1.1.1&lt;/from&gt;         &lt;to&gt;7.7.7.7&lt;/to&gt;         &lt;port&gt;5555&lt;/port&gt;         &lt;protocol&gt;17&lt;/protocol&gt;       &lt;/include&gt;       &lt;include&gt;         &lt;from&gt;172.30.4.5&lt;/from&gt;         &lt;to&gt;198.168.4.5&lt;/to&gt;         &lt;port&gt;5555&lt;/port&gt;         &lt;protocol&gt;17&lt;/protocol&gt;       &lt;/include&gt;       &lt;exclude&gt;         &lt;from&gt;1.2.3.4&lt;/from&gt;         &lt;to&gt;1.3.4.5&lt;/to&gt;         &lt;port&gt;5555&lt;/port&gt;         &lt;protocol&gt;17&lt;/protocol&gt;       &lt;/exclude&gt;     &lt;/srcIpRange&gt;     &lt;destIpRange&gt;       &lt;exclude&gt;         &lt;from&gt;1.1.1.1&lt;/from&gt;         &lt;to&gt;7.7.7.7&lt;/to&gt;         &lt;port&gt;5555&lt;/port&gt;         &lt;protocol&gt;17&lt;/protocol&gt;       &lt;/exclude&gt;       &lt;exclude&gt;         &lt;from&gt;172.30.4.5&lt;/from&gt;         &lt;to&gt;198.168.4.5&lt;/to&gt;         &lt;port&gt;5555&lt;/port&gt;         &lt;protocol&gt;17&lt;/protocol&gt;       &lt;/exclude&gt;       &lt;include&gt;         &lt;from&gt;1.2.3.4&lt;/from&gt;         &lt;to&gt;1.3.4.5&lt;/to&gt;         &lt;port&gt;5555&lt;/port&gt;         &lt;protocol&gt;17&lt;/protocol&gt;       &lt;/include&gt;     &lt;/destIpRange&gt;     &lt;latency&gt;500&lt;/latency&gt;     &lt;packetloss&gt;20&lt;/packetloss&gt;     &lt;bandwidthIn&gt;2048&lt;/bandwidthIn&gt;     &lt;bandwidthOut&gt;2048&lt;/bandwidthOut&gt;     &lt;isCaptureClientPL&gt;true&lt;/isCaptureClientPL&gt;   &lt;/flows&gt; &lt;/emulationCustomRequest&gt;</pre> |
|------|---|

|  |   |
|--|---|
|  | <pre>&lt;/flows&gt;<br/>&lt;/emulationCustomRequest&gt;</pre> |
|--|---|

**Response**

|                    |                  |
|--------------------|------------------|
| HTTP Response Code | 204 - No content |
| HTTP Headers       |                  |
| HTTP Body          |                  |

## Chapter 2: Traffic Resource Services

In the following sections, starting and stopping packet captures are explained. When using these APIs with specific test tokens, the setting is effective until the end of the specific test. When using these APIs without test tokens, or in other words, Start and Stop all Packet Lists for all running tests, your settings will be effective for all current and future tests and will be reset when there will be no tests at all running in Network Virtualization for Mobile.

This service includes:

|                                   |    |
|-----------------------------------|----|
| Start PacketList Capture .....    | 52 |
| Stop PacketList Capture .....     | 53 |
| Get Packet List Information ..... | 54 |
| Download Shunra File .....        | 58 |
| Download Packet List .....        | 59 |
| Clear Packet List .....           | 60 |

**Note:** HTTP compression is not supported, so download command may be time consuming for large files. When running tests of long duration, define the exact Server and Client End Points IPs to prevent the inclusion of unnecessary traffic in the Packet List. In addition, when using ["Download Packet List" on page 59](#) online, use ["Clear Packet List" on page 60](#) after downloading.

## Start PacketList Capture

This API starts the capture of a specific or all packet lists in the running test.

**Note:** If start capture follows the end of a capture without downloading the packet list in between, then this capture phase is lost.

### Request

Starts capturing all packet lists in all running tests.

|              |   |
|--------------|---|
| URL          | http://ip:port/shunra/api/trafficresource/packetlist/capture  |
| HTTP Method  | <b>POST</b>   |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See <a href="#">"Web Services Authentication" on page 7</a> . |
| Body         | None  |

Starts capturing specific packet lists in a specific running test.

|              |   |
|--------------|---|
| URL          | http://ip:port/shunra/api/trafficresource/packetlist/capture/testToken/packetListId   |
| HTTP Method  | <b>POST</b>   |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See <a href="#">"Web Services Authentication" on page 7</a> . |
| Body         | None  |

Starts capturing all packet lists in a specific running test.

|             |  |
|-------------|--|
| URL         | http://ip:port/shunra/api/trafficresource/packetlist/capture/testToken |
| HTTP Method | <b>POST</b>  |

|              |  |
|--------------|--|
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | None   |

### Response

|                    |                  |
|--------------------|------------------|
| HTTP Response Code | 204 - No content |
| HTTP Headers       |                  |
| HTTP Body          |                  |

## Stop PacketList Capture

This API stops the capture of a specific or all packet lists in the running test(s).

**Note:** If you use Stop Packet List Capture with a specificTestToken, the setting is effective until the end of the specific test. If you use Stop PacketList Capture without a test token, or in other words Stop All Packet Lists for all Running Tests, your setting will be effective for all current and future tests and will be reset when there are no running tests.

### Request

Stop capture of all packet lists in all running tests.

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/trafficresource/capture  |
| HTTP Method  | <b>DELETE</b>  |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | None   |

Stops the capture of specific packet lists in the specific test.

|             |  |
|-------------|--|
| URL         | http://ip:port/shunra/api/trafficresource/capture/testToken/packetListId |
| HTTP Method | <b>DELETE</b>  |

|              |  |
|--------------|--|
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | None   |

Stops the capture of all packet lists in a specific test.

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/trafficresource/packetlist/capture/testToken   |
| HTTP Method  | <b>DELETE</b>  |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | None   |

### Response

|                    |                  |
|--------------------|------------------|
| HTTP Response Code | 204 - No content |
| HTTP Headers       |                  |
| HTTP Body          |                  |

## Get Packet List Information

This API returns the status of the packet list capture for a specific or group of packet lists, by test or by user. It is relevant for the tests currently running and for past runs. It returns the IDs as long as the packet lists are present on the local disk. Note that by default, if packet lists are present in the .ntxx file then they are being captured.

Capture status can be:

- CAPTURING
- NOT\_CAPTURING
- NOT\_AVAILABLE (offline)

### Request

#### **JSON**

Provides packet list information for all packet lists in all running tests.

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/trafficresource/packetlist/capture   |
| HTTP Method  | <b>GET</b>   |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | None   |

Provides packet list information for all packet lists in a specific test.

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/trafficresource/packetlist/capture/{testToken}   |
| HTTP Method  | <b>GET</b>   |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | None   |

Provides packet list information for a specific packet list in a specific test.

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/trafficresource/packetlist/capture/{testToken}/{plid}  |
| HTTP Method  | <b>GET</b>   |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | None   |

### **XML**

Provides packet list information for all packet lists in all running tests.

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/trafficresource/packetlist/capture   |
| HTTP Method  | <b>GET</b>   |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | None   |

Provides packet list information for all packet lists in a specific test.

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/trafficresource/packetlist/capture/{testToken}   |
| HTTP Method  | <b>GET</b>   |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | None   |

Provides packet list information for a specific packet list in a specific test.

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/trafficresource/packetlist/capture/{testToken}/{plid}  |
| HTTP Method  | <b>GET</b>   |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | None   |

### Response

#### JSON

|                    |  |
|--------------------|--|
| HTTP Response Code | 200 - OK   |
| HTTP Headers       | <b>Content-Type:</b> application/json; charset=UTF-8 |

|           |   |
|-----------|---|
| HTTP Body | <pre> {   "packetListsInfo": [{     "flowId": "FLOWS_4",     "plId": "ID_PACKET_LIST_CLIENT_FLOWS_4",     "captureStatus": "CAPTURING"   }, {     "flowId": "FLOWS_5",     "plId": "ID_PACKET_LIST_CLIENT_FLOWS_5",     "captureStatus": "CAPTURING"   }, {     "flowId": "FLOWS_6",     "plId": "ID_PACKET_LIST_CLIENT_FLOWS_6",     "captureStatus": "CAPTURING"   }, {     "flowId": "FLOWS_10",     "plId": "ID_PACKET_LIST_CLIENT_FLOWS_10",     "captureStatus": "CAPTURING"   }, {     "flowId": "FLOWS_7",     "plId": "ID_PACKET_LIST_CLIENT_FLOWS_7",     "captureStatus": "CAPTURING"   }, {     "flowId": "FLOWS_30",     "plId": "ID_PACKET_LIST_CLIENT_FLOWS_30",     "captureStatus": "CAPTURING"   }, {     "flowId": "FLOWS_1",     "plId": "ID_PACKET_LIST_CLIENT_FLOWS_1",     "captureStatus": "CAPTURING"   },   "globalCaptureStatus" : "CAPTURING " }         </pre> |
|-----------|---|

**XML**

|                    |   |
|--------------------|---|
| HTTP Response Code | 200 - OK  |
| HTTP Headers       | <b>Content-Type:</b> application/xml; charset=UTF-8 |

|           |  |
|-----------|--|
| HTTP Body | <pre>&lt;packetListInfoResponse&gt;   &lt;packetListsInfo&gt;     &lt;flowId&gt;       FLOWS_4     &lt;/flowId&gt;     &lt;plId&gt;       ID_PACKET_LIST_CLIENT_FLOWS_4     &lt;/plId&gt;     &lt;captureStatus&gt;       CAPTURING     &lt;/captureStatus&gt;   &lt;/packetListsInfo&gt;   &lt;packetListsInfo&gt;     &lt;flowId&gt;       FLOWS_5     &lt;/flowId&gt;     &lt;plId&gt;ID_PACKET_LIST_CLIENT_FLOWS_5     &lt;/plId&gt;     &lt;captureStatus&gt;CAPTURING     &lt;/captureStatus&gt;   &lt;/packetListsInfo&gt;   &lt;packetListsInfo&gt;     &lt;flowId&gt;       FLOWS_15     &lt;/flowId&gt;     &lt;plId&gt;       ID_PACKET_LIST_CLIENT_FLOWS_15     &lt;/plId&gt;     &lt;captureStatus&gt;       CAPTURING     &lt;/captureStatus&gt;   &lt;/packetListsInfo&gt;   &lt;globalCaptureStatus&gt;     CAPTURING   &lt;/globalCaptureStatus&gt; &lt;/packetListInfoResponse&gt;</pre> |
|-----------|--|

## Download Shunra File

The .shunra file is a proprietary format of a file which includes analyzable data. It is created automatically when the test is stopped and includes all kinds of information. The .shunra file can be downloaded per test, or per packet list. Both options are available online and offline.

### Request

Downloads a .shunra file for a test. The .shunra file will include all packet lists available in this test.

|              |   |
|--------------|---|
| URL          | http://ip:port/shunra/api/trafficresource/analysis/{testToken}/   |
| HTTP Method  | <b>GET</b>  |
| HTTP Headers | <b>Accept:</b> application/octet-stream<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         |   |

Downloads a .shunra file per packet list.

|              |   |
|--------------|---|
| URL          | http://ip:port/shunra/api/trafficresource/analysis/{testToken}/{plld}   |
| HTTP Method  | <b>GET</b>  |
| HTTP Headers | <b>Accept:</b> application/octet-stream<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         |   |

### Response

The response includes .shunra file.

|                    |          |
|--------------------|----------|
| HTTP Response Code | 200 - OK |
| HTTP Headers       |          |
| HTTP Body          |          |

## Download Packet List

Downloads the actual packet list as a binary stream. After the packet list has been downloaded, it can be cleared by setting the 'clear' flag to true. The default value for the 'clear' flag is false, so if omitted the packet list capture continues from the same point after the download. Use the 'clear' flag to save disk space and prevent packet list overwrite for tests that have large packet lists.

**Note:** When using transaction markers, a two second timeout must be applied after Download Packet List and before Stop Transaction. Otherwise not all of the transaction data will be included in the packet list.

### Request

|     |  |
|-----|--|
| URL | http://ip:port/shunra/api/trafficresource/packetlist/{testToken}/{packetlistId}?clear=true |
|-----|--|

|              |   |
|--------------|---|
| HTTP Method  | <b>GET</b>  |
| HTTP Headers | <b>Accept:</b> application/octet-stream<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         |   |

### Response

|                    |                          |
|--------------------|--------------------------|
| HTTP Response Code | 200 - OK                 |
| HTTP Headers       |                          |
| HTTP Body          | The binary file expected |

## Clear Packet List

This API allows the user to clear a packet list buffer. Use Clear Packet List only if the packet list is currently not capturing; use "[Stop PacketList Capture](#)" on page 53 before using Clear Packet List.

### Request

Clear the specific packet list in the specific test.

|              |   |
|--------------|---|
| URL          | http://ip:port/shunra/api/trafficresource/packetlist/{testToken}/{packetlistId}   |
| HTTP Method  | <b>DELETE</b>   |
| HTTP Headers | <b>Accept:</b> application/octet-stream<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         |   |

Clears all packet lists in the specific test.

|              |   |
|--------------|---|
| URL          | http://ip:port/shunra/api/trafficresource/packetlist/{testToken}/   |
| HTTP Method  | <b>DELETE</b>   |
| HTTP Headers | <b>Accept:</b> application/octet-stream<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         |   |

### Response

|                    |                  |
|--------------------|------------------|
| HTTP Response Code | 204 - No content |
|--------------------|------------------|

|              |  |
|--------------|--|
| HTTP Headers |  |
| HTTP Body    |  |

## Chapter 3: Statistics Services

The “Get Statistics” API retrieves network statistics for a currently running test. Results can be retrieved from the beginning of the test or for some specific time period depending on the start and end parameters.

To get the current time of the emulator, see ["Get Emulator Date and Time" on page 98](#). Use the returned `dateAsLong` property as a start or end time in a “Get Statistics” call. The start point of the required time period is defined with the “anchor” parameter and end point is defined with the “endanchor” parameter – see examples below.

To get the different result sets, call "Get Statistics" with the start and end parameters set accordingly. To get:

- **All statistics of the currently running test:** Do not define start or end parameters.
- **Statistics from a defined start point to the current time:** Define only the start parameter.
- **Statistics from the beginning of the test until the defined end point:** Define only the end parameter.
- **Statistics for only a defined time period:** Define both the start and end parameters.

You can retrieve statistics in these two formats:

- ["Shape Statistics" below](#): for tests that are not based on Flow topologies
- ["Flow Statistics" on page 66](#): for tests based on Flow topologies

**Note:** It is recommended that you narrow your request with a specific flow, shape and/or anchor(s) from "Get Statistics", rather than running for all statistics. With no filtering criteria, the response may include a large amount of data.

### Shape Statistics

Contains the statistics per shape.

By default the statistics of all the shapes are returned. To request the statistics for specific shapes, pass a list of the relevant shape IDs.

#### Request

##### *JSON*

Gets 'By Shape' Statistics for all shapes. The anchor defines the time stamp from which to get the statistics, endanchor defines the last timestamp to be retrieved.

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/statistics/byshape/{testToken}?anchor={anchor}&endanchor={endanchor}   |
| HTTP Method  | <b>PUT</b>   |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | None   |

Gets 'By Shape' Statistics for specific shapes.

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/statistics/byshape/{testToken}?anchor={anchor}   |
| HTTP Method  | <b>PUT</b>   |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | {<br>["ID_CLIENT_GW_NIC_1", "ID_SERVER_GW_NIC_2"]<br>}   |

### Response

The response header contains the **X-Shunra-Next** anchor which provides the last time stamp for the current statistics data. You can use **X-Shunra-Next** for future requests to collect statistics data from this time stamp forward in a "Get Statistics" request.

|                    |   |
|--------------------|---|
| HTTP Response Code | 200 - OK  |
| HTTP Headers       | <b>Content-Type:</b> application/json<br><b>X-Shunra-Next:</b> 1336025450197  |
| HTTP Body          | {<br>statistics: [{<br>"timeStamp": 1361463351807,<br>"nics": [{<br>"id": "ID_CLIENT_GW_NIC_1_FLOWS_2",<br>"bpsIn": 480,<br>"bpsOut": 480,<br>}]<br>}]<br>} |

|  |  |
|--|--|
|  | <pre>        "totalIn": 360,         "totalOut": 360,         "bwUtilIn": 0,         "bwUtilOut": 0     }, {         "id": "ID_SERVER_GW_NIC_2_FLOWS_2",         "bpsIn": 480,         "bpsOut": 480,         "totalIn": 360,         "totalOut": 360,         "bwUtilIn": 0,         "bwUtilOut": 0     }],     "clouds": [{         "id": "ID_WAN_CLOUD_FLOWS_1",         "minLatency": 500,         "avgLatency": 500,         "maxLatency": 500,         "packetLossCount": 0,         "packetLossPercent": 0,         "packetLossTotal": 0     }, {         "id": "ID_WAN_CLOUD_FLOWS_2",         "minLatency": 200,         "avgLatency": 200,         "maxLatency": 200,         "packetLossCount": 0,         "packetLossPercent": 0,         "packetLossTotal": 0     }],     "packetLists": [{         "id": "ID_CLIENT_PL_FLOWS_2",         "currentMemory": 17203,         "totalMemory": 104857600,         "enabled": true     }, {         "id": "ID_SERVER_PL_FLOWS_2",         "currentMemory": 17203,         "totalMemory": 104857600,         "enabled": true     }     ] }, {     "timeStamp": 1361463352814,     "nics": [         {</pre> |
|--|--|

```
        "id": "ID_CLIENT_GW_NIC_1_FLOWS_2",
        "bpsIn": 480,
        "bpsOut": 480,
        "totalIn": 360,
        "totalOut": 360,
        "bwUtilIn": 0,
        "bwUtilOut": 0
    }, {
        "id": "ID_SERVER_GW_NIC_2_FLOWS_2",
        "bpsIn": 480,
        "bpsOut": 480,
        "totalIn": 360,
        "totalOut": 360,
        "bwUtilIn": 0,
        "bwUtilOut": 0
    }
],
"clouds": [{
    "id": "ID_WAN_CLOUD_FLOWS_1",
    "minLatency": 500,
    "avgLatency": 500,
    "maxLatency": 500,
    "packetLossCount": 0,
    "packetLossPercent": 0,
    "packetLossTotal": 0
}, {
    "id": "ID_WAN_CLOUD_FLOWS_2",
    "minLatency": 200,
    "avgLatency": 200,
    "maxLatency": 200,
    "packetLossCount": 0,
    "packetLossPercent": 0,
    "packetLossTotal": 0
}],
"packetLists": [{
    "id": "ID_CLIENT_PL_FLOWS_2",
    "currentMemory": 17203,
    "totalMemory": 104857600,
    "enabled": true
}, {
    "id": "ID_SERVER_PL_FLOWS_2",
    "currentMemory": 17203,
    "totalMemory": 104857600,
    "enabled": true
}
}]
}
```

# Flow Statistics

This API is only available for flow-based topologies.

By default the statistics of all the flows are returned. To request the statistics for specific flows, pass a list of the relevant flow IDs.

## Request

### JSON

Gets 'By Flow' Statistics for all flows. The anchor defines the time stamp from which to get the statistics, endanchor defines the last timestamp to be retrieved.

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/statistics/byflow/{testToken}?anchor={anchor}&?endanchor={endanchor}   |
| HTTP Method  | <b>PUT</b>   |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | None   |

Gets 'By Flow' Statistics for specific flows IDs. The anchor defines the time stamp from which to get the statistics.

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/statistics/byflow/{testToken}?anchor={anchor}&{endanchor}  |
| HTTP Method  | <b>PUT</b>   |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | {<br>["flow_id1", "flow_id1"]<br>}   |

## Response

The response header contains the **X-Shunra-Next** anchor which provides the last time stamp for the current statistics data; the **X-Shunra-Next** can be used for future requests to collect statistics data from this time stamp forward.

|                    |  |
|--------------------|--|
| HTTP Response Code | 200 - OK   |
| HTTP Headers       | <b>Content-Type:</b> application/json; charset=UTF-8<br><b>X-Shunra-Next:</b> 1336025450197  |
| HTTP Body          | <pre>{   statistics: [{     "timeStamp": 1361528862628,     "flowStats": [{       "id": "FLOWS_1",       "clientDownStats": {         "bps": 480,         "total": 300,         "bwUtil": 0       },       "clientUpStats": {         "bps": 480,         "total": 360,         "bwUtil": 0       },       "serverDownStats": {         "bps": 480,         "total": 360,         "bwUtil": 0       },       "serverUpStats": {         "bps": 480,         "total": 300,         "bwUtil": 0       },       "cloudStats": {         "avgLatency": 500,         "packetLossCount": 0,         "packetLossPercent": 0,         "packetLossTotal": 0       }     }   ]}, {     "id": "FLOWS_2",     "clientDownStats": {       "bps": 480,       "total": 360,       "bwUtil": 0     },     "clientUpStats": {</pre> |

|  |  |
|--|--|
|  | <pre>        "bps": 480,<br/>        "total": 360,<br/>        "bwUtil": 0<br/>    },<br/>    "serverDownStats": {<br/>        "bps": 480,<br/>        "total": 360,<br/>        "bwUtil": 0<br/>    },<br/>    "serverUpStats": {<br/>        "bps": 480,<br/>        "total": 360,<br/>        "bwUtil": 0<br/>    },<br/>    "cloudStats": {<br/>        "avgLatency": 200,<br/>        "packetLossCount": 0,<br/>        "packetLossPercent": 0,<br/>        "packetLossTotal": 0<br/>    }<br/>  }<br/>}]<br/>, {<br/>  "timeStamp": 1361528865348,<br/>  "flowStats": [{</pre> |
|--|--|

```
"id": "FLOWS_1",
"clientDownStats": {
  "bps": 480,
  "total": 300,
  "bwUtil": 0
},
"clientUpStats": {
  "bps": 480,
  "total": 360,
  "bwUtil": 0
},
"serverDownStats": {
  "bps": 480,
  "total": 360,
  "bwUtil": 0
},
"serverUpStats": {
  "bps": 480,
  "total": 300,
  "bwUtil": 0
},
"cloudStats": {
  "avgLatency": 500,
  "packetLossCount": 0,
  "packetLossPercent": 0,
  "packetLossTotal": 0
}
}, {
  "id": "FLOWS_2",
  "clientDownStats": {
    "bps": 480,
    "total": 360,
    "bwUtil": 0
  },
  "clientUpStats": {
    "bps": 480,
    "total": 360,
    "bwUtil": 0
  },
  "serverDownStats": {
    "bps": 480,
    "total": 360,
    "bwUtil": 0
  },
  "serverUpStats": {
    "bps": 480,
    "total": 360,
    "bwUtil": 0
  }
}
```

```
    },  
    "cloudStats": {  
      "avgLatency": 200,  
      "packetLossCount": 0,  
      "packetLossPercent": 0,  
      "packetLossTotal": 0  
    }  
  }  
}]  
}
```

# Chapter 4: Transaction Services

Transaction Services include transaction functionality accessible from the NV Test Manager.

The following are the API functions for transactions:

|                                    |    |
|------------------------------------|----|
| Connect .....                      | 72 |
| Disconnect .....                   | 74 |
| Add Transaction .....              | 75 |
| Modify Transaction .....           | 77 |
| Delete Transaction .....           | 78 |
| Delete Multiple Transactions ..... | 79 |
| Get All Transactions .....         | 81 |
| Start Transaction .....            | 86 |
| Stop Transaction .....             | 90 |
| Cancel Transaction .....           | 93 |

**Note:** If a transaction name has more than 50 characters it will be truncated automatically; the Description is limited to 250 characters.

## Connect

This command is used to to a specific endpoint or packet list.

### Parameters:

- **plId:** The ID of the packet list from which to connect.
- **clientId:** The IP address from which to connect; should be a valid IPv4 address.
- **overwriteExistingConnection:** A boolean flag that indicates whether or not to overwrite an existing connection.
- **flowID:** The ID of a specific flow as you defined it in the Start Test request.

In order to connect to all Packet Lists in the running tests, leave all parameters above empty.

### Note:

- When using IP ranges, connect using the plId (Packet List ID) and not by the clientId. The Packet List ID can be retrieved using Get Packet List Information.
- When connecting to a default flow, use plId (Packet List ID); Client ID is not supported.

### Return value:

**transactionManagerSessionIdentifiers:** the identifiers of the transaction during the session; used for future Start/Stop requests.

### Request

#### JSON

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/transactionmanager/{testToken}   |
| HTTP Method  | <b>POST</b>  |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |

|      |  |
|------|--|
| Body | <pre> {   "plId": "ID_PACKET_LIST_CLIENT_FLOWS_1",   "overwriteExistingConnection": "true" } or {   "flowId": "ID_CLIENT_FLOWS_1",   "overwriteExistingConnection": "true" } or {   "overwriteExistingConnection": "true" } </pre> |
|------|--|

**XML**

|              |   |
|--------------|---|
| URL          | http://ip:port/shunra/api/transactionmanager/{testToken}  |
| HTTP Method  | <b>POST</b>   |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See <a href="#">"Web Services Authentication" on page 7.</a>  |
| Body         | <pre> &lt;connectRequest&gt;   &lt;plId&gt;ID_PACKET_LIST_CLIENT_FLOWS_1&lt;/plId&gt;   &lt;overwriteExistingConnection&gt;true&lt;/overwriteExistingConnection&gt; &lt;/connectRequest&gt; or &lt;connectRequest&gt;   &lt;flowId&gt;ID_CLIENT_FLOWS_1&lt;/flowId&gt;   &lt;overwriteExistingConnection&gt;true&lt;/overwriteExistingConnection&gt; &lt;/connectRequest&gt; or &lt;connectRequest&gt;   &lt;overwriteExistingConnection&gt;true&lt;/overwriteExistingConnection&gt; &lt;/connectRequest&gt; </pre> |

**Response**

**JSON**

|                    |   |
|--------------------|---|
| HTTP Response Code | 200 - OK  |
| HTTP Headers       | <b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT<br><b>Content-Type:</b> application/json; charset=UTF-8<br><b>Accept-Ranges:</b> bytes |
| HTTP Body          | <pre>{   "transactionManagerSessionIdentifier":     "Aead518af - 3fa3 - 460c - 9be5 - fc3b6a7101cfB" }</pre>                      |

### XML

|                    |  |
|--------------------|--|
| HTTP Response Code | 200 - OK   |
| HTTP Headers       | <b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT<br><b>Content-Type:</b> application/json; charset=UTF-8<br><b>Accept-Ranges:</b> bytes  |
| HTTP Body          | <pre>&lt;connectResponse&gt;   &lt;transactionManagerSessionIdentifier&gt;     ID_PACKET_LIST_CLIENT_FLOWS_1_TmSession_e366660d-3cc7-45e8-     b4c0-e4524fcff6929b6a5a3f-15e5-44a8-a803-25dd860c0e57   &lt;/transactionManagerSessionIdentifier&gt; &lt;/connectResponse&gt;</pre> |

## Disconnect

This API disconnects a transaction from the emulation engine. Stop Test disconnects all live transaction sessions.

### Parameters:

**transactionManagerSessionIdentifiers:** Transaction session identifiers, as given during "Connect".

### Request

#### JSON

|             |  |
|-------------|--|
| URL         | http://ip:port/shunra/api/transactionmanager/{transactionManagerSessionIdentifier} |
| HTTP Method | <b>DELETE</b>  |

|              |  |
|--------------|--|
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See <a href="#">"Web Services Authentication" on page 7.</a> |
| Body         | None   |

**XML**

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/transactionmanager/{transactionManagerSessionIdentifier}   |
| HTTP Method  | <b>DELETE</b>  |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See <a href="#">"Web Services Authentication" on page 7.</a> |
| Body         | None   |

**Response**

|                    |                  |
|--------------------|------------------|
| HTTP Response Code | 204 - No content |
| HTTP Headers       |                  |
| HTTP Body          |                  |

## Add Transaction

This API allows transactions to be added to the running test. The newly added transactions can be run/rerun immediately after creation or later.

**Request**

**JSON**

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/transaction/{testId}   |
| HTTP Method  | POST   |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> Basic YW5vbmltb3VzOg== |
| Body         | { "transactionName": "transaction1", "transactionDescription": "Login transaction" }                                     |

**XML**

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/transaction/{testId}   |
| HTTP Method  | POST   |
| HTTP Headers | <p><b>Content-Type:</b> application/xml</p> <p><b>Accept:</b> application/xml</p> <p><b>Authorization:</b> Basic YW5vbmltb3VzOg==</p>  |
| Body         | <pre>&lt;transactionEntityRequest&gt; &lt;transactionName&gt;login&lt;/transactionName&gt; &lt;transactionDescription&gt;Login transaction&lt;/transactionDescription&gt; &lt;/transactionEntityRequest &gt;</pre> |

**Response**

**JSON**

|                    |   |
|--------------------|---|
| HTTP Response Code | 200 - OK  |
| HTTP Headers       | <p><b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT</p> <p><b>Content-Type:</b> application/json; charset=UTF-8</p> <p><b>Accept-Ranges:</b> bytes</p>                    |
| HTTP Body          | <pre>{ id: "86dd6d8c-d1e9-4b24-b8fc-3a9355db63a3" name: "login" description: "Login transaction" orderNum: 5 averageUserTime: 0 averageNetworkTime: 0 runs: {</pre> |

**XML**

|                    |   |
|--------------------|---|
| HTTP Response Code | 200 - OK  |
| HTTP Headers       | <p><b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT</p> <p><b>Content-Type:</b> application/xml; charset=UTF-8</p> <p><b>Accept-Ranges:</b> bytes</p> |

|           |   |
|-----------|---|
| HTTP Body | <pre>&lt;transactionEntity&gt;   &lt;name&gt;login&lt;/name&gt;   &lt;description&gt;Login transaction&lt;/description&gt;   &lt;orderNum&gt;4&lt;/orderNum&gt;   &lt;averageUserTime&gt;0.0&lt;/averageUserTime&gt;   &lt;averageNetworkTime&gt;0.0&lt;/averageNetworkTime&gt;   &lt;runs /&gt; &lt;/transactionEntity&gt;</pre> |
|-----------|---|

## Modify Transaction

This API allows to modify existing transaction entity before transaction has been run.

### Request

#### JSON

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/transaction/{testId}/{transactionEntityId}   |
| HTTP Method  | PUT  |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> Basic YW5vbmltb3VzOg== |
| Body         | {"transactionName": "transaction1", "transactionDescription": "Login transaction"}                                       |

#### XML

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/transaction/{testId}/{transactionEntityId}   |
| HTTP Method  | PUT  |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> Basic YW5vbmltb3VzOg==   |
| Body         | <pre>&lt;transactionEntityRequest&gt; &lt;transactionName&gt;login&lt;/transactionName&gt; &lt;transactionDescription&gt;Login transaction&lt;/transactionDescription&gt; &lt;/transactionEntityRequest &gt;</pre> |

### Response

#### JSON

|                    |   |
|--------------------|---|
| HTTP Response Code | 200 - OK  |
| HTTP Headers       | <b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT<br><b>Content-Type:</b> application/json; charset=UTF-8<br><b>Accept-Ranges:</b> bytes   |
| HTTP Body          | <pre>{   id: "86dd6d8c-d1e9-4b24-b8fc-3a9355db63a3"   name: "login"   description: "Login transaction"   orderNum: 5   averageUserTime: 0   averageNetworkTime: 0   runs:   {</pre> |

#### XML

|                    |   |
|--------------------|---|
| HTTP Response Code | 200 - OK  |
| HTTP Headers       | <b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT<br><b>Content-Type:</b> application/xml; charset=UTF-8<br><b>Accept-Ranges:</b> bytes  |
| HTTP Body          | <pre>&lt;transactionEntity&gt;   &lt;name&gt;login&lt;/name&gt;   &lt;description&gt;Login transaction&lt;/description&gt;   &lt;orderNum&gt;6&lt;/orderNum&gt;   &lt;averageUserTime&gt;0.0&lt;/averageUserTime&gt;   &lt;averageNetworkTime&gt;0.0&lt;/averageNetworkTime&gt;   &lt;runs /&gt; &lt;/transactionEntity&gt;</pre> |

## Delete Transaction

This API allows to delete existing transaction entity before transaction has been run.

#### Request

##### JSON

|             |  |
|-------------|--|
| URL         | http://ip:port/shunra/api/transaction/{testId}/{transactionEntityId} |
| HTTP Method | DELETE   |

|              |  |
|--------------|--|
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> Basic YW5vbmltb3VzOg== |
| Body         | None   |

### XML

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/transaction/{testId}/{transactionEntityId}   |
| HTTP Method  | DELETE   |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> Basic YW5vbmltb3VzOg== |
| Body         | None   |

### Response

#### JSON

|                    |   |
|--------------------|---|
| HTTP Response Code | 204 - No Content  |
| HTTP Headers       | <b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT<br><b>Content-Type:</b> application/json; charset=UTF-8<br><b>Accept-Ranges:</b> bytes |
| HTTP Body          | None  |

#### XML

|                    |  |
|--------------------|--|
| HTTP Response Code | 204 - No Content   |
| HTTP Headers       | <b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT<br><b>Content-Type:</b> application/xml; charset=UTF-8<br><b>Accept-Ranges:</b> bytes |
| HTTP Body          | None   |

## Delete Multiple Transactions

This API allows to delete existing multiple transaction entities before transaction has been run.

### Request

**JSON**

|              |   |
|--------------|---|
| URL          | http://ip:port/shunra/api/transaction/multipledelete  |
| HTTP Method  | PUT   |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> Basic YW5vbnltb3VzOg==  |
| Body         | {transactionIds: ["37598549-4b0f-423c-934a-8cae80a4dddb", "9bdef393-8d21-4420-ac11-0e76043e8f7b"],<br>testId: "f88e1aec-2cf4-41b3-98ee-babb08e39028080f1488-ab29-4d3d-9e42-73b87f24c627"<br>} |

**XML**

|              |   |
|--------------|---|
| URL          | http://ip:port/shunra/api/transaction/multipledelete  |
| HTTP Method  | PUT   |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> Basic YW5vbnltb3VzOg==  |
| Body         | <deleteTransactionsRequest><br><transactionIds>54befcf2-6f87-444a-99d6-5e93df1408f5</transactionIds><br><testId>f88e1aec-2cf4-41b3-98ee-babb08e39028080f1488-ab29-4d3d-9e42-73b87f24c627</testId><br></deleteTransactionsRequest> |

**Response**

**JSON**

|                    |   |
|--------------------|---|
| HTTP Response Code | 204 - No Content  |
| HTTP Headers       | <b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT<br><b>Content-Type:</b> application/json; charset=UTF-8<br><b>Accept-Ranges:</b> bytes |
| HTTP Body          | None  |

### XML

|                    |  |
|--------------------|--|
| HTTP Response Code | 204 - No Content   |
| HTTP Headers       | <b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT<br><b>Content-Type:</b> application/xml; charset=UTF-8<br><b>Accept-Ranges:</b> bytes |
| HTTP Body          | None   |

## Get All Transactions

This API returns all existing transaction Entities for the specific test.

### Request

#### JSON

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/transaction/{testId}   |
| HTTP Method  | GET  |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> Basic YW5vbmltb3VzOg== |
| Body         | None   |

#### XML

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/transaction/{testId}   |
| HTTP Method  | GET  |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> Basic YW5vbmltb3VzOg== |
| Body         | None   |

### Response

#### JSON

|                    |          |
|--------------------|----------|
| HTTP Response Code | 200 - OK |
|--------------------|----------|

|              |   |
|--------------|---|
| HTTP Headers | <b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT<br><b>Content-Type:</b> application/json; charset=UTF-8<br><b>Accept-Ranges:</b> bytes |
|--------------|---|

|           |  |
|-----------|--|
| HTTP Body | <pre>{   "transactions": [{     "id": "88afd157-7e20-4adb-b7e9-3a6222ff8d35",     "name": "Transaction #1",     "description": "",     "orderNum": 0,     "averageUserTime": 4599.0,     "averageNetworkTime": 0.0,     "runs": {       "4362578f-8937-4c28-a25e-4a433c0b2a63": {         "id": "4362578f-8937-4c28-a25e-4a433c0b2a63",         "startTime": 1407419154718,         "endTime": 1407419159189,         "userTime": 4471.0,         "networkTime": 4471.0,         "status": "Stop",         "averageBandwithClientUp": 0.27,         "averageBandwithClientDown": 1.58,         "averageBandwithServerDown": 0.0,         "averageBandwithServerUp": 0.0,         "totalThroughputClientUp": 263.0,         "totalThroughputClientDown": 580.0,         "totalThroughputServerUp": 580.0,         "totalThroughputServerDown": 263.0,         "aggregateScoreMobile": 100.0,         "aggregateScoreDesktop": 100.0,         "numberOfErrorsHttp": 0,         "applicationTurnsHttp": 0,         "protocolOverheadHttp": 0.0,         "passed": true,         "networkScenario": "Network scenario 1"       }, {...}     }   ], {     "id": "e5959c29-3578-48e5-9480-aacbd1285401",     "name": "Transaction #2",     "description": "",     "orderNum": 1,     "averageUserTime": 3256.0,     "averageNetworkTime": 0.0,     "runs": {}   } }] }</pre> |
|-----------|--|

**XML**

|                    |  |
|--------------------|--|
| HTTP Response Code | 200 - OK   |
| HTTP Headers       | <b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT<br><b>Content-Type:</b> application/xml; charset=UTF-8<br><b>Accept-Ranges:</b> bytes |

|              |   |
|--------------|---|
| HTTP<br>Body | <pre>&lt;existingTransactions&gt;   &lt;transactions&gt;     &lt;name&gt;Transaction #1&lt;/name&gt;     &lt;description /&gt;     &lt;orderNum&gt;0&lt;/orderNum&gt;     &lt;averageUserTime&gt;4599.0&lt;/averageUserTime&gt;     &lt;averageNetworkTime&gt;0.0&lt;/averageNetworkTime&gt;     &lt;runs&gt;       &lt;entry&gt;         &lt;key&gt;4362578f-8937-4c28-a25e-4a433c0b2a63&lt;/key&gt;         &lt;value&gt;           &lt;startTime&gt;1407419154718&lt;/startTime&gt;           &lt;endTime&gt;1407419159189&lt;/endTime&gt;           &lt;userTime&gt;4471.0&lt;/userTime&gt;           &lt;networkTime&gt;4471.0&lt;/networkTime&gt;           &lt;status&gt;Stop&lt;/status&gt;           &lt;averageBandwidthClientUp&gt;0.27&lt;/averageBandwidthClientUp&gt;           &lt;averageBandwidthClientDown&gt;1.58&lt;/averageBandwidthClientDown&gt;           &lt;averageBandwidthServerDown&gt;0.0&lt;/averageBandwidthServerDown&gt;           &lt;averageBandwidthServerUp&gt;0.0&lt;/averageBandwidthServerUp&gt;           &lt;totalThroughputClientUp&gt;263.0&lt;/totalThroughputClientUp&gt;           &lt;totalThroughputClientDown&gt;580.0&lt;/totalThroughputClientDown&gt;           &lt;totalThroughputServerUp&gt;580.0&lt;/totalThroughputServerUp&gt;           &lt;totalThroughputServerDown&gt;263.0&lt;/totalThroughputServerDown&gt;           &lt;aggregateScoreMobile&gt;100.0&lt;/aggregateScoreMobile&gt;           &lt;aggregateScoreDesktop&gt;100.0&lt;/aggregateScoreDesktop&gt;           &lt;numberOfErrorsHttp&gt;0&lt;/numberOfErrorsHttp&gt;           &lt;applicationTurnsHttp&gt;0&lt;/applicationTurnsHttp&gt;           &lt;protocolOverheadHttp&gt;0.0&lt;/protocolOverheadHttp&gt;           &lt;passed&gt;true&lt;/passed&gt;           &lt;networkScenario&gt;Network scenario 1&lt;/networkScenario&gt;         &lt;/value&gt;       &lt;/entry&gt;       &lt;entry&gt;         &lt;key&gt;0e25c795-4353-445f-bd9d-56552f96ba7c&lt;/key&gt;         &lt;value&gt;           .....         &lt;/value&gt;       &lt;/entry&gt;     &lt;/runs&gt;   &lt;/transactions&gt;   &lt;transactions&gt;     &lt;name&gt;Transaction #2&lt;/name&gt;     &lt;description /&gt;</pre> |
|--------------|---|

```
<orderNum>1</orderNum>
<averageUserTime>3256.0</averageUserTime>
<averageNetworkTime>0.0</averageNetworkTime>
<runs>
  <entry>
    <key>2e5cef40-5347-4cdc-8063-ddaf9ee76a35</key>
    <value>
      .....
    </value>
  </entry>
</runs>
</transactions>
</existingTransactions>
```

## Start Transaction

**Note:** A one second timeout must be applied between the 'StartTransaction' command and the start of the actual transaction.

Start Transactions can be performed in two ways:

1. Using existing transaction entity created before, in this case user sends transactionId (from create Transaction Entity Step) only in the body of requests
2. Create and start transaction immediately. In this case send transaction name and description. A newly created transaction will be started immediately.

Parameters:

- **transactionName:** The transaction name
- **transactionManagerSessionIdentifiers:** Transaction session identifiers, as given during Connect. These identifiers will be used during the whole session (connect, start and end transaction and disconnect).
- **transactionDescription:** (optional)
- **transactionId:** as given on create transaction entity

Return value:

**transactionIdentifier:** The transaction identifier that will be used for the stop transaction command.

Example: Create a new transaction and start it immediately.

### Request

#### JSON

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/transactionmanager/transaction/{transactionManagerSessionIdentifier}   |
| HTTP Method  | <b>POST</b>  |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See <a href="#">"Web Services Authentication" on page 7.</a> |
| Body         | <pre>{   "transactionName": "transaction1",   "transactionDescription": "Login transaction" }</pre>  |

**XML**

|              |   |
|--------------|---|
| URL          | http://ip:port/shunra/api/transactionmanager/transaction/{transactionManagerSessionIdentifier}  |
| HTTP Method  | <b>POST</b>   |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See <a href="#">"Web Services Authentication" on page 7.</a>  |
| Body         | <pre>&lt;startTransactionRequest&gt;   &lt;transactionName&gt;login&lt;/transactionName&gt;   &lt;transactionDescription&gt;Login   transaction&lt;/transactionDescription&gt; &lt;/startTransactionRequest&gt;</pre> |

Example: Start existing transaction

**JSON**

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/transactionmanager/transaction/{transactionManagerSessionIdentifier}   |
| HTTP Method  | <b>POST</b>  |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See <a href="#">"Web Services Authentication" on page 7.</a> |

|      |   |
|------|---|
| Body | {<br>"transactionId": "e444e1f1-f55f-480a-9de9-ae587e16a0a1"<br>} |
|------|---|

**XML**

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/transactionmanager/transaction/{transactionManagerSessionIdentifier}   |
| HTTP Method  | <b>POST</b>  |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See <a href="#">"Web Services Authentication" on page 7.</a> |
| Body         | <startTransactionRequest><br><transactionId>e444e1f1-f55f-480a-9de9-ae587e16a0a1</transactionId><br></startTransactionRequest>                               |

**Response**

**JSON and XML**

|                    |   |
|--------------------|---|
| HTTP Response Code | 200 - OK  |
| HTTP Headers       | <b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT<br><b>Content-Type:</b> application/json; charset=UTF-8<br><b>Accept-Ranges:</b> bytes |

|           |   |
|-----------|---|
| HTTP Body | <pre>{   transactionIdentifier: "e16645fa-6f96-4707-b884-fe46b872e3a436434aa6- ae80-4ace-8009-8ee8c970e689"   transactionEntity: {     id: "e16645fa-6f96-4707-b884-fe46b872e3a4"     name: "transaction1"     description: "Login transaction"     averageUserTime: 0     averageNetworkTime: 0     orderNum: 0     runs: {       36434 aa6 - ae80 - 4 ace - 8009 - 8e e8c970e689: {         id: "36434aa6-ae80-4ace-8009-8ee8c970e689"         startTime: 1382461475606         endTime: 0         userTime: 0         networkTime: 0         status: "Start"         averageBandwith: 0         totalThroughputClient: 0         totalThroughputServer: 0         aggregateScore: 0         numberOfErrors: 0         applicationTurns: 0         protocolOverhead: 0         passed: true       }     }   } }</pre> <p>XML:</p> <pre>&lt;?xml version="1.0" encoding="UTF-8"?&gt; &lt;transactionResponse&gt;   &lt;transactionIdentifier&gt;e444e1f1-f55f-480a-9de9-ae587e16a0a1e9204852- 6e3d-4416-b952-e8f7a67ff250&lt;/transactionIdentifier&gt;   &lt;transactionEntity&gt;     &lt;name&gt;transaction1&lt;/name&gt;     &lt;description&gt;Login transaction&lt;/description&gt;     &lt;orderNum&gt;1&lt;/orderNum&gt;     &lt;averageUserTime&gt;836228.0&lt;/averageUserTime&gt;     &lt;averageNetworkTime&gt;0.0&lt;/averageNetworkTime&gt;     &lt;runs&gt;       &lt;entry&gt;         &lt;key&gt;4e5f487c-dcb2-454d-9215-ec38fd641a46&lt;/key&gt;         &lt;value&gt;           &lt;startTime&gt;1382108358565&lt;/startTime&gt;</pre> |
|-----------|---|

```
<endTime>1382109194793</endTime>
<userTime>0.0</userTime>
<networkTime>0.0</networkTime>
<status>Stop</status>
<networkScenario>3G</networkScenario>
<averageBandwith>0.0</averageBandwith>
<totalThroughputClient>0</totalThroughputClient>
<totalThroughputServer>0</totalThroughputServer>
<aggregateScore>0.0</aggregateScore>
<numberOfErrors>0</numberOfErrors>
<applicationTurns>0</applicationTurns>
<protocolOverhead>0</protocolOverhead>
<id>4e5f487c-dcb2-454d-9215-ec38fd641a46</id>
  </value>
</entry>
</runs>
<id>e444e1f1-f55f-480a-9de9-ae587e16a0a1</id>
</transactionEntity>
</transactionResponse>
```

## Stop Transaction

Parameters:

- **transactionIdentifier:** The transaction identifier, as returned by the startTransaction request.
- **transactionManagerSessionIdentifiers:** Transaction session identifiers, as given during Connect.
- **Passed:** Specifies if the current transaction passed or failed.

### Request

**Note:** A new transaction cannot be started if there is already one running. If you do not have the required transactionIdentifier, use "GetAllTransactions" API above to get all transactions in the test and concatenate the relevant transaction "id" value with the last runid to get the transactionIdentifier.

### JSON

|             |  |
|-------------|--|
| URL         | http://ip:port/shunra/api/transactionmanager/transaction/{transactionManagerSessionIdentifier}/{transactionIdentifier} |
| HTTP Method | <b>PUT</b>   |

|              |  |
|--------------|--|
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | <code>{"passed": "true"}</code>  |

**XML**

|              |  |
|--------------|--|
| URL          | <code>http://ip:port/shunra/api/transactionmanager/transaction/{transactionManagerSessionIdentifier}/{transactionIdentifier}</code>                            |
| HTTP Method  | <b>PUT</b>   |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | <code>&lt;stopTransactionRequest&gt;</code><br><code>&lt;passed&gt;true&lt;/passed&gt;</code><br><code>&lt;/stopTransactionRequest&gt;</code>                  |

**Response**

**JSON**

|                    |          |
|--------------------|----------|
| HTTP Response Code | 200 - OK |
| HTTP Headers       |          |

|           |  |
|-----------|--|
| HTTP Body | <pre> {   transactionIdentifier: "e16645fa-6f96-4707-b884-fe46b872e3a436434aa6-ae80-4ace-8009-8ee8c970e689"   transactionEntity: {     id: "e16645fa-6f96-4707-b884-fe46b872e3a4"     name: "transaction1"     description: "Login transaction"     averageUserTime: 0     averageNetworkTime: 0     orderNum: 0     runs: {       36434 aa6 - ae80 - 4 ace - 8009 - 8e e8c970e689: {         id: "36434aa6-ae80-4ace-8009-8ee8c970e689"         startTime: 1382461475606         endTime: 0         userTime: 0         networkTime: 0         status: "Start"         averageBandwith: 0         totalThroughputClient: 0         totalThroughputServer: 0         aggregateScore: 0         numberOfErrors: 0         applicationTurns: 0         protocolOverhead: 0         passed: true       }     }   } } </pre> |
|-----------|--|

**XML**

|                    |          |
|--------------------|----------|
| HTTP Response Code | 200 - OK |
| HTTP Headers       |          |

|           |  |
|-----------|--|
| HTTP Body | <pre>&lt;transactionResponse&gt;   &lt;transactionIdentifier&gt;e444e1f1-f55f-480a-9de9-ae587e16a0a1e9204852- 6e3d-4416-b952-e8f7a67ff250&lt;/transactionIdentifier&gt;   &lt;transactionEntity&gt;     &lt;name&gt;transaction1&lt;/name&gt;     &lt;description&gt;Login transaction&lt;/description&gt;     &lt;orderNum&gt;1&lt;/orderNum&gt;     &lt;networkScenario&gt;3G&lt;/networkScenario&gt;     &lt;averageUserTime&gt;836228.0&lt;/averageUserTime&gt;     &lt;averageNetworkTime&gt;0.0&lt;/averageNetworkTime&gt;     &lt;runs&gt;       &lt;entry&gt;         &lt;key&gt;4e5f487c-dcb2-454d-9215-ec38fd641a46&lt;/key&gt;         &lt;value&gt;           &lt;startTime&gt;1382108358565&lt;/startTime&gt;           &lt;endTime&gt;1382109194793&lt;/endTime&gt;           &lt;userTime&gt;0.0&lt;/userTime&gt;           &lt;networkTime&gt;0.0&lt;/networkTime&gt;           &lt;status&gt;Stop&lt;/status&gt;           &lt;networkScenario&gt;3G&lt;/networkScenario&gt;           &lt;averageBandwith&gt;0.0&lt;/averageBandwith&gt;           &lt;totalThroughputClient&gt;0&lt;/totalThroughputClient&gt;           &lt;totalThroughputServer&gt;0&lt;/totalThroughputServer&gt;           &lt;aggregateScore&gt;0.0&lt;/aggregateScore&gt;           &lt;numberOfErrors&gt;0&lt;/numberOfErrors&gt;           &lt;applicationTurns&gt;0&lt;/applicationTurns&gt;           &lt;protocolOverhead&gt;0&lt;/protocolOverhead&gt;           &lt;id&gt;4e5f487c-dcb2-454d-9215-ec38fd641a46&lt;/id&gt;         &lt;/value&gt;       &lt;/entry&gt;     &lt;/runs&gt;   &lt;/transactionEntity&gt; &lt;/transactionResponse&gt;</pre> |
|-----------|--|

## Cancel Transaction

Cancels the current transaction, available only while the transaction is running.

- **transactionManagerSessionIdentifier:** Transaction session identifier, as given during connects.
- **transactionIdentifier:** The identifier of the transaction, as given on start transaction.
- **removeIfNoRuns:** if true - remove the transaction entity, if no runs for it exist; if false – keep the transaction entity in the controller db for future usage.

### Request

### JSON

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/transactionmanager/transaction/{transactionManagerSessionIdentifier}/{transactionIdentifier}?removelfNoRuns=true                       |
| HTTP Method  | <b>DELETE</b>  |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | None   |

### XML

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/transactionmanager/transaction/{transactionManagerSessionIdentifier}/{transactionIdentifier}?removelfNoRuns=true                     |
| HTTP Method  | <b>DELETE</b>  |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | None   |

### Response

|                    |                  |
|--------------------|------------------|
| HTTP Response Code | 204 - No content |
| HTTP Headers       |                  |
| HTTP Body          |                  |

# Chapter 5: Configuration Services

The following API functions are described:

|  |     |
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## Set Active Adapter

This API is a configuration API which influences all emulations. When more than one Adapter is present in the system, the active Adapter must be set. The active Adapter is the Adapter on which the emulation will be executed.

Only IPV4 is supported.

- **IP:** The active Adapter IP
- **Reverse Direction Flag:** When the packet direction cannot be determined from the packet header, for example when conducting emulations with "Default Flow" where no IP Range is defined, Network Virtualization for Mobile cannot determine if the packet originated in the Client or the Server machine.

When the Reverse Direction is false (default) the packets are treated as if the NV Driver is installed on the Client; all packets arrive from the Server Endpoint and all packets exit to the Server Endpoint.

When Reverse Direction is true, the NV Driver is considered as if installed on the Server machine and all packets arrive from and exit to the Client.

This setting is relevant when using Default Flow.

### Request

#### JSON

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/configuration/adapter  |
| HTTP Method  | <b>PUT</b>   |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | <pre>{<br/>  "ip": "192.168.0.101", "reverseDirection": true<br/>}</pre>   |

#### XML

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/configuration/adapter  |
| HTTP Method  | <b>PUT</b>   |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |

|      |   |
|------|---|
| Body | <pre>&lt;activeAdapter&gt;   &lt;ip&gt;192.168.0.101&lt;/ip&gt;   &lt;reverseDirection&gt;&gt;false&lt;/reverseDirection&gt; &lt;/activeAdapter&gt;</pre> |
|------|---|

### Response

#### JSON

|                    |                  |
|--------------------|------------------|
| HTTP Response Code | 204 - No content |
| HTTP Headers       |                  |
| HTTP Body          |                  |

## Get Active Adapter

This API returns the Active Adapter that was set previously; if a value is not selected, the default value in the system is used (this is the first IP that is returned by 'ipconfig'/ 'ifconfig').

### Request

#### JSON

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/configuration/adapter/   |
| HTTP Method  | <b>GET</b>   |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | None   |

#### XML

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/configuration/adapter/   |
| HTTP Method  | <b>GET</b>   |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | None   |

## Response

### JSON

|                    |   |
|--------------------|---|
| HTTP Response Code | 200 - OK  |
| HTTP Headers       | <b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT<br><b>Content-Type:</b> application/json; charset=UTF-8<br><b>Accept-Ranges:</b> bytes |
| HTTP Body          | <pre>{<br/>  "ip": "192.168.0.101", "reverseDirection": false<br/>}</pre>   |

### XML

|                    |   |
|--------------------|---|
| HTTP Response Code | 200 - OK  |
| HTTP Headers       | <b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT<br><b>Content-Type:</b> application/xml; charset=UTF-8<br><b>Accept-Ranges:</b> bytes                                      |
| HTTP Body          | <pre>&lt;activeAdapter&gt;<br/>  &lt;ip&gt;192.168.0.101&lt;/ip&gt;<br/>  &lt;reverseDirection&gt;&gt;false&lt;/reverseDirection&gt;<br/>&lt;/activeAdapter&gt;</pre> |

## Get Emulator Date and Time

### Request

#### JSON

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/configuration/emulatorDateTime   |
| HTTP Method  | <b>GET</b>   |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> Basic YW5vbnltb3VzOg== |
| Body         | None   |

#### XML

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/configuration/emulatorDateTime   |
| HTTP Method  | <b>GET</b>   |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> Basic YW5vbnltb3VzOg== |
| Body         | None   |

### Response

#### JSON

|                    |   |
|--------------------|---|
| HTTP Response Code | 200 - OK  |
| HTTP Headers       | <b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT<br><b>Content-Type:</b> application/json; charset=UTF-8<br><b>Accept-Ranges:</b> bytes |
| HTTP Body          | {"date":"2014-11-20 13:11:39.963","dateAsLong":1416489099961}   |

#### XML

|                    |   |
|--------------------|---|
| HTTP Response Code | 200 - OK  |
| HTTP Headers       | <b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT<br><b>Content-Type:</b> application/json; charset=UTF-8<br><b>Accept-Ranges:</b> bytes |
| HTTP Body          | <dateReply><br><date><br>2014-11-20 13:11:18.840<br></date><br><dateAsLong><br>1416489078838<br></dateAsLong><br></dateReply>     |

## Add Exclude IP/PORT Range

Adds a range to be excluded from all running tests. This is a general configuration that affects all tests.

This setting aggregates definitions in the .ntxx file and excludes ranges in all tests.

- **protocol:** is an integer number based on the following protocol list:  
[http://en.wikipedia.org/wiki/List\\_of\\_IP\\_protocol\\_numbers](http://en.wikipedia.org/wiki/List_of_IP_protocol_numbers)  
If protocol is not given, the default value is all protocols.
- **Port:** port resolution is available only for TCP and UDP (6 & 17). If the port is not given, the default value is all ports.

### Request

#### JSON

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/configuration/exclude  |
| HTTP Method  | <b>POST</b>  |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | <pre>{<br/>  "from": "1.1.1.1",<br/>  "to": "2.2.2.2",<br/>  "port": 5555,<br/>  "protocol": 17<br/>}</pre>  |

#### XML

|              |   |
|--------------|---|
| URL          | http://ip:port/shunra/api/configuration/exclude   |
| HTTP Method  | <b>POST</b>   |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7.  |
| Body         | <pre>&lt;ExcludeRanges&gt;<br/>  &lt;From&gt;1.1.1.1&lt;/From&gt;<br/>  &lt;To&gt;2.2.2.2&lt;/To&gt;<br/>  &lt;Protocol&gt;17&lt;/Protocol&gt;<br/>  &lt;Port&gt;5555&lt;/Port&gt;<br/>&lt;/ExcludeRanges&gt;</pre> |

### Response

|                    |                  |
|--------------------|------------------|
| HTTP Response Code | 204 - No content |
|--------------------|------------------|

|              |  |
|--------------|--|
| HTTP Headers |  |
| HTTP Body    |  |

## Add List of Exclude IP/PORT Ranges

### Request

#### JSON

|              |   |
|--------------|---|
| URL          | http://ip:port/shunra/api/configuration/excludelist   |
| HTTP Method  | <b>POST</b>   |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See <a href="#">"Web Services Authentication" on page 7.</a>  |
| Body         | <pre>{   "rangesCollection": [{     "from": "1.1.1.1",     "to": "2.2.2.2",     "port": 5555,     "protocol": 17   }, {     "from": "5.5.5.5",     "to": "6.6.6.6",     "port": 1234,     "protocol": 17   }] }</pre> |

#### XML

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/configuration/excludelist  |
| HTTP Method  | <b>POST</b>  |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See <a href="#">"Web Services Authentication" on page 7.</a> |

|      |   |
|------|---|
| Body | <pre> &lt;excludeRangesList&gt;   &lt;rangesCollection&gt;     &lt;From&gt;1.1.1.1&lt;/From&gt;     &lt;To&gt;2.2.2.2&lt;/To&gt;     &lt;Protocol&gt;17&lt;/Protocol&gt;     &lt;Port&gt;5555&lt;/Port&gt;   &lt;/rangesCollection&gt;   &lt;rangesCollection&gt;     &lt;From&gt;5.5.5.5&lt;/From&gt;     &lt;To&gt;6.6.6.6&lt;/To&gt;     &lt;Protocol&gt;17&lt;/Protocol&gt;     &lt;Port&gt;1234&lt;/Port&gt;   &lt;/rangesCollection&gt; &lt;/excludeRangesList&gt;                 </pre> |
|------|---|

**Response**

|                    |                  |
|--------------------|------------------|
| HTTP Response Code | 204 - No content |
| HTTP Headers       |                  |
| HTTP Body          |                  |

## Remove Exclude IP/PORT Range

This API is used to remove a specific Excluded Range.

**Note:** The default exclude range cannot be deleted. The default range includes all TCP/UDP traffic on the Active Adapter via the NV Test Manager web service port, and TCP/UDP traffic on the license server port 1947.

**Request**

**JSON**

|              |   |
|--------------|---|
| URL          | http://ip:port/shunra/api/configuration/exclude   |
| HTTP Method  | <b>PUT</b>  |
| HTTP Headers | <p><b>Content-Type:</b> application/json</p> <p><b>Accept:</b> application/json</p> <p><b>Authorization:</b> See <a href="#">"Web Services Authentication" on page 7.</a></p> |

|      |   |
|------|---|
| Body | <pre>{   "from": "1.1.1.1",   "to": "2.2.2.2",   "port": 5555,   "protocol": 17 }</pre> |
|------|---|

### XML

|              |   |
|--------------|---|
| URL          | http://ip:port/shunra/api/configuration/exclude   |
| HTTP Method  | <b>PUT</b>  |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See <a href="#">"Web Services Authentication" on page 7.</a>                                    |
| Body         | <pre>&lt;ExcludeRanges&gt;   &lt;From&gt;1.1.1.1&lt;/From&gt;   &lt;To&gt;2.2.2.2&lt;/To&gt;   &lt;Protocol&gt;17&lt;/Protocol&gt;   &lt;Port&gt;5555&lt;/Port&gt; &lt;/ExcludeRanges&gt;</pre> |

### Response

|                    |                  |
|--------------------|------------------|
| HTTP Response Code | 204 - No content |
| HTTP Headers       |                  |
| HTTP Body          |                  |

## Remove List of Exclude IP/PORT Ranges

### Request

#### JSON

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/configuration/excludelist  |
| HTTP Method  | <b>PUT</b>   |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See <a href="#">"Web Services Authentication" on page 7.</a> |

|      |   |
|------|---|
| Body | <pre>{   "rangesCollection": [{     "from": "1.1.1.1",     "to": "2.2.2.2",     "port": 5555,     "protocol": 17   }, {     "from": "5.5.5.5",     "to": "6.6.6.6",     "port": 1234,     "protocol": 17   }] }</pre> |
|------|---|

### XML

|              |   |
|--------------|---|
| URL          | http://ip:port/shunra/api/configuration/excludelist   |
| HTTP Method  | <b>PUT</b>  |
| HTTP Headers | <p><b>Content-Type:</b> application/xml</p> <p><b>Accept:</b> application/xml</p> <p><b>Authorization:</b> See <a href="#">"Web Services Authentication" on page 7.</a></p>   |
| Body         | <pre>&lt;excludeRangesList&gt;   &lt;rangesCollection&gt;     &lt;From&gt;1.1.1.1&lt;/From&gt;     &lt;To&gt;2.2.2.2&lt;/To&gt;     &lt;Protocol&gt;17&lt;/Protocol&gt;     &lt;Port&gt;5555&lt;/Port&gt;   &lt;/rangesCollection&gt;   &lt;rangesCollection&gt;     &lt;From&gt;5.5.5.5&lt;/From&gt;     &lt;To&gt;6.6.6.6&lt;/To&gt;     &lt;Protocol&gt;17&lt;/Protocol&gt;     &lt;Port&gt;1234&lt;/Port&gt;   &lt;/rangesCollection&gt; &lt;/excludeRangesList&gt;</pre> |

### Response

|                    |                  |
|--------------------|------------------|
| HTTP Response Code | 204 - No content |
| HTTP Headers       |                  |
| HTTP Body          |                  |

## Remove All Exclude IP/Port Ranges

This API removes all predefined excluded IP/Port ranges.

**Note:** The default exclude range cannot be deleted. The default range includes all TCP/UDP traffic on the Active Adapter via the NV Test Manager web service port, and TCP/UDP traffic on the license server port 1947.

### Request

|              |   |
|--------------|---|
| URL          | http://ip:port/shunra/api/configuration/excludelist   |
| HTTP Method  | <b>DELETE</b>   |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | None  |

### Response

|                    |                  |
|--------------------|------------------|
| HTTP Response Code | 204 - No content |
| HTTP Headers       |                  |
| HTTP Body          |                  |

## Get All Exclude IP/Port Ranges

This API is designed to get all currently configured excluded ranges in the driver.

### Request

#### JSON

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/configuration/exclude  |
| HTTP Method  | <b>GET</b>   |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | None   |

#### XML

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/configuration/exclude  |
| HTTP Method  | <b>GET</b>   |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See <a href="#">"Web Services Authentication" on page 7.</a> |
| Body         | None   |

## Response

### JSON

|                    |  |
|--------------------|--|
| HTTP Response Code | 200 - OK   |
| HTTP Headers       | <b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT<br><b>Content-Type:</b> application/json; charset=UTF-8<br><b>Accept-Ranges:</b> bytes  |
| HTTP Body          | <pre>{   "rangesCollection": [{     "from": "192.168.0.101",     "to": "192.168.0.101",     "protocol": 6,     "port": 8182   }, {     "from": "0.0.0.1",     "to": "255.255.255.255",     "protocol": 6,     "port": 1947   }, {     "from": "0.0.0.1",     "to": "255.255.255.255",     "protocol": 17,     "port": 1947   } ]</pre> |

### XML

|                    |          |
|--------------------|----------|
| HTTP Response Code | 200 - OK |
|--------------------|----------|

|              |  |
|--------------|--|
| HTTP Headers | <p><b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT</p> <p><b>Content-Type:</b> application/xml; charset=UTF-8</p> <p><b>Accept-Ranges:</b> bytes</p>  |
| HTTP Body    | <pre>&lt;excludeRangesList&gt;   &lt;rangesCollection&gt;     &lt;From&gt;192.168.0.101&lt;/From&gt;     &lt;To&gt;192.168.0.101&lt;/To&gt;     &lt;Protocol&gt;6&lt;/Protocol&gt;     &lt;Port&gt;8182&lt;/Port&gt;   &lt;/rangesCollection&gt;   &lt;rangesCollection&gt;     &lt;From&gt;0.0.0.1&lt;/From&gt;     &lt;To&gt;255.255.255.255&lt;/To&gt;     &lt;Protocol&gt;6&lt;/Protocol&gt;     &lt;Port&gt;1947&lt;/Port&gt;   &lt;/rangesCollection&gt;   &lt;rangesCollection&gt;     &lt;From&gt;0.0.0.1&lt;/From&gt;     &lt;To&gt;255.255.255.255&lt;/To&gt;     &lt;Protocol&gt;17&lt;/Protocol&gt;     &lt;Port&gt;1947&lt;/Port&gt;   &lt;/rangesCollection&gt; &lt;/excludeRangesList&gt;</pre> |

## Get Version Info

Gets the version number of the product and the type of emulation engine.

### Request

#### JSON

|              |   |
|--------------|---|
| URL          | http://ip:port/shunra/api/configuration/version   |
| HTTP Method  | <b>GET</b>  |
| HTTP Headers | <p><b>Content-Type:</b> application/json</p> <p><b>Accept:</b> application/json</p> <p><b>Authorization:</b> See <a href="#">"Web Services Authentication"</a> on page 7.</p> |
| Body         | None  |

#### XML

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/configuration/version  |
| HTTP Method  | <b>GET</b>   |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See <a href="#">"Web Services Authentication" on page 7.</a> |
| Body         | None   |

## Response

### JSON

|                    |  |
|--------------------|--|
| HTTP Response Code | 200 - OK   |
| HTTP Headers       | <b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT<br><b>Content-Type:</b> application/json; charset=UTF-8<br><b>Accept-Ranges:</b> bytes  |
| HTTP Body          | <pre>{   "versionProperties": {     "OperatingSystemArchitecture": "x86",     "JavaVersion": "1.7.0_25",     "BuildNumber": "0.57 ",     "IsTemporaryProduct": "false",     "EmulationEngineType": "SNV_CONTROLLER",     "MajorVersionNumber": "9.0",     "ProductDescription": "NV Controller",     "ProductName": "NV Controller",     "OperatingSystemVersion": "5.2",     "OperatingSystemName": "Windows 2003",     "ProductId": "85"   } }</pre> |

### XML

|                    |  |
|--------------------|--|
| HTTP Response Code | 200 - OK   |
| HTTP Headers       | <b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT<br><b>Content-Type:</b> application/xml; charset=UTF-8<br><b>Accept-Ranges:</b> bytes |

|           |  |
|-----------|--|
| HTTP Body | <pre>&lt;controllerVersionInfoReply&gt;   &lt;versionProperties&gt;     &lt;entry&gt;       &lt;key&gt;OperatingSystemArchitecture&lt;/key&gt;       &lt;value&gt;x86&lt;/value&gt;     &lt;/entry&gt;     &lt;entry&gt;       &lt;key&gt;JavaVersion&lt;/key&gt;       &lt;value&gt;1.7.0_25&lt;/value&gt;     &lt;/entry&gt;     &lt;entry&gt;       &lt;key&gt;BuildNumber&lt;/key&gt;       &lt;value&gt;0.57&lt;/value&gt;     &lt;/entry&gt;     &lt;entry&gt;       &lt;key&gt;IsTemporaryProduct&lt;/key&gt;       &lt;value&gt;&gt;false&lt;/value&gt;     &lt;/entry&gt;     &lt;entry&gt;       &lt;key&gt;EmulationEngineType&lt;/key&gt;       &lt;value&gt;SNV_CONTROLLER&lt;/value&gt;     &lt;/entry&gt;     &lt;entry&gt;       &lt;key&gt;MajorVersionNumber&lt;/key&gt;       &lt;value&gt;9.0&lt;/value&gt;     &lt;/entry&gt;     &lt;entry&gt;       &lt;key&gt;ProductDescription&lt;/key&gt;       &lt;value&gt;NV Controller&lt;/value&gt;     &lt;/entry&gt;     &lt;entry&gt;       &lt;key&gt;ProductName&lt;/key&gt;       &lt;value&gt;NV Controller&lt;/value&gt;     &lt;/entry&gt;     &lt;entry&gt;       &lt;key&gt;OperatingSystemVersion&lt;/key&gt;       &lt;value&gt;5.2&lt;/value&gt;     &lt;/entry&gt;     &lt;entry&gt;       &lt;key&gt;OperatingSystemName&lt;/key&gt;       &lt;value&gt;Windows 2003&lt;/value&gt;     &lt;/entry&gt;     &lt;entry&gt;       &lt;key&gt;ProductId&lt;/key&gt;       &lt;value&gt;85&lt;/value&gt;     &lt;/entry&gt;   &lt;/versionProperties&gt; &lt;/controllerVersionInfoReply&gt;</pre> |
|-----------|--|

## Set Configuration

This API sets the Network Virtualization for Mobile general configuration. The configuration can be executed only if an emulation is not currently running.

Parameters:

**PacketListMaxSizeMB:** the maximum size of the packet list (comprises all devices in a test).

**MinNumOfPakectListSpace:** a positive integer

**packetListServerClientRatio:** the default value is '0', therefore all packet lists are allocated on the client side.

For example:

The required available disk space (the threshold) is equal to the calculation of these values:

'MinNumOfPaketListSpace' \* 'PacketListMaxSizeMB'

If MinNumOfPakectListSpace=3, the packet list maximum size is 100MB, and there are more than two results folders, the Cleanup Threshold would be activated if the available disk space were less than 300 MB.

The ratio between server's and client's packet lists can be configured via the configuration API and user's configuration file. The value should be between 0-100, representing the percentage of the packet list allocated for the server.

### Request

#### JSON

|              |   |
|--------------|---|
| URL          | http://ip:port/shunra/api/configuration   |
| HTTP Method  | <b>PUT</b>  |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7.                      |
| Body         | <pre>{   "isPacketListCaptureCyclic": true,   "packetListMaxSizeMB": 100,   "minNumOfPacketListSpace": 3,   "captureBytesPerPacket": 1500,   "packetListServerClientRatio": 0 }</pre> |

#### XML

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/configuration  |
| HTTP Method  | <b>PUT</b>   |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7.   |
| Body         | <pre>&lt;configurationSettings&gt;   &lt;isPacketListCaptureCyclic&gt;true&lt;/isPacketListCaptureCyclic&gt;   &lt;packetListMaxSizeMB&gt;100&lt;/packetListMaxSizeMB&gt;   &lt;minNumOfPacketListSpace&gt;3&lt;/minNumOfPacketListSpace&gt;   &lt;captureBytesPerPacket&gt;1500&lt;/captureBytesPerPacket&gt;   &lt;packetListServerClientRatio&gt;0&lt;/packetListServerClientRatio&gt; &lt;/configurationSettings&gt;</pre> |

### Response

|                    |                  |
|--------------------|------------------|
| HTTP Response Code | 204 - No content |
| HTTP Headers       |                  |
| HTTP Body          |                  |

## Get Configuration

### Request

#### JSON

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/configuration  |
| HTTP Method  | <b>GET</b>   |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | None   |

#### XML

|             |   |
|-------------|---|
| URL         | http://ip:port/shunra/api/configuration |
| HTTP Method | <b>GET</b>                              |

|              |  |
|--------------|--|
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | None   |

**Response**

**JSON**

|                    |   |
|--------------------|---|
| HTTP Response Code | 200 - OK  |
| HTTP Headers       | <b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT<br><b>Content-Type:</b> application/json; charset=UTF-8<br><b>Accept-Ranges:</b> bytes   |
| HTTP Body          | <pre>{   "isPacketListCaptureCyclic": true,   "packetListMaxSizeMB": 100,   "minNumOfPacketListSpace": 3,   "captureBytesPerPacket": 1500,   "packetListServerClientRatio": 0 }</pre> |

**XML**

|                    |  |
|--------------------|--|
| HTTP Response Code | 200 - OK   |
| HTTP Headers       | <b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT<br><b>Content-Type:</b> application/json; charset=UTF-8<br><b>Accept-Ranges:</b> bytes  |
| HTTP Body          | <pre>&lt;configurationSettings&gt;   &lt;isPacketListCaptureCyclic&gt;true&lt;/isPacketListCaptureCyclic&gt;   &lt;packetListMaxSizeMB&gt;100&lt;/packetListMaxSizeMB&gt;   &lt;minNumOfPacketListSpace&gt;3&lt;/minNumOfPacketListSpace&gt;   &lt;captureBytesPerPacket&gt;1500&lt;/captureBytesPerPacket&gt;   &lt;packetListServerClientRatio&gt;0&lt;/packetListServerClientRatio&gt; &lt;/configurationSettings&gt;</pre> |

## Set Configuration for Location Based Emulation

This API updates the common emulation configuration on the emulation engine, as it has been generated by the global Location configuration UI in the NV Location Editor.

This API internally will call two different configuration API calls:

- Set configuration
- Add list of Exclude IP/Port

**Note:** The Excluded IP ranges will be valid throughout any running tests until they are specifically removed.

### Request

#### JSON

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/configuration/bylocations  |
| HTTP Method  | <b>POST</b>  |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7.   |
| Body         | <pre>{   "settings": {     "packetListMaxSizeMB": 300,     "isPacketListCaptureCyclic": true   },   "excludeIps": [{     "from": "8.8.8.8",     "to": "8.8.8.12",     "protocol": 6,     "port": 8183   }] }</pre> |

#### XML

|             |   |
|-------------|---|
| URL         | http://ip:port/shunra/api/configuration/bylocations |
| HTTP Method | <b>POST</b>   |

|              |  |
|--------------|--|
| HTTP Headers | <p><b>Content-Type:</b> application/xml</p> <p><b>Accept:</b> application/xml</p> <p><b>Authorization:</b> See "<a href="#">Web Services Authentication</a>" on page 7.</p>  |
| Body         | <pre>&lt;configuration&gt;   &lt;settings&gt;     &lt;packetListMaxSizeMB&gt;300&lt;/packetListMaxSizeMB&gt;     &lt;isPacketListCaptureCyclic&gt;true&lt;/isPacketListCaptureCyclic&gt;   &lt;/settings&gt;   &lt;excludeIps&gt;     &lt;From&gt;8.8.8.8&lt;/From&gt;     &lt;To&gt;8.8.8.12&lt;/To&gt;     &lt;Protocol&gt;6&lt;/Protocol&gt;     &lt;Port&gt;8183&lt;/Port&gt;   &lt;/excludeIps&gt; &lt;/configuration&gt;</pre> |

**Response**

|                    |                  |
|--------------------|------------------|
| HTTP Response Code | 204 - No content |
| HTTP Headers       |                  |
| HTTP Body          |                  |

## Chapter 6: License Services

This API returns license information regarding all Network Virtualization for Mobile products that have been installed on the machine and includes:

|  |     |
|--|-----|
| Get Information about a Specific Product .....       | 116 |
| Get Information about all Installed Products .....   | 120 |
| Get Local License Servers .....                      | 128 |
| Checkout License from the Local License Server ..... | 130 |
| Check-in License to the Local License Server .....   | 133 |

## Get Information about a Specific Product

This API returns license information regarding a specific Network Virtualization for Mobile product that has been installed on the machine.

Parameters:

**productid** - Network Virtualization for Mobile product key; this parameter is used when requesting specific product information.

Return value:

**installedProduct** - the installed product's name.

### Request

#### JSON

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/license/products/{productid}   |
| HTTP Method  | <b>GET</b>   |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | None   |

#### XML

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/license/products/{productid}   |
| HTTP Method  | <b>GET</b>   |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | None   |

### Response

#### JSON

|                    |          |
|--------------------|----------|
| HTTP Response Code | 200 - OK |
|--------------------|----------|

|              |  |
|--------------|--|
| HTTP Headers | <b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT<br><b>Content-Type:</b> application/json; charset=UTF-8<br><b>Accept-Ranges:</b> bytes  |
| HTTP Body    | <pre>{   "productSummary": {     "name": "HP Network Virtualization",     "description": "HP Network Virtualization",     "version": "9.0",     "buildVersion": "0.11 "   },   "licenseSpecification": {     "productKey": "66",     "isCheckoutAllowed": false,     "haspId": "1116231439444135755",     "isCheckedOut": true,     "isExpired": false,     "fingerprint_change": null,     "productFeatures": {       "67": {         "name": "Run analytics",         "friendlyName": "Run analytics",         "id": "67",         "type": "Expiration",         "value": "2013 10 20 6:42:15",         "internalValue": "2013 10 20 6:42:15"       },       "66": {         "name": "Access HP Global Library",         "friendlyName": "Access HP Global Library",         "id": "66",         "type": "Limited",         "value": "Not Installed",         "internalValue": "Not Installed"       },       "68": {         "name": "Run multi-user mode",         "friendlyName": "Run multi-user mode",         "id": "68",         "type": "Expiration",         "value": "2013 10 20 6:42:15",         "internalValue": "2013 10 20 6:42:15"       },       "69,72,73,74,75,76,77,78": {         "name": "Maximum number of concurrent test flows",         "friendlyName": "Maximum number of</pre> |

|  |   |
|--|---|
|  | <pre> concurrent test flows",   "id": "69,72,73,74,75,76,77,78",   "type": "Limited",   "value": "100",   "internalValue": "100" }, "23": {   "name": "Run network emulation",   "friendlyName": "Run network emulation",   "id": "23",   "type": "Expiration",   "value": "2013 10 20 6:42:15",   "internalValue": "2013 10 20 6:42:15" }, "24": {   "name": "Utilize packet lists",   "friendlyName": "Utilize packet lists",   "id": "24",   "type": "Expiration",   "value": "2013 10 20 6:42:15",   "internalValue": "2013 10 20 6:42:15" } } } } </pre> |
|--|---|

**XML**

|                    |  |
|--------------------|--|
| HTTP Response Code | 200 - OK   |
| HTTP Headers       | <b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT<br><b>Content-Type:</b> application/xml; charset=UTF-8<br><b>Accept-Ranges:</b> bytes   |
| HTTP Body          | <pre> &lt;?xml version="1.0" encoding="UTF-8"?&gt; &lt;shunraProductSpecification&gt;   &lt;productSummary&gt;     &lt;name&gt;HP Network Virtualization&lt;/name&gt;     &lt;description&gt;HP Network Virtualization&lt;/description&gt;     &lt;version&gt;9.0&lt;/version&gt;     &lt;buildVersion&gt;0.11&lt;/buildVersion&gt;   &lt;/productSummary&gt; &lt;/shunraProductSpecification&gt; </pre> |

```
</productSummary>
<licenseSpecification>
  <productKey>66</productKey>
  <isCheckoutAllowed>>false</isCheckoutAllowed>
  <haspId>1116231439444135755</haspId>
  <isCheckedOut>>true</isCheckedOut>
  <isExpired>>false</isExpired>
  <productFeatures>
    <entry>
      <key>67</key>
      <value>
        <name>Run analytics</name>
        <friendlyName>Run analytics</friendlyName>
        <id>67</id>
        <type>Expiration</type>
        <value>2013 10 20 6:42:15</value>
        <internalValue>2013 10 20 6:42:15</internalValue>
      </value>
    </entry>
    <entry>
      <key>66</key>
      <value>
        <name>Access HP Global Library</name>
        <friendlyName>Access HP Global
        Library</friendlyName>
        <id>66</id>
        <type>Limited</type>
        <value>Not Installed</value>
        <internalValue>Not Installed</internalValue>
      </value>
    </entry>
    <entry>
      <key>68</key>
      <value>
        <name>Run multi-user mode</name>
        <friendlyName>Run multi-user mode</friendlyName>
        <id>68</id>
        <type>Expiration</type>
        <value>2013 10 20 6:42:15</value>
        <internalValue>2013 10 20 6:42:15</internalValue>
      </value>
    </entry>
    <entry>
      <key>69,72,73,74,75,76,77,78</key>
      <value>
        <name>Maximum number of concurrent
        test flows</name>
```

```
<friendlyName>Maximum number of concurrent
test flows</friendlyName>
<id>69,72,73,74,75,76,77,78</id>
<type>Limited</type>
<value>100</value>
<internalValue>100</internalValue>
</value>
</entry>
<entry>
<key>23</key>
<value>
<name>Run network emulation</name>
<friendlyName>Run network emulation</friendlyName>
<id>23</id>
<type>Expiration</type>
<value>2013 10 20 6:42:15</value>
<internalValue>2013 10 20 6:42:15</internalValue>
</value>
</entry>
<entry>
<key>24</key>
<value>
<name>Utilize packet lists</name>
<friendlyName>Utilize packet lists</friendlyName>
<id>24</id>
<type>Expiration</type>
<value>2013 10 20 6:42:15</value>
<internalValue>2013 10 20 6:42:15</internalValue>
</value>
</entry>
</productFeatures>
</licenseSpecification>
</shunraProductSpecification>
```

## Get Information about all Installed Products

This API returns the names of all HP Network Virtualization for Mobile products that have been installed on the machine.

**installedProducts** - the installed product's description.

### Request

#### JSON

|     |   |
|-----|---|
| URL | <a href="http://ip:port/shunra/api/license/products">http://ip:port/shunra/api/license/products</a> |
|-----|---|

|              |  |
|--------------|--|
| HTTP Method  | <b>GET</b>   |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | None   |

**XML**

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/license/products   |
| HTTP Method  | <b>GET</b>   |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | None   |

**Response**

**JSON**

|                    |   |
|--------------------|---|
| HTTP Response Code | 200 - OK  |
| HTTP Headers       | <b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT<br><b>Content-Type:</b> application/json; charset=UTF-8<br><b>Accept-Ranges:</b> bytes   |
| HTTP Body          | <pre>{   "installedProducts": {     "66": {       "productSummary": {         "name": "HP Network Virtualization",         "description": "HP Network Virtualization",         "version": "9.0",         "buildVersion": "0.11 "       },       "licenseSpecification": {         "productKey": "66",         "isCheckoutAllowed": false,         "haspId": "1116231439444135755",         "isCheckedOut": true, </pre> |

|  |  |
|--|--|
|  | <pre>"isExpired": false, "fingerprint_change": null, "productFeatures": {   "67": {     "name": "Run analytics",     "friendlyName": "Run analytics",     "id": "67",     "type": "Expiration",     "value": "2013 10 20 6:42:15",     "internalValue": "2013 10 20 6:42:15"   },   "66": {     "name": "Access HP Global Library",     "friendlyName": "Access HP Global Library",     "id": "66",     "type": "Limited",     "value": "Not Installed",     "internalValue": "Not Installed"   },   "68": {     "name": "Run multi-user mode",     "friendlyName": "Run multi-user mode",     "id": "68",     "type": "Expiration",     "value": "2013 10 20 6:42:15",     "internalValue": "2013 10 20 6:42:15"   }, }</pre> |
|--|--|

|  |   |
|--|---|
|  | <pre>"69,72,73,74,75,76,77,78": {   "name": "Maximum number of concurrent test flows",   "friendlyName": "Maximum number of concurrent test flows",   "id": "69,72,73,74,75,76,77,78",   "type": "Limited",   "value": "100",   "internalValue": "100" }, "23": {   "name": "Run network emulation",   "friendlyName": "Run network emulation",   "id": "23",   "type": "Expiration",   "value": "2013 10 20 6:42:15",   "internalValue": "2013 10 20 6:42:15" }, "24": {   "name": "Utilize packet lists",   "friendlyName": "Utilize packet lists",   "id": "24",   "type": "Expiration",   "value": "2013 10 20 6:42:15",   "internalValue": "2013 10 20 6:42:15" } } }, }, "73": {   "productSummary": {     "name": "HP Global Library",     "description": "HP Global Library",     "version": "9.0",     "buildVersion": "0.234 "   },   "licenseSpecification": {     "productKey": "73",     "isCheckoutAllowed": false,     "haspId": "1020733120136564810",     "isCheckedOut": false,     "isExpired": true,     "fingerprint_change": null,     "productFeatures": {       "66": {         "name": "Access HP Global Library",         "friendlyName": "Access HP Global Library",</pre> |
|--|---|

|  |   |
|--|---|
|  | <pre>         "id": "66",         "type": "Trial",         "value": "Expired: 2013 8 1 14:34:21",         "internalValue": "2013 8 1 14:34:21"       }     }   } } </pre> |
|--|---|

**XML**

|                    |  |
|--------------------|--|
| HTTP Response Code | 200 - OK   |
| HTTP Headers       | <p><b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT</p> <p><b>Content-Type:</b> application/xml; charset=UTF-8</p> <p><b>Accept-Ranges:</b> bytes</p>  |
| HTTP Body          | <pre> &lt;?xml version="1.0" encoding="UTF-8"?&gt; &lt;shunraLicenseSummary&gt;   &lt;installedProducts&gt;     &lt;entry&gt;       &lt;key&gt;66&lt;/key&gt;       &lt;value&gt;         &lt;productSummary&gt;           &lt;name&gt;HP Network Virtualization&lt;/name&gt;           &lt;description&gt;HP Network           Virtualization&lt;/description&gt;           &lt;version&gt;9.0&lt;/version&gt;           &lt;buildVersion&gt;0.11&lt;/buildVersion&gt;         &lt;/productSummary&gt;         &lt;licenseSpecification&gt;           &lt;productKey&gt;66&lt;/productKey&gt;           &lt;isCheckoutAllowed&gt;&gt;false&lt;/isCheckoutAllowed&gt;           &lt;haspId&gt;1116231439444135755&lt;/haspId&gt;           &lt;isCheckedOut&gt;&gt;true&lt;/isCheckedOut&gt;           &lt;isExpired&gt;&gt;false&lt;/isExpired&gt;           &lt;productFeatures&gt;             &lt;entry&gt;               &lt;key&gt;67&lt;/key&gt;               &lt;value&gt;                 &lt;name&gt;Run analytics&lt;/name&gt;                 &lt;friendlyName&gt; </pre> |

|  |   |
|--|---|
|  | <pre>                Run analytics             &lt;/friendlyName&gt;             &lt;id&gt;67&lt;/id&gt;             &lt;type&gt;Expiration&lt;/type&gt;             &lt;value&gt;2013 10 20 6:42:15&lt;/value&gt;             &lt;internalValue&gt;                 2013 10 20 6:42:15             &lt;/internalValue&gt;         &lt;/value&gt;     &lt;/entry&gt;     &lt;entry&gt;         &lt;key&gt;66&lt;/key&gt;         &lt;value&gt;             &lt;name&gt;                 Access HP Global Library             &lt;/name&gt;             &lt;friendlyName&gt;                 Access HP Global Library             &lt;/friendlyName&gt;             &lt;id&gt;66&lt;/id&gt;             &lt;type&gt;Limited&lt;/type&gt;             &lt;value&gt;Not Installed&lt;/value&gt;             &lt;internalValue&gt;                 Not Installed             &lt;/internalValue&gt;         &lt;/value&gt;     &lt;/entry&gt;     &lt;entry&gt;         &lt;key&gt;68&lt;/key&gt;         &lt;value&gt;             &lt;name&gt;Run multi-user mode&lt;/name&gt;             &lt;friendlyName&gt;                 Run multi-user mode             &lt;/friendlyName&gt;             &lt;id&gt;68&lt;/id&gt;             &lt;type&gt;Expiration&lt;/type&gt;             &lt;value&gt;2013 10 20 6:42:15&lt;/value&gt;             &lt;internalValue&gt;                 2013 10 20 6:42:15             &lt;/internalValue&gt;         &lt;/value&gt;     &lt;/entry&gt;</pre> |
|--|---|

|  |   |
|--|---|
|  | <pre>&lt;entry&gt;   &lt;key&gt;69,72,73,74,75,76,77,78&lt;/key&gt;   &lt;value&gt;     &lt;name&gt;Maximum number of     concurrent test flows&lt;/name&gt;     &lt;friendlyName&gt;Maximum number     of concurrent test flows&lt;/friendlyName&gt;     &lt;id&gt;69,72,73,74,75,76,77,78&lt;/id&gt;     &lt;type&gt;Limited&lt;/type&gt;     &lt;value&gt;100&lt;/value&gt;     &lt;internalValue&gt;100&lt;/internalValue&gt;   &lt;/value&gt; &lt;/entry&gt; &lt;entry&gt;   &lt;key&gt;23&lt;/key&gt;   &lt;value&gt;     &lt;name&gt;Run network emulation&lt;/name&gt;     &lt;friendlyName&gt;       Run network emulation     &lt;/friendlyName&gt;     &lt;id&gt;23&lt;/id&gt;     &lt;type&gt;Expiration&lt;/type&gt;     &lt;value&gt;       2013 10 20 6:42:15     &lt;/value&gt;     &lt;internalValue&gt;       2013 10 20 6:42:15     &lt;/internalValue&gt;   &lt;/value&gt; &lt;/entry&gt; &lt;entry&gt;   &lt;key&gt;24&lt;/key&gt;   &lt;value&gt;     &lt;name&gt;Utilize packet lists&lt;/name&gt;     &lt;friendlyName&gt;       Utilize packet lists     &lt;/friendlyName&gt;     &lt;id&gt;24&lt;/id&gt;     &lt;type&gt;Expiration&lt;/type&gt;     &lt;value&gt;       2013 10 20 6:42:15     &lt;/value&gt;     &lt;internalValue&gt;       2013 10 20 6:42:15     &lt;/internalValue&gt;   &lt;/value&gt; &lt;/entry&gt;</pre> |
|--|---|

```
        </entry>
        </productFeatures>
    </licenseSpecification>
</value>
</entry>
<entry>
    <key>73</key>
    <value>
        <productSummary>
            <name>HP Global Library</name>
            <description>
                HP Global Library
            </description>
            <version>9.0</version>
            <buildVersion>0.234</buildVersion>
        </productSummary>
        <licenseSpecification>
            <productKey>73</productKey>
            <isCheckoutAllowed>false</isCheckoutAllowed>
            <haspId>1020733120136564810</haspId>
            <isCheckedOut>false</isCheckedOut>
            <isExpired>true</isExpired>
            <productFeatures>
                <entry>
                    <key>66</key>
                    <value>
                        <name>
                            Access HP Global Library
                        </name>
                        <friendlyName>
                            Access HP Global Library
                        </friendlyName>
                        <id>66</id>
                        <type>Trial</type>
                        <value>
                            Expired: 2013 8 1 14:34:21
                        </value>
                        <internalValue>
                            2013 8 1 14:34:21
                        </internalValue>
                    </value>
                </entry>
            </productFeatures>
        </licenseSpecification>
    </value>
</entry>
</installedProducts>
</shunraLicenseSummary>
```

# Get Local License Servers

This API returns information about all the machines that:

- Are visible in the network segment
- Support checkout license operation for the installed product
- Have an appropriate license pool installed

Parameters:

**productid** - the ID of the Network Virtualization for Mobile product for which the license server should support checkout of licenses.

Return value:

**licenseServers** - the name (descriptors) of the visible local license servers that have product license pools, supporting checkout of licenses.

## Request

### JSON

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/license/servers/{productid}  |
| HTTP Method  | <b>GET</b>   |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | None   |

### XML

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/license/servers/{productid}  |
| HTTP Method  | <b>GET</b>   |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | None   |

## Response

### JSON

|                    |   |
|--------------------|---|
| HTTP Response Code | 200 - OK  |
| HTTP Headers       | <b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT<br><b>Content-Type:</b> application/json; charset=UTF-8<br><b>Accept-Ranges:</b> bytes   |
| HTTP Body          | <pre>{   "licenseServers": [{     "hostname": "2008-SP2-64",     "ip": "172.30.2.30",     "osname": "Windows Server (R) 2008 Standard without Hyper-V",     "osversion": "Build 6002",     "version": "14.1",     "name": "2008-SP2-64",     "architecture": "Intel64 Family 6 Model 26 Stepping 5",     "fingerprint": null,     "id": "175417794145172862",     "uptime": "4339400",     "time": "50 days 5 hours 23 minutes",     "maxCheckoutDays": "9999"   }] }</pre> |

### XML

|                    |  |
|--------------------|--|
| HTTP Response Code | 200 - OK   |
| HTTP Headers       | <b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT<br><b>Content-Type:</b> application/xml; charset=UTF-8<br><b>Accept-Ranges:</b> bytes |

|           |  |
|-----------|--|
| HTTP Body | <pre>&lt;localLicenseServerSummary&gt;   &lt;licenseServers&gt;     &lt;hostname&gt;2008-SP2-64&lt;/hostname&gt;     &lt;ip&gt;172.30.2.30&lt;/ip&gt;     &lt;osname&gt;Windows Server (R) 2008 Standard without Hyper-V&lt;/osname&gt;     &lt;osversion&gt;Build 6002&lt;/osversion&gt;     &lt;version&gt;14.1&lt;/version&gt;     &lt;name&gt;2008-SP2-64&lt;/name&gt;     &lt;architecture&gt;Intel64 Family 6 Model 26 Stepping 5&lt;/architecture&gt;     &lt;id&gt;175417794145172862&lt;/id&gt;     &lt;uptime&gt;4339356&lt;/uptime&gt;     &lt;time&gt;50 days 5 hours 22 minutes&lt;/time&gt;     &lt;maxCheckoutDays&gt;9999&lt;/maxCheckoutDays&gt;   &lt;/licenseServers&gt; &lt;/localLicenseServerSummary&gt;</pre> |
|-----------|--|

## Checkout License from the Local License Server

This API allow checkout of a license from a license server visible on the network segment, which has an appropriate product license pool. The API is asynchronous and has two stages:

1. Checkout request
2. Get checkout operation status

## Checkout License

This API initiates checkout of a license.

Body:

**checkoutParameters** - The configuration of the checkout operation; it includes:

- Product ID
- Duration in seconds
- IP of the local license server

Return Value:

**Request**

**JSON**

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api /license/checkout  |
| HTTP Method  | <b>POST</b>  |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | <pre>{<br/>  "productKey": "43",<br/>  "duration": 1036800,<br/>  "ip": "172.30.2.30"<br/>}</pre>  |

### XML

|              |   |
|--------------|---|
| URL          | http://ip:port/shunra/api /license/checkout   |
| HTTP Method  | <b>POST</b>   |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7.  |
| Body         | <pre>&lt;checkoutParameters&gt;<br/>  &lt;productKey&gt;66&lt;/productKey&gt;<br/>  &lt;ip&gt;172.30.2.30&lt;/ip&gt;<br/>  &lt;duration&gt;1036800&lt;/duration&gt;<br/>&lt;/checkoutParameters&gt;</pre> |

### Response

|                    |   |
|--------------------|---|
| HTTP Response Code | 200 - OK  |
| HTTP Headers       | <b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT<br><b>Accept-Ranges:</b> bytes |
| HTTP Body          | None  |

## Checkout Status

The API validates the status of the license currently being checked out.

Parameters:

**productid** - The ID of the Network Virtualization for Mobile product for which the checkout is going to occur.

Return Value:

**LicenseModificationStatus** - the status and the error description (if an error occurred during the checkout). The possible statuses are:

// a job still has not been started  
Idle(0),

// a job started  
Started(1),

// a job finished  
Finished(2),

// a job failed  
Failed(3);

### Request

#### JSON

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/license/checkout/{productkey}  |
| HTTP Method  | <b>GET</b>   |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | None   |

### Response

#### JSON

|                    |   |
|--------------------|---|
| HTTP Response Code | 200 - OK  |
| HTTP Headers       | <b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT<br><b>Content-Type:</b> application/json; charset=UTF-8<br><b>Accept-Ranges:</b> bytes |
| HTTP Body          | {<br>"statusDescription": null,<br>"licenseStatus": "Finished"<br>}   |

#### XML

|                    |  |
|--------------------|--|
| HTTP Response Code | 200 - OK   |
| HTTP Headers       | <b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT<br><b>Content-Type:</b> application/xml; charset=UTF-8<br><b>Accept-Ranges:</b> bytes |
| HTTP Body          | <licenseModificationStatus><br><licenseStatus>Finished</licenseStatus><br></licenseModificationStatus>                           |

## Check-in License to the Local License Server

This API allows check in of a license back to a visible license server which has an appropriate product license pool. The API is asynchronous and has two stages:

1. Check-in request
2. Get check-in status

## Check In License

This API initiates the checkout license operation.

Body:

**checkinParameters** - The configuration of the check in operation; it includes the product ID, and also which license has been checked out from the pool.

Return value:

None.

### Request

#### JSON

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/license/checkin  |
| HTTP Method  | <b>POST</b>  |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | {<br>"productKey": "43"<br>}   |

### XML

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/license/checkin  |
| HTTP Method  | <b>POST</b>  |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | <checkoutParameters><br><productKey>66</productKey><br></checkoutParameters>   |

### Response

#### JSON

|                    |   |
|--------------------|---|
| HTTP Response Code | 200 - OK  |
| HTTP Headers       | <b>Date:</b> Thu, 15 Mar 2012 15:55:38 GMT<br><b>Accept-Ranges:</b> bytes |
| HTTP Body          | None  |

## Check In Status

This API validates the current status of the license currently being checked in.

Parameters:

**productkey** - The ID of the Network Virtualization for Mobile product for which the license check in is going to occur.

Return Value:

**LicenseModificationStatus** - the status and the error description (if an error occurred during the license check in).

The possible statuses are:

// a job still has not been started  
Idle(0),

// a job started  
Started(1),

// a job finished  
Finished(2),

```
// a job failed  
Failed(3);
```

### Request

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/license/checkin/{productid}  |
| HTTP Method  | <b>GET</b>   |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | None   |

### Response

#### JSON

|                    |   |
|--------------------|---|
| HTTP Response Code | 200 - OK  |
| HTTP Headers       | <b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT<br><b>Content-Type:</b> application/json; charset=UTF-8<br><b>Accept-Ranges:</b> bytes |
| HTTP Body          | {<br>"statusDescription": null,<br>"licenseStatus": "Finished"<br>}   |

#### XML

|                    |  |
|--------------------|--|
| HTTP Response Code | 200 - OK   |
| HTTP Headers       | <b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT<br><b>Content-Type:</b> application/xml; charset=UTF-8<br><b>Accept-Ranges:</b> bytes |
| HTTP Body          | <licenseModificationStatus><br><licenseStatus>Finished</licenseStatus><br></licenseModificationStatus>                           |

# Chapter 7: Test Analysis Services

This section describes:

"Synchronous Analyze Command" below

This API is responsible for the test analysis functionality accessible from the NV Test Manager (as opposed to NV Analytics).

**Note:** A Packet List that contains IP fragmentation impairments cannot be analyzed.

## Synchronous Analyze Command

Analyzes the .shunra file according to the provided port(s) input. Analysis can be performed for specific test or for specific .shunra or packet-list files.

Parameters:

**ports:** Comma separated ports. Default port is 80.

**zipResult:** If true, response will include .zip file with .csv and html reports. If false, response will be a report in json format. Default value is true.

**TestToken:** test identifier as returned by start test API.

Example: for analysis by uploading a specific .shunra file.

**Request:**

|              |   |
|--------------|---|
| URL          | <code>http://ip:port/shunra/api/analysisreport/analyze?ports=p1,p2&amp;zipResult=true</code>  |
| HTTP Method  | <b>PUT</b>  |
| HTTP Headers | <b>Content-Type:</b> multipart/form-data<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7.  |
| Body         | See the detailed spec in RFC 1867, "Form-based File Upload in HTML"<br><a href="http://www.ietf.org/rfc/rfc1867.txt">http://www.ietf.org/rfc/rfc1867.txt</a><br>.shunra file attached |

**Response:**

|                    |          |
|--------------------|----------|
| HTTP Response Code | 200 - OK |
|--------------------|----------|

|              |   |
|--------------|---|
| HTTP Headers | <b>Date:</b> Thu, 15 Mar 2014 15:36:11 GMT<br><b>Content-Type:</b> multipart/form-data<br><b>Accept-Ranges:</b> bytes |
| HTTP Body    | Analysis .zip file or Json report   |

Example: Analyzing by testToken without uploading a file.

|              |   |
|--------------|---|
| URL          | http://ip:port/shunra/api/analysisreport/analyze/<br>{testToken}?ports=p1,p2&zipResult=true |
| HTTP Method  | <b>PUT</b>  |
| HTTP Headers | <b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7.        |
| Body         |   |

# Chapter 8: Location Editor Services

Virtual Locations are a set of network conditions which are defined in three modes:

- **Import from library mode:** network conditions imported directly from the NV Global Library.
- **Custom mode:** define the network conditions manually.
- **Advanced mode:** import from an .ntxx file.

To use the API to generate virtual locations using Custom mode only, see below ["API for Generating Custom Mode Virtual Locations"](#) below.

To use the UI-API to generate virtual locations using either one of the three modes, see ["API for UI Users"](#) on page 145.

To run a test using virtual locations, see ["Location Based Mode"](#) on page 21 in Emulation Services, Start Test.

**Note:** The generated Virtual Locations are internal Network Virtualization for Mobile objects which should not be modified.

## API for Generating Custom Mode Virtual Locations

You can generate either a new virtual location or modify an existing virtual location.

To generate a new virtual location set the "locationMetadata" to null and define the required parameters as described below.

To modify an existing virtual location, initialize the "locationMetadata" with the existing virtual locations "locationMetadata" and define the required parameters as described below. The value of each parameter of the original virtual location is retained unless a new value is provided.

Parameters:

- **id:** the virtual location's ID. If the parameter is not passed when creating a new virtual location, the ID will be generated by the Location Editor and returned in the response.
- **name:** the virtual location's name  
default for a new virtual location is "null"
- **description:** the virtual location's description  
default for a new virtual location is "null"

- **latency:** the required latency  
default for a new virtual location is "0"
- **packetloss:** the required packet loss  
default for a new virtual location is "0"
- **bandwidthIn:** the required downstream bandwidth  
default for a new virtual location is "0" (unlimited)
- **bandwidthOut:** the required upstream bandwidth  
default for a new virtual location is "0" (unlimited)
- **isCaptureClientPI:** set packet capture to true when a single client is going to use the virtual location for later analyzing the transactions from the NV Test Manager or using NV Analytics  
default for a new virtual location is "false"
- **sharedBandwidth:** when set to "false", each client using the virtual locations when running the test will get its own bandwidth, the defined bandwidth; default for a new virtual location is "true"
- **excludeIpRange:** IP address to exclude from the emulation also if included in the Start Test request;  
default for a new virtual location is "null"

When running emulation using Dynamic Filters, there should be no excluded IPs in the virtual location.

IP address can also be excluded in the Start Emulation request, per virtual location or for all of the virtual locations in the request.

To remove all the excluded ranges when modifying a virtual location, send an empty list (excludeIpRange=[]).

All parameters are optional.

### Request

#### JSON

|             |  |
|-------------|--|
| URL         | http://ip:port/shunra/api/locationeditor/location/custom |
| HTTP Method | <b>POST</b>  |

|                     |  |
|---------------------|--|
| HTTP Headers        | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7.   |
| Body (New Location) | <pre>{   "parameters": {     "id": "1234567890",     "name": "locName",     "description": "description",     "latency": 129,     "packetloss": 0.1,     "bandwidthIn": 2000.0,     "bandwidthOut": 1000.0,     "isCaptureClientPl": false,     "sharedBandwidth": true,     "excludeIpRange": [{       "from": "172.30.2.50",       "to": "172.30.2.52",       "port": 8080,       "protocol": 6     }]   } }</pre> |

|                          |   |
|--------------------------|---|
| Body (Existing Location) | <pre>{   "locationMetadata": {     "srcIp": null,     "destIp": null,     "srcIpRange": {       "include": [],       "exclude": [{         "from": "172.30.2.50",         "to": "172.30.2.52",         "port": 8080,         "protocol": 6       }]     },     "destIpRange": {       "include": [],       "exclude": [{         "from": "172.30.2.50",         "to": "172.30.2.52",         "port": 8080,         "protocol": 6       }]     },     "id": "1234567890",     "name": "locName",     "type": "CUSTOM",     "description": "description",     "ntx": null,     "selectedFlow": null,     "latency": 129,     "packetloss": 0.1,     "bandwidthIn": 2000.0,     "bandwidthOut": 1000.0,     "isCaptureClientPI": false,     "sharedBandwidth": true,     "ntxMetadata": null,     "glMetadata": null   },   "parameters": {     "latency": 143,     "bandwidthIn": 1500.0,     "bandwidthOut": 750.0,     "excludeIpRange": []   } }</pre> |
|--------------------------|---|

**XML**

|     |   |
|-----|---|
| URL | <a href="http://ip:port/shunra/api/locationeditor/location/custom">http://ip:port/shunra/api/locationeditor/location/custom</a> |
|-----|---|

|                     |   |
|---------------------|---|
| HTTP Method         | <b>POST</b>   |
| HTTP Headers        | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7.  |
| Body (New Location) | <pre>&lt;?xml version="1.0" encoding="UTF-8" ?&gt; &lt;locationMetadataRequest&gt;   &lt;parameters&gt;     &lt;id&gt;1234567890&lt;/id&gt;     &lt;name&gt;locName&lt;/name&gt;     &lt;description&gt;description&lt;/description&gt;     &lt;latency&gt;129&lt;/latency&gt;     &lt;packetloss&gt;0.1&lt;/packetloss&gt;     &lt;bandwidthIn&gt;2000&lt;/bandwidthIn&gt;     &lt;bandwidthOut&gt;1000&lt;/bandwidthOut&gt;     &lt;isCaptureClientPl&gt;false&lt;/isCaptureClientPl&gt;     &lt;sharedBandwidth&gt;true&lt;/sharedBandwidth&gt;     &lt;excludeIpRange&gt;       &lt;from&gt;172.30.2.50&lt;/from&gt;       &lt;to&gt;172.30.2.52&lt;/to&gt;       &lt;port&gt;8080&lt;/port&gt;       &lt;protocol&gt;6&lt;/protocol&gt;     &lt;/excludeIpRange&gt;   &lt;/parameters&gt; &lt;/locationMetadataRequest&gt;</pre> |

|                          |   |
|--------------------------|---|
| Body (Existing Location) | <pre>&lt;?xml version="1.0" encoding="UTF-8" standalone="yes" ?&gt; &lt;locationMetadataRequest&gt;   &lt;id&gt;1234567890&lt;/id&gt;   &lt;locationMetadata&gt;     &lt;srcIpRange&gt;       &lt;exclude&gt;         &lt;from&gt;172.30.2.50&lt;/from&gt;         &lt;to&gt;172.30.2.52&lt;/to&gt;         &lt;port&gt;8080&lt;/port&gt;         &lt;protocol&gt;6&lt;/protocol&gt;       &lt;/exclude&gt;     &lt;/srcIpRange&gt;     &lt;destIpRange&gt;       &lt;exclude&gt;         &lt;from&gt;172.30.2.50&lt;/from&gt;         &lt;to&gt;172.30.2.52&lt;/to&gt;         &lt;port&gt;8080&lt;/port&gt;         &lt;protocol&gt;6&lt;/protocol&gt;       &lt;/exclude&gt;     &lt;/destIpRange&gt;     &lt;id&gt;1234567890&lt;/id&gt;     &lt;name&gt;locName&lt;/name&gt;     &lt;type&gt;CUSTOM&lt;/type&gt;     &lt;description&gt;description&lt;/description&gt;     &lt;latency&gt;129&lt;/latency&gt;     &lt;packetloss&gt;0.1&lt;/packetloss&gt;     &lt;bandwidthIn&gt;2000.0&lt;/bandwidthIn&gt;     &lt;bandwidthOut&gt;1000.0&lt;/bandwidthOut&gt;     &lt;isCaptureClientPl&gt;false&lt;/isCaptureClientPl&gt;     &lt;sharedBandwidth&gt;true&lt;/sharedBandwidth&gt;   &lt;/locationMetadata&gt;   &lt;parameters&gt;     &lt;latency&gt;143&lt;/latency&gt;     &lt;bandwidthIn&gt;1500&lt;/bandwidthIn&gt;     &lt;bandwidthOut&gt;750&lt;/bandwidthOut&gt;     &lt;excludeIpRange&gt;       &lt;from&gt;172.30.2.50&lt;/from&gt;       &lt;to&gt;172.30.2.51&lt;/to&gt;       &lt;port&gt;8080&lt;/port&gt;       &lt;protocol&gt;6&lt;/protocol&gt;     &lt;/excludeIpRange&gt;   &lt;/parameters&gt; &lt;/locationMetadataRequest&gt;</pre> |
|--------------------------|---|

**Response**

**JSON**

|                    |   |
|--------------------|---|
| HTTP Response Code | 200 - OK  |
| HTTP Headers       | <b>Date:</b> Thu, 15 Mar 2014 15:55:38 GMT<br><b>Content-Type:</b> application/json; charset=UTF-8  |
| HTTP Body          | <pre> {   "id": "1234567890",   "locationMetadata": {     "srcIp": null,     "destIp": null,     "srcIpRange": {       "include": [],       "exclude": [{         "from": "172.30.2.50",         "to": "172.30.2.52",         "port": 8080,         "protocol": 6       }]     },     "destIpRange": {       "include": [],       "exclude": [{         "from": "172.30.2.50",         "to": "172.30.2.52",         "port": 8080,         "protocol": 6       }]     },   },   "id": "1234567890",   "name": "locName",   "type": "CUSTOM",   "description": "description",   "ntx": null,   "selectedFlow": null,   "latency": 129,   "packetloss": 0.1,   "bandwidthIn": 2000.0,   "bandwidthOut": 1000.0,   "isCaptureClientPl": true,   "sharedBandwidth": true,   "ntxMetadata": null,   "glMetadata": null } </pre> |

**XML**

|                    |          |
|--------------------|----------|
| HTTP Response Code | 200 - OK |
|--------------------|----------|

|              |  |
|--------------|--|
| HTTP Headers | <b>Date:</b> Thu, 15 Mar 2014 15:55:38 GMT<br><b>Content-Type:</b> application/json; charset=UTF-8   |
| HTTP Body    | <pre>&lt;?xml version="1.0" encoding="UTF-8" standalone="yes" ?&gt; &lt;generatedLocation&gt;   &lt;id&gt;1234567890&lt;/id&gt;   &lt;locationMetadata&gt;     &lt;srcIpRange&gt;       &lt;exclude&gt;         &lt;from&gt;172.30.2.50&lt;/from&gt;         &lt;to&gt;172.30.2.52&lt;/to&gt;         &lt;port&gt;8080&lt;/port&gt;         &lt;protocol&gt;6&lt;/protocol&gt;       &lt;/exclude&gt;     &lt;/srcIpRange&gt;     &lt;destIpRange&gt;       &lt;exclude&gt;         &lt;from&gt;172.30.2.50&lt;/from&gt;         &lt;to&gt;172.30.2.52&lt;/to&gt;         &lt;port&gt;8080&lt;/port&gt;         &lt;protocol&gt;6&lt;/protocol&gt;       &lt;/exclude&gt;     &lt;/destIpRange&gt;     &lt;id&gt;1234567890&lt;/id&gt;     &lt;name&gt;locName&lt;/name&gt;     &lt;type&gt;CUSTOM&lt;/type&gt;     &lt;description&gt;description&lt;/description&gt;     &lt;latency&gt;129&lt;/latency&gt;     &lt;packetloss&gt;0.1&lt;/packetloss&gt;     &lt;bandwidthIn&gt;2000.0&lt;/bandwidthIn&gt;     &lt;bandwidthOut&gt;1000.0&lt;/bandwidthOut&gt;     &lt;isCaptureClientPl&gt;&gt;false&lt;/isCaptureClientPl&gt;     &lt;sharedBandwidth&gt;&gt;true&lt;/sharedBandwidth&gt;   &lt;/locationMetadata&gt; &lt;/generatedLocation&gt;</pre> |

## API for UI Users

This API includes:

- ["Creating and Editing Virtual Locations" on the next page](#)
- ["Editing Global Configurations" on page 154](#)
- ["Public JavaScript API for UI Openers" on page 159](#)

## Creating and Editing Virtual Locations

Creating and editing virtual locations in the UI requires three steps as described below.

### To create or edit a virtual location from the UI:

1. **Set Location:** this API call should be executed before opening the UI; the input for this API is an object containing the following sub-objects.
  - **newLocationData:** represents a new location and contains these parameters:
    - **id:** the virtual locations ID (optional). If the parameter is not passed, the ID will be generated by the Location Editor and returned in the response
    - **name:** the virtual locations name (mandatory).
    - **description:** a description for the virtual locations (optional).
  - **existingLocation:** represents an existing location; contains the locationMetadata of a previously created location.

**Note:** Only newLocationData or existingLocation should be included.

- **globalConfig:** this object represents the global configurations which refer to all locations, see ["Editing Global Configurations" on page 154](#). This object is passed when editing a location for display only. It can't be changed while editing a location.

**Note:** For the Location's Capture Packets option to be configurable in the GUI, the Global Configuration object (globalConfig) must be included, and the Global Capture Packets parameter within it (isCaptureClientPI) must be set to "True".

The API returns an ID which is used in Step 2 to open the UI and later to get the edited virtual location object.

See ["Set Location Examples" on the next page](#).

2. Open the Location Editor GUI with the following URL:

```
http://ip:port/shunra/locationeditor?tempdirid=<id from step 1>&readonly=<true/false>
```

Query parameters:

- **tempdirid**: the ID that was received in Step 1.
- **readonly**: indicates whether the GUI will be editable or read only.

**Note:** For information about defining virtual locations in the GUI, see the *Network Virtualization for Mobile Location Editor User Guide*.

3. Finish editing: After the edit is finished and "OK/Cancel" is clicked, the UI calls the javascript function "locationEditCompleted" which is expected to be part of the opener of the UI, see "[Public JavaScript API for UI Openers](#)" on page 159. This function should call another API "Finish editing" which clears all data related to edited location and returns the result of the edit – the new location.

Query parameter:

**tempDirId**: the ID returned in the "setLocation" API.

See "[Finish Edit Location Examples](#)" on page 152.

### Set Location Examples

#### Request

#### JSON

|              |  |
|--------------|--|
| URL          | <a href="http://ip:port/shunra/api/locationeditor/location">http://ip:port/shunra/api/locationeditor/location</a>  |
| HTTP Method  | <b>POST</b>  |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |

|                     |  |
|---------------------|--|
| Body (New Location) | <pre>{   "newLocationData": {     id: "76c29fc2538d4de7a9a839bc18dc6b4f",     name: "location name",     description: "location description"   },   "existingLocation": null,   "globalConfig": {     "settings": {       "isCaptureClientPl": false,       "packetListMaxSizeMB": 300,       "isPacketListCaptureCyclic": false     },     "excludeIps": [{       "from": "172.30.2.150",       "to": "172.30.2.150",       "protocol": 0,       "port": 0     }]   } }</pre> |
|---------------------|--|

|                          |   |
|--------------------------|---|
| Body (Existing Location) | <pre> {   "newLocationData": null,   "existingLocation": {     "srcIp": null,     "destIp": null,     "srcIpRange": null,     "destIpRange": {       "include": [],       "exclude": []     },     "id": "76c29fc2538d4de7a9a839bc18dc6b4f",     "name": "location name",     "type": "CUSTOM",     "description": "location description",     "ntx": null,     "selectedFlow": null,     "latency": 113,     "packetloss": 0.1,     "bandwidthIn": 2000.0,     "bandwidthOut": 1000.0,     "isCaptureClientPl": false,     "sharedBandwidth": true,     "ntxMetadata": null,     "glMetadata": null   },   "globalConfig": {     "settings": {       "isCaptureClientPl": false,       "packetListMaxSizeMB": 300,       "isPacketListCaptureCyclic": false     },     "excludeIps": [{       "from": "172.30.2.150",       "to": "172.30.2.150",       "protocol": 0,       "port": 0     }]   } } </pre> |
|--------------------------|---|

**XML**

|             |   |
|-------------|---|
| URL         | http://ip:port/shunra/api/locationeditor/location |
| HTTP Method | <b>POST</b>                                       |

|                     |   |
|---------------------|---|
| HTTP Headers        | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7.  |
| Body (New Location) | <pre>&lt;locationData&gt;   &lt;newLocationData&gt;     &lt;id&gt;76c29fc2538d4de7a9a839bc18dc6b4f&lt;/id&gt;     &lt;name&gt;location name&lt;/name&gt;   &lt;/newLocationData&gt;   &lt;globalConfig&gt;     &lt;settings&gt;       &lt;isCaptureClientPl&gt;false&lt;/isCaptureClientPl&gt;       &lt;packetListMaxSizeMB&gt;300&lt;/packetListMaxSizeMB&gt;       &lt;isPacketListCaptureCyclic&gt;false&lt;/isPacketListCaptureCyclic&gt;     &lt;/settings&gt;     &lt;excludeIps&gt;       &lt;From&gt;172.30.2.51&lt;/From&gt;       &lt;To&gt;172.30.2.51&lt;/To&gt;       &lt;Protocol&gt;0&lt;/Protocol&gt;       &lt;Port&gt;0&lt;/Port&gt;     &lt;/excludeIps&gt;   &lt;/globalConfig&gt; &lt;/locationData&gt;</pre> |

|                                     |   |
|-------------------------------------|---|
| <b>Body<br/>(Existing Location)</b> | <pre> &lt;locationData&gt;   &lt;existingLocation&gt;     &lt;destIpRange&gt;       &lt;exclude&gt;         &lt;from&gt;172.30.2.50&lt;/from&gt;         &lt;to&gt;172.30.2.50&lt;/to&gt;         &lt;port&gt;0&lt;/port&gt;         &lt;protocol&gt;0&lt;/protocol&gt;       &lt;/exclude&gt;     &lt;/destIpRange&gt;     &lt;id&gt;76c29fc2538d4de7a9a839bc18dc6b4f&lt;/id&gt;     &lt;name&gt;new location&lt;/name&gt;     &lt;type&gt;CUSTOM&lt;/type&gt;     &lt;latency&gt;113&lt;/latency&gt;     &lt;packetloss&gt;0.1&lt;/packetloss&gt;     &lt;bandwidthIn&gt;2000.0&lt;/bandwidthIn&gt;     &lt;bandwidthOut&gt;1000.0&lt;/bandwidthOut&gt;     &lt;isCaptureClientPl&gt;&gt;false&lt;/isCaptureClientPl&gt;     &lt;sharedBandwidth&gt;true&lt;/sharedBandwidth&gt;   &lt;/existingLocation&gt;   &lt;globalConfig&gt;     &lt;settings&gt;       &lt;isCaptureClientPl&gt;&gt;false&lt;/isCaptureClientPl&gt;       &lt;packetListMaxSizeMB&gt;300&lt;/packetListMaxSizeMB&gt;       &lt;isPacketListCaptureCyclic&gt;&gt;false&lt;/isPacketListCaptureCyclic&gt;     &lt;/settings&gt;     &lt;excludeIps&gt;       &lt;From&gt;172.30.2.51&lt;/From&gt;       &lt;To&gt;172.30.2.51&lt;/To&gt;       &lt;Protocol&gt;0&lt;/Protocol&gt;       &lt;Port&gt;0&lt;/Port&gt;     &lt;/excludeIps&gt;   &lt;/globalConfig&gt; &lt;/locationData&gt; </pre> |
|-------------------------------------|---|

**Response**

**JSON**

|                    |  |
|--------------------|--|
| HTTP Response Code | 200 - OK   |
| HTTP Headers       | <b>Content-Type:</b> application/json; charset=UTF-8                                       |
| HTTP Body          | <pre> {   error: null,   errorCode: 0,   data: "76c29fc2538d4de7a9a839bc18dc6b4f" } </pre> |

**XML**

|                    |  |
|--------------------|--|
| HTTP Response Code | 200 - OK   |
| HTTP Headers       | <b>Content-Type:</b> application/xml; charset=UTF-8                                    |
| HTTP Body          | <error /><br><errorCode>0</errorCode><br><data>76c29fc2538d4de7a9a839bc18dc6b4f</data> |

**Finish Edit Location Examples**

**Request**

**JSON**

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/locationeditor/location/{tempDirId}  |
| HTTP Method  | <b>DELETE</b>  |
| HTTP Headers | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | None   |

**XML**

|              |  |
|--------------|--|
| URL          | http://ip:port/shunra/api/locationeditor/location/{tempDirId}  |
| HTTP Method  | <b>DELETE</b>  |
| HTTP Headers | <b>Content-Type:</b> application/xml<br><b>Accept:</b> application/xml<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body         | None   |

**Response**

**JSON**

|                    |  |
|--------------------|--|
| HTTP Response Code | 200 - OK   |
| HTTP Headers       | <b>Content-Type:</b> application/json; charset=UTF-8 |

|           |  |
|-----------|--|
| HTTP Body | <pre>{   "error": null,   "errorCode": 0,   "data": {     "id": "76c29fc2538d4de7a9a839bc18dc6b4f",     "locationMetadata": {       "srcIp": null,       "destIp": null,       "srcIpRange": null,       "destIpRange": {         "include": [],         "exclude": [{           "from": "172.30.2.50",           "to": "172.30.2.50",           "port": 0,           "protocol": 0         }]       }     },     "id": "76c29fc2538d4de7a9a839bc18dc6b4f",     "name": "new location",     "type": "CUSTOM",     "description": null,     "ntx": null,     "selectedFlow": null,     "latency": 113,     "packetloss": 0.1,     "bandwidthIn": 2000.0,     "bandwidthOut": 1000.0,     "isCaptureClientPl": false,     "sharedBandwidth": true,     "ntxMetadata": null,     "glMetadata": null   } }</pre> |
|-----------|--|

**XML**

|                    |   |
|--------------------|---|
| HTTP Response Code | 200 - OK  |
| HTTP Headers       | <b>Content-Type:</b> application/xml; charset=UTF-8 |

|           |   |
|-----------|---|
| HTTP Body | <pre>&lt;?xml version="1.0" encoding="UTF-8" standalone="yes" ?&gt; &lt;serverResponse&gt;   &lt;errorCode&gt;0&lt;/errorCode&gt;   &lt;data xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"     xsi:type="generatedLocation"&gt;     &lt;id&gt;76c29fc2538d4de7a9a839bc18dc6b4f&lt;/id&gt;     &lt;locationMetadata&gt;       &lt;destIpRange&gt;         &lt;exclude&gt;           &lt;from&gt;172.30.2.50&lt;/from&gt;           &lt;to&gt;172.30.2.50&lt;/to&gt;           &lt;port&gt;0&lt;/port&gt;           &lt;protocol&gt;0&lt;/protocol&gt;         &lt;/exclude&gt;       &lt;/destIpRange&gt;       &lt;id&gt;76c29fc2538d4de7a9a839bc18dc6b4f&lt;/id&gt;       &lt;name&gt;new location&lt;/name&gt;       &lt;type&gt;CUSTOM&lt;/type&gt;       &lt;latency&gt;113&lt;/latency&gt;       &lt;packetloss&gt;0.1&lt;/packetloss&gt;       &lt;bandwidthIn&gt;2000.0&lt;/bandwidthIn&gt;       &lt;bandwidthOut&gt;1000.0&lt;/bandwidthOut&gt;       &lt;isCaptureClientPl&gt;false&lt;/isCaptureClientPl&gt;       &lt;sharedBandwidth&gt;true&lt;/sharedBandwidth&gt;     &lt;/locationMetadata&gt;   &lt;/data&gt; &lt;/serverResponse&gt;</pre> |
|-----------|---|

## Editing Global Configurations

Global Configurations are configurations which affects all the tests running on Network Virtualization for Mobile.

Editing the Global Configurations in the UI requires three steps as described below.

### To edit the Global Configuration from the UI:

1. **Set Configuration:** This API should be called before opening the UI. The request body can be either empty for creating a new Global Configurations object, or contain the "data" of a Global Configurations object previously created for editing it.

It returns an ID which is used in Step 2 to open the GUI and later to get the edited Global Configuration object.

See ["Set Configuration Examples" on the next page.](#)

2. Open the Configuration Editor GUI with the following URL:

http://ip:port/shunra/configeditor?tempdirid=<id from step 1>&readonly=<true/false>

Query parameters:

- **tempdirid**: the id that was received in Step 1.
- **readonly**: indicates whether the GUI will be editable or read only.

**Note:** For more information about defining Global Configuration in the GUI, see the section **Defining Global Settings** in the *Network Virtualization for Mobile Location Editor User Guide*.

3. **Finish Editing:** After the editing is completed and "OK/Cancel" is clicked, the UI calls a javascript function "configurationEditCompleted" which is expected to be part of the opener of the UI, see "[Public JavaScript API for UI Openers](#)" on page 159. This function should call another API "Finish editing" which clears all data related to edited configuration and returns the result of the edit – the new configuration object. Query parameter:

**tempDirId**: the ID that was returned in "Set Configuration"

See "[Finish Edit Configuration Examples](#)" on page 157.

### Set Configuration Examples

#### Request

#### JSON

|                          |  |
|--------------------------|--|
| URL                      | http://ip:port/shunra/api/locationeditor/config  |
| HTTP Method              | <b>POST</b>  |
| HTTP Headers             | <b>Content-Type:</b> application/json<br><b>Accept:</b> application/json<br><b>Authorization:</b> See " <a href="#">Web Services Authentication</a> " on page 7. |
| Body (New Configuration) | None   |

|                               |  |
|-------------------------------|--|
| Body (Existing Configuration) | <pre>{   "isCaptureClientP1": false,   "packetListMaxSizeMB": 300,   "isPacketListCaptureCyclic": true,   "excludeIps": [{     "from": "172.30.2.150",     "to": "172.30.2.150",     "protocol": 0,     "port": 0   }] }</pre> |
|-------------------------------|--|

### XML

|                               |   |
|-------------------------------|---|
| URL                           | http://ip:port/shunra/api/locationeditor/config   |
| HTTP Method                   | <b>POST</b>   |
| HTTP Headers                  | <p><b>Content-Type:</b> application/xml</p> <p><b>Accept:</b> application/xml</p> <p><b>Authorization:</b> See <a href="#">"Web Services Authentication" on page 7.</a></p>   |
| Body (New Configuration)      | None  |
| Body (Existing Configuration) | <pre>&lt;?xml version="1.0" encoding="UTF-8" ?&gt; &lt;configuration&gt;   &lt;settings&gt;     &lt;isCaptureClientP1&gt;false&lt;/isCaptureClientP1&gt;     &lt;packetListMaxSizeMB&gt;300&lt;/packetListMaxSizeMB&gt;     &lt;isPacketListCaptureCyclic&gt;false&lt;/isPacketListCaptureCyclic&gt;   &lt;/settings&gt;   &lt;excludeIps&gt;     &lt;From&gt;172.30.2.50&lt;/From&gt;     &lt;To&gt;172.30.2.50&lt;/To&gt;F     &lt;Protocol&gt;0&lt;/Protocol&gt;     &lt;Port&gt;0&lt;/Port&gt;   &lt;/excludeIps&gt; &lt;/configuration&gt;</pre> |

### Response

#### JSON

|                    |  |
|--------------------|--|
| HTTP Response Code | 200 - OK   |
| HTTP Headers       | <b>Content-Type:</b> application/json; charset=UTF-8 |

|           |  |
|-----------|--|
| HTTP Body | <pre>{   error: null,   errorCode: 0,   data: "76c29fc2538d4de7a9a839bc18dc6b4f" }</pre> |
|-----------|--|

**XML**

|                    |   |
|--------------------|---|
| HTTP Response Code | 200 - OK  |
| HTTP Headers       | <b>Content-Type:</b> application/xml; charset=UTF-8   |
| HTTP Body          | <pre>&lt;error /&gt; &lt;errorCode&gt;0&lt;/errorCode&gt; &lt;data&gt;81f64d6bc97f4430b9165772197835c7&lt;/data&gt;</pre> |

**Finish Edit Configuration Examples**

**Request**

**JSON**

|              |   |
|--------------|---|
| URL          | http://ip:port/shunra/api/locationeditor/config/{tempDirId}   |
| HTTP Method  | <b>DELETE</b>   |
| HTTP Headers | <p><b>Content-Type:</b> application/json</p> <p><b>Accept:</b> application/json</p> <p><b>Authorization:</b> See "<a href="#">Web Services Authentication</a>" on page 7.</p> |
| Body         | None  |

**XML**

|              |   |
|--------------|---|
| URL          | http://ip:port/shunra/api/locationeditor/config/{tempDirId}   |
| HTTP Method  | <b>DELETE</b>   |
| HTTP Headers | <p><b>Content-Type:</b> application/xml</p> <p><b>Accept:</b> application/xml</p> <p><b>Authorization:</b> See "<a href="#">Web Services Authentication</a>" on page 7.</p> |
| Body         | None  |

**Response**

**JSON**

|                    |  |
|--------------------|--|
| HTTP Response Code | 200 - OK   |
| HTTP Headers       | <b>Content-Type:</b> application/json; charset=UTF-8   |
| HTTP Body          | <pre>{   "error": null,   "errorCode": 0,   "data": {     "settings": {       "isCaptureClientP1": false,       "packetListMaxSizeMB": 300,       "isPacketListCaptureCyclic": false     },     "excludeIps": [{       "from": "172.30.2.150",       "to": "172.30.2.150",       "protocol": 0,       "port": 0     }]   } }</pre> |

**XML**

|                    |   |
|--------------------|---|
| HTTP Response Code | 200 - OK  |
| HTTP Headers       | <b>Content-Type:</b> application/xml; charset=UTF-8   |
| HTTP Body          | <pre>&lt;?xml version="1.0" encoding="UTF-8" standalone="yes" ?&gt; &lt;serverResponse&gt;   &lt;errorCode&gt;0&lt;/errorCode&gt;   &lt;data xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"     xsi:type="configuration"&gt;     &lt;settings&gt;       &lt;isCaptureClientP1&gt;&gt;false&lt;/isCaptureClientP1&gt;       &lt;packetListMaxSizeMB&gt;300&lt;/packetListMaxSizeMB&gt;        &lt;isPacketListCaptureCyclic&gt;&gt;false&lt;/isPacketListCaptureCyclic&gt;     &lt;/settings&gt;     &lt;excludeIps&gt;       &lt;From&gt;172.30.2.50&lt;/From&gt;       &lt;To&gt;172.30.2.50&lt;/To&gt;       &lt;Protocol&gt;0&lt;/Protocol&gt;       &lt;Port&gt;0&lt;/Port&gt;     &lt;/excludeIps&gt;   &lt;/data&gt; &lt;/serverResponse&gt;</pre> |

### Using the Global Configuration Object

The configuration parameters stored in the global configuration object can be used for the ["Set Configuration for Location Based Emulation" on page 113](#).

The Global Packet Capture parameter "isCaptureClientPI" should be passed in the Location Based Mode Start Test request; refer to ["Start Test" on page 10](#), Location Based Mode.

**Note:** Starting a test with "isCaptureClientPI" set to False will stop the Packet capture for all users.

## Public JavaScript API for UI Openers

The "Openers" of the UIs should implement the following API in javascript:

- **configurationEditCompleted(okClicked):** for Configuration Editor opener
  - **okClicked:** is a boolean indicating whether the Configuration Editor was closed by clicking the "OK" button or the editing was canceled ("cancel" button).
  - Is called after the editor is closed.
- **locationEditCompleted(okClicked):** for Location Editor opener
  - **okClicked:** is a boolean indicating whether the Location Editor was closed by clicking the "OK" button or the editing was canceled ("cancel" button).
  - Is called after the editor is closed.

# Chapter 9: Network Virtualization for Mobile Command Line Interface

The Network Virtualization for Mobile Command Line Interface (CLI) allows you to access the Web Services API from a command prompt.

Type `nvcli <command> <parameters>` from the command prompt to access the CLI.

CLI commands and parameters are listed in full in the individual CLI help topics. See "[Web Services Available from the CLI](#)" below for more information.

You can also type any command followed by `-h` to receive help for that command.

**Note:** In a case where multiple alternatives are listed for a single parameter, you can use whichever one you prefer.

## Web Services Available from the CLI

The following web services are available from the CLI:

- "[Emulation Services CLI](#)" on the next page
- "[Traffic Resource Services CLI](#)" on page 165
- "[Transaction Services CLI](#)" on page 167
- "[Configuration Services CLI](#)" on page 169

## CLI Authentication

Each CLI command requires authentication. Because authentication parameters apply to all CLI commands, they are described here instead of being repeated for each command.

**Note:** Commands listed as having no parameters still require a user name and password.

| Parameter | Description  |
|-----------|--|
| -user, -u | The user name of a user registered in the NV Test Manager. Make sure that the user has the necessary permissions for the chosen operation. |

| Parameter     | Description                  |
|---------------|------------------------------|
| -password, -p | Password for the given user. |

## Emulation Services CLI

This topic includes commands for emulation services.

Type `nvccli <command> <parameters>` from the command prompt to access the CLI.

Emulation services include the following commands:

- ["StartNtxEmulation" below](#)
- ["StartCustomEmulation" on the next page](#)
- ["AddFlowCustomEmulation" on the next page](#)
- ["UpdateNtxEmulation" on page 163](#)
- ["UpdateCustomEmulation" on page 163](#)
- ["GetEmulationParameters" on page 164](#)
- ["GetTestTokens" on page 165](#)
- ["StopEmulation" on page 165](#)
- ["ResetDriver" on page 165](#)
- ["DeleteTest" on page 165](#)

### StartNtxEmulation

Start new ntx emulation.

| Parameter              | Description  |
|------------------------|--|
| -emulationMode, -mode  | Emulation Mode (multi user if not specified) (-mode <true   false>) (default: false) |
| -file,                 | Path to NTXX file (-file <file>)   |
| -overrideIP            | Turn on/off override IP feature; (-overrideIP <true   false>) (default: false)       |
| -networkscenario, -nsc | Network Scenario Name (default: )  |

| Parameter       | Description                  |
|-----------------|------------------------------|
| -testdescr, -td | Test Description (default: ) |
| -testname, -tn  | Test Name (default: )        |

### StartCustomEmulation

Start custom emulation.

| Parameter              | Description  |
|------------------------|--|
| -bwIn, -bandwidthIn    | Upload bandwidth restriction in Kbps. Must be in range 2.4-1.0E7, or when this parameter is missing - unrestricted bw is assumed. (-bw <value>) (default: 0.0)   |
| -bwout, -bandwidthout  | Download bandwidth restriction in Kbps. Must be in range 2.4-1.0E7, or when this parameter is missing - unrestricted bw is assumed. (-bw <value>) (default: 0.0) |
| -capturePL             | Should emulation capture client's packet list (default: false)   |
| -dest, -destIp         | Destination IP   |
| -emulationMode, -mode  | Emulation Mode (multi user if not specified) (-mode <true   false>) (default: false)   |
| -flowid, -fid          | Flow unique id   |
| -isDefaultFlow         | Should emulation capture client's packet list (default: false)   |
| -lat, -latency         | Fixed latency for emulation, must be an integer in range 0-8000. (-latency <value>) (default: 0)   |
| -loss                  | Packet loss rate, must be a number in range 0.0-100.0. (-loss <value>) (default: 0.0)  |
| -profileid, -pid       | Profile unique id (default: )  |
| -source, -sourceIp     | Source IP  |
| -testdescr, -td        | Test Description (default: )   |
| -testname, -tn         | Test Name  |
| -networkscenario, -nsc | Network Scenario Name (default: )  |

### AddFlowCustomEmulation

Add flow to custom emulation.

| Parameter             | Description  |
|-----------------------|--|
| -bwin, -bandwidthin   | Upload bandwidth restriction in Kbps. Must be in range 2.4-1.0E7, or when this parameter is missing - unrestricted bw is assumed. (-bw <value>) (default: 0.0)   |
| -bwout, -bandwidthout | Download bandwidth restriction in Kbps. Must be in range 2.4-1.0E7, or when this parameter is missing - unrestricted bw is assumed. (-bw <value>) (default: 0.0) |
| -capturePLL           | Should emulation capture client's packet list (default: false)   |
| -dest, -destIp        | Destination IP   |
| -flowid, -fid         | Flow unique id   |
| -lat, -latency        | Fixed latency for emulation, must be an integer in range 0-8000. (-latency <value>) (default: 0)   |
| -loss                 | Packet loss rate, must be a number in range 0.0-100.0. (-loss <value>) (default: 0.0)  |
| -profileid, -pid      | Profile unique id (default: )  |
| -source, -sourceIp    | Source Ip  |
| -testToken, -t        | Test token (-t <token>)  |

### UpdateNtxEmulation

Update already playing emulation.

| Parameter              | Description                       |
|------------------------|-----------------------------------|
| -file                  | Path to NTXX file                 |
| -testdescr, -td        | Test Description (default: )      |
| -testname, -tn         | Test Name (default: )             |
| -testToken, -t         | Test token (-t <token>)           |
| -networkscenario, -nsc | Network Scenario Name (default: ) |

### UpdateCustomEmulation

Update already playing custom emulation.

| Parameter              | Description  |
|------------------------|--|
| -bwIn, -bandwidthIn    | Upload bandwidth restriction in Kbps. Must be in range 2.4-1.0E7, or when this parameter is missing - unrestricted bw is assumed. (-bw <value>) (default: 0.0)   |
| -bwout, -bandwidthout  | Download bandwidth restriction in Kbps. Must be in range 2.4-1.0E7, or when this parameter is missing - unrestricted bw is assumed. (-bw <value>) (default: 0.0) |
| -capturePL             | Should emulation capture client's packet list (default: false)   |
| -flowid, -fid          | Flow unique id   |
| -dest, -destIp         | Destination IP   |
| -isDefaultFlow         | Should emulation capture client's packet list (default: false)   |
| -lat, -latency         | Fixed latency for emulation, must be an integer in range 0-8000. (-latency <value>) (default: 0)   |
| -loss                  | Packet loss rate, must be a number in range 0.0-100.0. (-loss <value>) (default: 0.0)  |
| -profileid, -pid       | Profile unique id (default: )  |
| -source, -sourceIp     | Source IP  |
| -testdescr, -td        | Test Description (default: )   |
| -testname, -tn         | Test Name (default: )  |
| -testToken, -t         | Test token (-t <token>)  |
| -networkscenario, -nsc | Network Scenario Name (default: )  |

### GetEmulationParameters

Get current emulation parameters.

| Parameter      | Description   |
|----------------|---|
| -all           | For administrators only. Should return data for all the users or for current user only. (default: false)                      |
| -byShape       | Should the parameters be aggregated by shape (for non-flow topology) or by flow (default: false)                              |
| -testToken, -t | Test token (-t <token>). Can be empty when fetching all the parameters for aggregated by flow emulation. Password (default: ) |

### GetTestTokens

Get tokens of current emulation tests.

| Parameter       | Description |
|-----------------|-------------|
| <No parameters> |             |

### StopEmulation

Stop current emulation execution.

| Parameter       | Description   |
|-----------------|---|
| -testTokens, -t | Emulation test identifiers (-test <comma separated test tokens>). If no input token has been provided, all the tests will be stopped. |

### ResetDriver

Reset the NV Driver (will stop all running emulations).

| Parameter       | Description |
|-----------------|-------------|
| <No parameters> |             |

### DeleteTest

Delete test from controller machine.

| Parameter       | Description             |
|-----------------|-------------------------|
| -testTokens, -t | Test token (-t <token>) |

## Traffic Resource Services CLI

This topic includes commands for traffic resource services.

Type `nvccli <command> <parameters>` from the command prompt to access the CLI.

Traffic resource services include the following commands:

- ["StartCapture" on the next page](#)
- ["StopCapture" on the next page](#)

- ["ClearCapture" below](#)
- ["GetPlInfo" below](#)
- ["DownloadPacketList" on the next page](#)
- ["DownloadShunraFile" on the next page](#)

### StartCapture

Start packet list capturing.

| Parameter      | Description   |
|----------------|---|
| -plID          | Identifier of a packet list (-plID <pl_id>)   |
| -testToken, -t | Test token (-t <token>). Can be empty when fetching all the parameters for aggregated by flow emulation |

### StopCapture

Stop packet list capturing.

| Parameter      | Description   |
|----------------|---|
| -plID          | Identifier of a packet list (-plID <pl_id>)   |
| -testToken, -t | Test token (-t <token>). Can be empty when fetching all the parameters for aggregated by flow emulation |

### ClearCapture

Clear packet list capturing.

| Parameter      | Description   |
|----------------|---|
| -plID          | Identifier of a packet list (-plID <pl_id>)   |
| -testToken, -t | Test token (-t <token>). Can be empty when fetching all the parameters for aggregated by flow emulation |

### GetPlInfo

Get packet lists ids from current or previous emulations.

| Parameter      | Description  |
|----------------|--|
| -plID          | Identifier of a packet list(-plID <pl_id>)   |
| -testToken, -t | Test token (-t <token>). Can be empty when fetching all the parameters for aggregated by flow emulation. |

### DownloadPacketList

Download packet list from the NV Test Manager.

| Parameter        | Description  |
|------------------|--|
| -cl, -clear      | Clear stored packet list on download. (default: false)         |
| -o, -override    | Override the destination file if such exists. (default: false) |
| -outputfile, -of | Generated file name (-of <file>)                               |
| -plID            | Identifier of a packet list (-plID <pl_id>)                    |
| -testToken, -t   | Emulation token (-t <token>)                                   |

### DownloadShunraFile

Download .shunra file from the NV Test Manager.

| Parameter        | Description  |
|------------------|--|
| -o, -override    | Override the destination file if such exists. (default: false) |
| -outputfile, -of | Generated file name (-of <file>)                               |
| -plID            | Identifier of a packet list (-plID <pl_id>)                    |
| -testToken, -t   | Emulation token (-t <token>)                                   |

## Transaction Services CLI

This topic includes commands for Transaction Services.

Type `nvccli <command> <parameters>` from the command prompt to access the CLI.

Transaction Services include the following commands:

- ["ConnectTM" on the next page](#)
- ["DisconnectTM" on the next page](#)

- ["StartTransaction" below](#)
- ["StopTransaction" below](#)
- ["CancelTransaction" on the next page](#)

### ConnectTM

Connect to a packet list.

| Parameter            | Description  |
|----------------------|--|
| -clientID, -clientId | Unique client identifier (-clientID <identifier>)                  |
| -flowId              | Flow identifier (-flowId <flowid>)                                 |
| -o, -overwrite       | Overwrite existing connection (-o <true   false>) (default: false) |
| -plId                | Packet list identifier (-plId <plid>)                              |
| -testToken, -t       | Test token (-t <token>)  |

### DisconnectTM

Disconnect from a packet list.

| Parameter | Description  |
|-----------|--|
| -session  | Transaction session identifier (-session <identifier>) |

### StartTransaction

Start new transaction.

| Parameter           | Description  |
|---------------------|--|
| -desc, -description | New transaction's description (-description <transaction_description>) |
| -name               | New transaction's name (-name <transaction_name>)                      |
| -session            | Transaction session identifier (-session <identifier>)                 |

### StopTransaction

Stop transaction.

| Parameter           | Description   |
|---------------------|---|
| -desc, -description | Transaction's description (-name <transaction_name>)                          |
| -id                 | Transaction's id (-id <transaction_name>)                                     |
| -name               | Transaction's name (-name <transaction_name>)                                 |
| -session            | Transaction session identifier (-session <identifier>)                        |
| -status             | Transaction' status - pass or failed (-status <true   false>) (default: true) |

## CancelTransaction

Cancel transaction.

| Parameter | Description  |
|-----------|--|
| -id       | Transaction's id (-id <transaction_id>)                |
| -session  | Transaction session identifier (-session <identifier>) |

# Configuration Services CLI

This topic includes commands for configuration services.

Type `nvccli <command> <parameters>` from the command prompt to access the CLI.

Location Editor services include the following commands:

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### SetActiveAdapter

Set active adapter on NV emulation engine.

| Parameter | Description                                    |
|-----------|--|
| -ip, -IP  | Active adapter IP (-ip <IP>)                   |
| -rd, -RD  | Reverse directions (-rd <RD>) (default: false) |

### GetActiveAdapter

Get Active adapter configured on the NV emulation engine.

| Parameter       | Description |
|-----------------|-------------|
| <No parameters> |             |

### GetAvailableAdapters

Get the adapters available on the NV emulation engine.

| Parameter       | Description |
|-----------------|-------------|
| <No parameters> |             |

### AddExcludeRange

Add exclude range to NV emulation engine configuration.

| Parameter      | Description   |
|----------------|---|
| -from, -fromIP | IP which identifies beginning of the exclude range(-from <IP>)                            |
| -port          | Port number to be excluded (defaults to 'all') (-port <port_number>) (default: 0)         |
| -protocol      | Protocol id to be excluded (defaults to 'all') (-protocol <protocol_number>) (default: 0) |
| -to, -toIP     | IP which identifies end of the exclude range(-to <IP>)                                    |

### GetExcludeRanges

Get NV emulation engine automatic exclude ranges.

| Parameter       | Description |
|-----------------|-------------|
| <No parameters> |             |

### DeleteExcludeRange

Remove specific exclude range from NV emulation engine.

| Parameter      | Description   |
|----------------|---|
| -from, -fromIP | IP which identifies beginning of the exclude range (-from <IP>) |
| -port          | Port number to be excluded (defaults to 'all') (default: 0)     |
| -protocol      | Protocol id excluded (defaults to 'all') (default: 0)           |
| -to, -toIP     | IP which identifies end of the exclude range (-to <IP>)         |

### DeleteAllRanges

Delete all automatic exclude ranges from NV emulation engine.

| Parameter       | Description |
|-----------------|-------------|
| <No parameters> |             |

### GetVersionInfo

Get product's version info.

| Parameter       | Description |
|-----------------|-------------|
| <No parameters> |             |

### SetConfiguration

Set NV emulation engine configuration.

| Parameter              | Description   |
|------------------------|---|
| -captureBytesPerPacket | Maximum number of bytes captured for each packet.46-1500)<br>(-captureBytesPerPacket <val>) <default: 1500> |
| -cyclic                | Should Packet List Capturing be cyclic (-cyclic <true   false>)   |
| -enableCleanup         | Enable or disable the execution history cleanup (-<br>enableCleanup <true   false>)                         |

| Parameter                | Description   |
|--------------------------|---|
| -minNumOfPacketListSpace | The threshold of packet lists size (-minNumOfPacketListSpace <val>)<default:3>                        |
| -packetListMaxSize       | The Max size of Packet List in MB (must be in range 1-1000) (-packetListMaxSize <val>) <default: 300> |

### GetConfiguration

Get NV emulation engine configuration.

| Parameter       | Description |
|-----------------|-------------|
| <No parameters> |             |

