

Lenovo Network

REST API Programming Guide

For Lenovo Cloud Network Operating System 10.10

LenovoTM

Note: Before using this information and the product it supports, read the general information in the *Safety information and Environmental Notices* and *User Guide* documents on the *Lenovo Documentation CD* and the *Warranty Information* document that comes with the product.

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Preface

The *REST API Programming Guide for Lenovo CNOS 10.10* describes how to configure and use the Cloud Network Operating System 10.10 software on the following Lenovo RackSwitches:

- Lenovo RackSwitch G8272. For documentation on installing the switch physically, see the *Lenovo RackSwitch G8272 Installation Guide*.
- Lenovo RackSwitch G8296. For documentation on installing the switch physically, see the *Lenovo RackSwitch G8296 Installation Guide*.
- Lenovo RackSwitch G8332. For documentation on installing the switch physically, see the *Lenovo RackSwitch G8332 Installation Guide*.
- Lenovo ThinkSystem NE1032 RackSwitch. For documentation on installing the switch physically, see the *Lenovo ThinkSystem NE1032 RackSwitch Installation Guide*.
- Lenovo ThinkSystem NE1032T RackSwitch. For documentation on installing the switch physically, see the *Lenovo ThinkSystem NE1032T RackSwitch Installation Guide*.
- Lenovo ThinkSystem NE1072T RackSwitch. For documentation on installing the switch physically, see the *Lenovo ThinkSystem NE1072T RackSwitch Installation Guide*.
- Lenovo ThinkSystem NE10032 RackSwitch. For documentation on installing the switch physically, see the *Lenovo ThinkSystem NE10032 RackSwitch Installation Guide*.
- Lenovo ThinkSystem NE2572 RackSwitch. For documentation on installing the switch physically, see the *Lenovo ThinkSystem NE2572 RackSwitch Installation Guide*.

Who Should Use This Guide

This guide is intended for network installers and system administrators engaged in configuring and maintaining a network. The administrator should be familiar with Ethernet concepts, IP addressing, Spanning Tree Protocol, and SNMP configuration parameters.

What You'll Find in This Guide

This guide will help you plan, implement, and administer Cloud NOS software. Where possible, each section provides feature overviews, usage examples, and configuration instructions. The following material is included:

This book contains the following chapters:

- [Chapter 1, "Introduction,"](#) gives an overview of the Lenovo REST API and how to start the server.
- [Chapter 2, "REST Server JSON Calls,"](#) describes the URIs and functions available in the REST API.
- [Appendix A, "Getting Help and Technical Assistance,"](#) describes where to get help with your product.
- [Appendix B, "Notices,"](#) contains legal notices.

Additional References

Additional information about installing and configuring the switch is available in the following guides:

- *Lenovo Network Application Guide for Lenovo Cloud Network Operating System 10.10*
- *Lenovo Network Command Reference for Lenovo Cloud Network Operating System 10.10*
- *Lenovo Network Release Notes for Lenovo Cloud network Operating System 10.10*
- *Lenovo Python Programming Guide for Lenovo Cloud Network Operating System 10.10*

Typographic Conventions

The following table describes the typographic styles used in this book.

Table 1. *Typographic Conventions*

Typeface or Symbol	Meaning	Example
ABC123	This type is used for names of commands, files, and directories used within the text. It also depicts on-screen computer output and prompts.	View the <code>readme.txt</code> file. Switch#
ABC123	This bold type appears in command examples. It shows text that must be typed in exactly as shown.	Switch# ping
<ABC123>	This italicized type appears in command examples as a parameter placeholder. Replace the indicated text with the appropriate real name or value when using the command. Do not type the brackets. This also shows book titles, special terms, or words to be emphasized.	To establish a Telnet session, enter: Switch# telnet <IP address> Read your <i>User's Guide</i> thoroughly.
{ }	Command items shown inside brackets are mandatory and cannot be excluded. Do not type the brackets.	Switch# cp {ftp sftp}
[]	Command items shown inside brackets are optional and can be used or excluded as the situation demands. Do not type the brackets.	Switch# configure [device]
	The vertical bar () is used in command examples to separate choices where multiple options exist. Select only one of the listed options. Do not type the vertical bar.	Switch# cp {ftp sftp}
<AaBb123>	This block type depicts menus, buttons, and other controls that appear in graphical interfaces.	Click the <Save> button.

Chapter 1. Introduction

The Lenovo REST Application Programming Interface (API) enables you to remotely configure and manage a Lenovo switch using REST, HyperText Transfer Protocol (HTTP), and Hyper Text Transfer Protocol over SSL (HTTPS).

The REST (REpresentational State Transfer) architecture has six constraints:

- Uniform Interface
- Stateless
- Cacheable
- Client-Server
- Layered Systems
- Code on Demand

The REST API is a JavaScript Object Notation-based (JSON) wrapper around Lenovo's Python On-Box Scripting interface. It is a component of Configuration, Management, and Reporting (CMR) on CNOS.

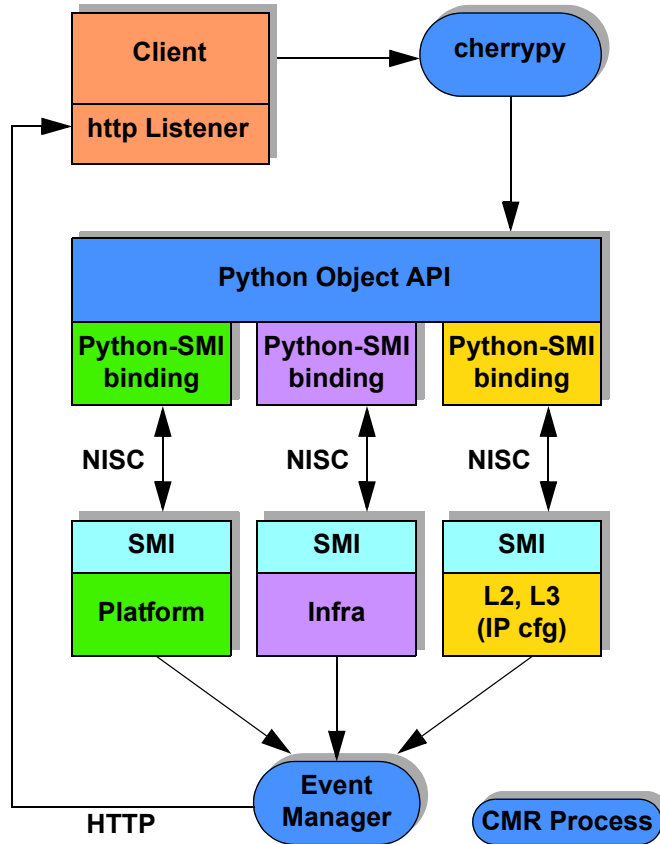
Note: The Lenovo REST API calls have been tested with:

- The Advanced Rest Client extension (version 6.19.17.118 or earlier) in Chrome
- The RESTClient extension in Firefox
- The Python3 http.client module

REST API Components

The following figure shows components of the REST API and JSON:

Figure 1. REST/JSON Components



The cherry server interprets the REST JSON code. When the cherry server receives a REST API request, it executes the appropriate Python code on Cloud NOS and translates it into a series of Simple Management Interface (SMI) calls. For each CLI connection through the console, SSH, or Telnet, a separate Cloud NOS process is spawned to service CLI commands.

Using the REST Server

This section discusses starting, stopping, and communicating with the REST server.

Starting and Stopping the REST Server

Use the CNOS CLI to start or stop the REST server.

Starting the REST Server

To start the REST server listening on the HTTPS port (443), in Global Configuration Mode on the switch, enter:

```
Switch(config)# feature restApi
```

To start the REST server listening in HTTP mode on port 8090, in Global Configuration Mode on the switch, enter:

```
Switch(config)# feature restApi http
```

This starts the REST server (cherrypy) listening on the specified port (443 or 8090) and writes the Process ID to the following PID file:

```
/var/run/restfib<VRF ID>.pid
```

where:

- *VRF ID* = 0 for the default Virtual Routing and Forwarding (VRF) ID
- *VRF ID* = 1 for the management Virtual Routing and Forwarding (VRF) ID

A separate REST server instance is created for each VRF ID created (one default, one management).

Stopping the REST Server

To stop the REST server, in Global Configuration Mode on the switch, enter:

```
Switch(config)# no feature restApi
```

This stops the REST server from listening on all ports for all VRF IDs.

Communicating with the REST Server

To log onto the REST server, use the URL:

```
http://<management switch IP address>:<port>/nos/api/login
```

The default *port* is 443.

Confirm adding a security exception. Enter your username and password.

Note: You must be a “network-admin” user to use the REST API. Requests from users with other roles will be rejected.

The REST API uses the following types of HTTP methods:

- POST
- GET
- PUT
- DELETE

Request Formats

The format of a URI or URL for a resource depends upon which type of request is being sent.

Table 2. REST API URI/URL Conventions

Request Type	URI Format
POST	<code>http://<switch address>:<port>/nos/api/cfg/<resource>[parameters={<parameters>}]</code>
GET	<code>http://<switch address>:<port>/nos/api/cfg/<resource>/<ID></code> <code>http://<switch address>:<port>/nos/api/info/<resource>/<ID></code>
PUT	<code>http://<switch address>:<port>/nos/api/cfg/<resource>[parameters={<parameters>}]</code>
DELETE	<code>http://<switch address>:<port>/nos/api/cfg/<resource>/<ID></code>

where:

Parameter	Description
<i>switch address:port</i>	The switch IP address and port where the REST server is installed.
<i>resource</i>	Any network or switch resource, such as an interface or a VLAN.
<i>parameters</i>	Additional parameters related to the request, presented in JSON format.

The following example shows a PUT request for interface ethernet1/1:

```
PUT /nos/api/cfg/interface/Ethernet1%2F1
{
  "duplex": "full",
  "mtu": 1500,
  "admin_state": "up",
}
```

Note: When a port or other parameter in the URI has a slash (/) in it, such as ethernet1/1, you need to substitute the hexadecimal code for the slash (%2F, as in ethernet1%2F1) so the slash is not read as a directory delimiter. Slash characters *are* allowed in the JSON Request.

The following example shows the response to the previous PUT request:

```
PUT /nos/api/cfg/interface/Ethernet1%2F1
{
  "duplex": "full",
  "if_name": "Ethernet1/1",
  "mtu": 1500,
  "admin_state": "up",
  "mac_addr": "a897.dcf8.1101",
  "ifindex": "9",
  "oper_state": "up",
  "speed": "10000"
}
```

Getting the REST Server Status

To get the current status of the REST server, including the listening port number, from the CLI, enter:

```
Switch# show restApi server
```

Authenticating Users on the REST Server

To log onto the switch via the REST server, use the following URL:

```
https://<IP address>/nos/api/login
```

where *IP address* is the management IP address of the switch you are accessing.

Your session expires based on the switch timeout value, which defaults to 10 minutes.

To log out of the switch via the REST server, use the following URL:

```
https://<IP address>/nos/api/logout
```

Server Security

The REST API uses the local user database in CNOS on the switch for authentication. All REST requests must be issued by a “network-admin” user. Requests made by any other type of user will be rejected by the REST API server.

The REST server uses cookies to identify sessions. Specifically, a cookie is assigned for each session, and its passback will be requested by the REST server. A REST API client must first issue a “Set-Cookie” request and then must pass the cookie back on all subsequent REST requests.

HTTPS Support

When REST API via HTTPS is enabled by default, a self-signed certificate is generated automatically.

Note: Lenovo recommends using CSR or CA signed certificates rather than self-signed certificate. For more information on how to generate CSR or CA certificates, see the *CNOS Application Guide*.

To refresh a self-signed certificate, use the following steps:

1. Disable the REST server:

```
Switch(config)# no feature restApi
```

To verify that the REST server is not running, enter:

```
Switch(config)# show restApi server
rest server disabled port: 8090(HTTP)
```

2. Enter the Public Key Infrastructure (PKI) configuration mode.

```
Switch(config)# pki rest_mgmt
Switch(config-pki)#
```

3. Create the certificate:

```
Switch(config-pki)#host-cert generate
Country Name (2 letter code) [US]:
State or Province Name (full name) [California]:
Locality Name (eg, city) [Santa Clara]:
Organization Name (eg, company) [Lenovo Networking Operating System]:
Organizational Unit Name (eg, section) [Network Engineering]:
Common Name (eg, FQDN or YOUR name) []: netuser
Email (eg, email address) []: netuser@lenovo.com
Confirm generate certificate? (y/n) [n] y
.....+++
.....+++
Host certificate generation succeeded
```

Note: The default values are in square brackets ([text]); press **Enter** to use the default values.

4. Re-enable the REST server:

```
Switch(config)# feature restApi
```

5. Make sure the REST server is running:

```
Switch(config)# show restApi server
rest server enabled port: 443
restApi pki rest_mgmt vrf management
restApi pki rest_default vrf default
```

6. The REST PKI profiles are automatically generated.

To display host certificate information, use the following commands :

```
Switch(config)#show pki rest_mgmt host-certificate
Certificate:
  Data:
    Version: 3 (0x2)
    Serial Number: 0 (0x0)
    Signature Algorithm: sha512WithRSAEncryption
    Issuer: C=US, ST=California, L=Santa Clara, O=Lenovo Networking
    Operating System, OU=Network Engineering,
    CN=acomsa/emailAddress=netuser@lenovo.com
    Validity
      Not Before: May  3 14:49:49 2017 GMT
      Not After : May  3 14:49:49 2018 GMT
    Subject: C=US, ST=California, L=Santa Clara, O=Lenovo Networking
    Operating System, OU=Network Engineering,
    CN=acomsa/emailAddress=netuser@lenovo.com
    Subject Public Key Info:
      Public Key Algorithm: rsaEncryption
      Public-Key: (2048 bit)
      Modulus:
        00:d2:e6:5d:11:c1:0c:f0:5e:75:09:ac:ab:77:2b:
        a2:c2:ca:fd:33:79:f9:58:6c:c6:d9:89:87:a4:d8:
        94:79:ab:ca:f2:15:f3:ab:43:66:27:2f:8f:40:76:
        7f:ed:4c:5a:e2:23:18:98:68:fe:4b:51:bf:4a:6b:
        64:08:4f:00:90:0e:df:71:d7:c4:db:48:99:4f:3d:
        47:4b:ae:0a:9a:ba:d8:f0:15:93:4e:c0:6d:2c:64:
        a9:1f:c0:a7:6f:7f:4f:87:2d:b5:c7:8a:d5:09:37:
        5c:8b:6f:14:b5:e7:8c:5d:99:da:ae:20:2c:0d:94:
        b3:c3:f8:4c:5f:04:8f:71:4f:19:b2:18:11:64:e4:
        9a:96:41:2b:bf:de:9a:87:32:6b:a5:22:f3:eb:32:
        da:c5:ac:c8:d4:cf:83:14:6a:39:23:b9:49:2e:bc:
        ec:84:e6:5c:f9:d6:df:2d:97:e7:f3:dd:cb:6d:c0:
        94:e1:a1:9a:94:ea:3a:65:04:e7:63:45:fa:70:7d:
        f6:89:2d:af:7d:bf:d4:7d:f2:f1:45:b7:a4:11:16:
        29:c4:4a:56:58:63:6e:b6:4d:6a:aa:c8:2e:c0:7b:
        15:b5:7b:bf:00:00:f6:9c:75:6a:cd:50:2d:6e:68:
        24:74:77:dc:29:dc:7e:35:b0:4a:02:f9:76:b0:7c:
        65:23
```

```
Exponent: 65537 (0x10001)
X509v3 extensions:
  X509v3 Basic Constraints: critical
    CA:TRUE
  X509v3 Key Usage: critical
    Certificate Sign, CRL Sign
  X509v3 Subject Key Identifier:
```

```
51:7A:5E:95:9D:0E:23:17:57:DF:13:63:D1:07:A6:05:07:B3:38:7F
```

```
Signature Algorithm: sha512WithRSAEncryption
```

```
74:b4:16:bf:06:a9:69:8f:dc:8f:de:cf:5d:18:f8:ba:82:71:
b4:8b:8c:22:b4:1e:66:55:d3:3f:a1:71:cc:7b:1a:bd:fd:5b:
56:d7:c8:4c:4c:32:09:47:1c:7e:8a:f1:f6:f4:67:95:d6:88:
7f:f5:ad:af:09:e8:5c:ca:46:54:93:71:38:b6:00:e8:b3:fa:
cc:71:e7:cb:67:ac:8f:ec:22:01:3e:da:54:04:f8:77:3d:2c:
78:80:a1:01:6e:d6:19:23:1a:f2:d0:8e:af:71:e3:1a:b0:a5:
9b:fa:53:04:eb:92:2b:b0:b5:c2:51:d0:e0:85:b5:04:f7:24:
5b:20:58:76:f8:e3:bc:a6:c4:15:2a:5a:ee:60:bb:eb:f5:96:
ce:2d:9a:78:bd:5b:c5:68:a3:c7:5a:41:a4:48:43:5d:f6:8a:
ee:9f:cf:e8:8c:48:b6:2a:9a:93:aa:ed:00:87:2b:12:92:b6:
2f:1d:9b:70:43:57:98:a2:70:16:8e:0c:7d:ac:b2:9e:d0:99:
2d:76:2f:20:f7:49:c9:ac:08:e2:cc:a6:4e:10:12:bd:c0:15:
a3:e6:1c:6e:5d:96:8f:31:ab:19:92:42:70:e7:c0:3a:f7:cb:
43:a0:c4:db:99:68:37:ca:69:e7:e0:35:52:7d:6c:ec:9e:0a:
56:25:4b:09
```

```
Switch(config)#show pki rest_default host-certificate
```

```
Certificate:
```

```
Data:
```

```
Version: 3 (0x2)
```

```
Serial Number:
```

```
95:22:0b:f1:2b:b8:96:69
```

```
Signature Algorithm: sha256WithRSAEncryption
```

```
Issuer: C=US, ST=California, L=Santa Clara, O=Lenovo Network
```

```
Operating System CNOS, OU=Network Engineering, CN=0.0.0.0
```

```
Validity
```

```
Not Before: Mar 7 12:53:02 2017 GMT
```

```
Not After : Mar 7 12:53:02 2018 GMT
```

```
Subject: C=US, ST=California, L=Santa Clara, O=Lenovo Network
```

```
Operating System CNOS, OU=Network Engineering, CN=0.0.0.0
```

```
Subject Public Key Info:
```

```
Public Key Algorithm: rsaEncryption
```

```
Public-Key: (2048 bit)
```

```
Modulus:
```

```
00:e3:81:8f:dd:a2:d9:ef:9b:3e:50:4f:f6:79:e2:
d2:07:06:3e:db:46:fd:05:7b:ea:84:f0:34:a1:b7:
e7:4c:f0:3d:c3:b0:c0:82:1d:60:85:b5:ec:82:ea:
e2:65:a3:a3:6b:27:f5:17:b1:fe:52:c1:ea:4c:40:
55:0a:c0:2f:6f:4c:42:ef:74:72:ef:a4:5b:b2:4d:
90:74:97:48:51:bd:d8:9b:56:2c:ee:e4:41:5e:4f:
b9:0a:31:91:c6:08:94:cb:21:6e:d2:69:0d:db:12:
56:2a:33:2c:1b:de:53:93:2d:f4:00:74:38:65:e3:
f5:2d:09:f3:14:36:63:23:33:d8:9d:1b:d6:ba:4c:
8f:0c:de:e7:3e:56:d4:4e:ab:3c:cc:27:a1:0f:15:
e5:8c:a8:f0:cf:84:7c:3f:3d:23:19:71:25:7d:19:
26:b6:79:47:a1:f6:6c:ee:91:2f:db:55:3e:17:7a:
89:ab:43:6e:73:9b:bc:b7:54:b6:83:d7:a5:9a:5c:
8f:d0:a6:d1:65:f0:d2:6a:70:25:ce:9b:9a:06:49:
4e:5a:cd:d5:4c:96:1f:84:f1:b9:97:ea:a9:de:c5:
26:80:ee:48:3b:aa:b8:4c:fd:bc:71:0e:96:40:64:
38:20:da:0e:a4:42:a9:95:ae:43:de:14:2b:2a:4c:
3e:a9
```

```
Exponent: 65537 (0x10001)
X509v3 extensions:
  X509v3 Subject Key Identifier:
D5:FC:6B:30:CD:D9:7B:4D:57:30:80:6A:AD:96:E6:02:27:06:EF:DA
  X509v3 Authority Key Identifier:
keyid:D5:FC:6B:30:CD:D9:7B:4D:57:30:80:6A:AD:96:E6:02:27:06:EF:DA
  X509v3 Basic Constraints:
    CA:FALSE
  Signature Algorithm: sha256WithRSAEncryption
    b1:e5:ad:cb:9c:c9:fe:7a:8f:2f:73:2a:eb:76:cc:9d:f2:41:
    16:b7:c6:5b:aa:84:30:37:b2:8c:f3:5a:71:2e:77:28:56:1c:
    42:76:6c:fa:8c:ef:53:4d:db:34:3d:1c:45:c1:80:64:1c:04:
    18:8e:79:8b:d7:92:55:13:89:ad:d4:d0:47:e0:d4:10:db:37:
    72:5d:a2:45:f8:7d:ed:fd:18:f7:04:c8:64:98:2d:c5:76:43:
    ef:1e:33:c8:05:63:10:cf:db:28:e5:8d:c1:6d:4b:2e:2a:54:
    df:c1:96:34:6f:3a:64:18:f3:97:7f:2a:58:6b:f2:8e:ee:10:
    da:48:1d:58:47:9d:5d:26:44:22:d6:10:ce:11:68:21:db:ea:
    e8:3f:1a:5c:d0:33:2b:92:23:f5:44:de:43:32:d6:b7:fc:ef:
    76:97:b7:65:b4:f2:f5:a9:d4:7e:1a:3d:fb:f3:ce:c0:2f:8a:
    fb:33:98:a4:5c:9a:44:9f:10:81:24:78:d5:36:7d:3c:b5:3c:
    da:2d:6c:7a:48:8b:a3:4c:0a:2b:99:1f:23:ef:1a:4e:3d:b7:
    ea:b2:41:dc:20:54:d2:06:6f:b9:10:7a:58:55:f3:ba:ba:72:
    23:f3:11:ec:32:11:71:4d:70:5a:2a:6c:07:c2:0d:75:25:aa:
    77:2d:f2:af
```

REST Server Limitations

The following limitations apply to the REST server:

- Authentication via RADIUS or TACACS+ is not supported.
- REST API calls can *only* be made by a “network-admin” user. Requests made by any other type of user will be rejected by the REST API server.
- The only MIME type supported is “application/json”. Any other values, including no MIME type, will be rejected.
- Each request from a client must contain all information necessary for the REST server to fulfill the request. Requests with partial information will be ignored.

Chapter 2. REST Server JSON Calls

This chapter contains the JavaScript Object Notation (JSON) calls you can make to the REST server on the switch.

- [“AAA” on page 45](#) - lists URIs and functions with regards to Authentication, Authorization and Accounting (AAA)
- [“Anycast Gateway” on page 63](#) - lists URIs and functions with regards to Anycast Gateway
- [“ARP” on page 69](#) - lists URIs and functions with regards to Address Resolution Protocol (ARP)
- [“ASP” on page 83](#) - lists URIs and functions with regards to ARP Suppression (ASP)
- [“BFD” on page 89](#) - lists URIs and functions with regards to Bidirectional Forwarding Detection (BFD)
- [“BGP” on page 111](#) - lists URIs and functions with regards to Border Gateway Protocol (BGP)
- [“Boot Profile” on page 189](#) - lists URIs and functions with regards to Boot Profile
- [“CEE” on page 193](#) - lists URIs and functions with regards to Converged Enhanced Ethernet (CEE)
- [“DCI” on page 229](#) - lists URIs and functions with regards to Data Center Interconnection (DCI)
- [“Default IP Address” on page 257](#) - lists URIs and functions with regards to default IP address
- [“DHCP” on page 261](#) - lists URIs and functions with regards to Dynamic Host Configuration Protocol (DHCP)
- [“DNS” on page 291](#) - lists URIs and functions with regards to Domain Name System (DNS)
- [“802.1X” on page 303](#) - lists URIs and functions with regards to 802.1X
- [“ECMP” on page 359](#) - lists URIs and functions with regards to Equal Cost Multiple Paths (ECMP)
- [“FDB” on page 371](#) - lists URIs and functions with regards to Forwarding Database (FDB)
- [“FIPS” on page 385](#) - lists URIs and functions with regards to FCoE Initialization Protocol Snooping (FIPS)
- [“HSC” on page 403](#) - lists URIs and functions with regards to NSX Gateway (NSX-GW)
- [“HwProfile” on page 439](#) - Lists URIs and functions with regards to hardware breakout profile
- [“IGMP Snooping” on page 443](#) - lists URIs and functions with regards to Internet Group Management Protocol (IGMP) Snooping
- [“Interface” on page 459](#) - lists URIs and functions with regards to switch interfaces, such ethernet ports or loopback interfaces

- [“IP Interface” on page 475](#) - lists URIs and functions with regards to routed switch interfaces
- [“L2F” on page 485](#) - lists URIs and functions with regards to Layer 2 Failover (L2F)
- [“LACP” on page 497](#) - lists URIs and functions with regards to Link Aggregation Control Protocol (LACP)
- [“LAG” on page 501](#) - lists URIs and functions with regards to Link Aggregation Groups (LAGs)
- [“LDAP” on page 515](#) - lists URIs and functions with regards to Lightweight Directory Access Protocol (LDAP)
- [“LFD” on page 537](#) - lists URIs and functions with regards to Link Flap Dampening (LFD)
- [“LLDP” on page 543](#) - lists URIs and functions with regards to Link Layer Discovery Protocol (LLDP)
- [“MAC Move Notification” on page 557](#) - lists URIs and functions with regards to MAC Move Notifications.
- [“Move Loop Detection” on page 561](#) - lists URIs and functions with regards to Move Loop Detection.
- [“MP Packet Logging” on page 565](#) - lists URIs and functions with regards to MP Logging
- [“MSTP” on page 571](#) - lists URIs and functions with regards to Multiple Spanning Tree Protocol (MSTP)
- [“NAT” on page 583](#) - lists URIs and functions with regards to Network Address Translation (NAT)
- [“Nexthophealth” on page 589](#) - lists URIs and functions with regards to Nexthophealth information and configuration
- [“NOS Copy” on page 591](#) - lists URIs and functions with regards to copying NOS images and configuration files
- [“NPA” on page 603](#) - lists URIs and functions with regards to Network Policy Agent (NPA)
- [“NTP” on page 649](#) - lists URIs and functions with regards to Network Time Protocol (NTP)
- [“OSPF” on page 675](#) - lists URIs and functions with regards to Open Shortest Path First (OSPF)
- [“PBR” on page 739](#) - lists URIs and functions with regards to Policy Based Routing (PBR)
- [“PKA” on page 745](#) - lists URIs and functions with regards to Public Key Authentication (PKA)
- [“PKI” on page 753](#) - lists URIs and functions with regards to Private Key Infrastructure (PKI)
- [“Private VLAN” on page 793](#) - lists URIs and functions with regards to private virtual LANs information and configuration

- [“QoS over L3” on page 807](#) - lists URIs and functions with regards to QoS over L3 information and configuration
- [“RADIUS” on page 809](#) - lists URIs and functions with regards to Remote Authentication Dial-In User Service (RADIUS)
- [“REST” on page 823](#) - lists URIs and functions with regards to REST information and configuration
- [“RIB” on page 827](#) - lists URIs and functions with regards to RIB information and configuration
- [“Route Maps” on page 839](#) - lists URIs and functions with regards to route maps information and configuration
- [“Security Mode” on page 841](#) - lists URIs and functions with regards to the switch security mode
- [“sFlow” on page 845](#) - lists URIs and functions with regards to sampled flow (sFlow)
- [“SNMP” on page 853](#) - lists URIs and functions with regards to Simple Network Management Protocol (SNMP)
- [“SSH” on page 863](#) - lists URIs and functions with regards to Secure Shell (SSH) management
- [“Startup Information” on page 867](#) - lists URIs and functions with regards to startup information, such as the current startup image or Zero Touch Provisioning (ZTP) settings
- [“STP” on page 873](#) - lists URIs and functions with regards to Spanning Tree Protocol (STP)
- [“System” on page 885](#) - lists URIs and functions with regards to system properties
- [“System Configuration” on page 887](#) - lists URIs and functions with regards to system configuration, such as hostname or switch clock settings
- [“System Information” on page 905](#) - lists URIs and functions with regards to system information, such as the status of system resources
- [“Telemetry” on page 929](#) - lists URIs and functions with regards to telemetry information and configuration
- [“Telnet” on page 991](#) - lists URIs and functions with regards to telnet information and configuration
- [“UFP” on page 995](#) - lists URIs and functions with regards to Unified Fabric Port (UFP) information and configuration
- [“TACACS+” on page 917](#) - lists URIs and functions with regards to Terminal Access Controller Access-Control System Plus (TACACS+)
- [“vLAG” on page 1045](#) - lists URIs and functions with regards to Virtual Link Aggregation Group (vLAG)
- [“VLAN” on page 1067](#) - lists URIs and functions with regards to virtual LANs
- [“VLAN Interface Properties” on page 1087](#) - lists URIs and functions with regards to Switch Virtual Interfaces (SVIs)

- [“VRF” on page 1095](#) - lists URIs and functions with regards to Virtual Routing and Forwarding (VRF)
- [“VRRP” on page 1113](#) - lists URIs and functions with regards to Virtual Router Redundancy Protocol (VRRP)

AAA

The following Authentication, Authorization and Accounting (AAA) URIs are available:

- /nos/api/cfg/aaa/accounting/default GET, PUT
- /nos/api/cfg/aaa/authorization/commands/default GET, PUT
- /nos/api/cfg/aaa/authorization/config-commands/default GET, PUT
- /nos/api/cfg/aaa/authentication/login/console GET, PUT
- /nos/api/cfg/aaa/authentication/login/default GET, PUT
- /nos/api/cfg/aaa/authentication/login/error-enable GET, PUT
- /nos/api/cfg/aaa/local/authentication/ GET, PUT
- /nos/api/cfg/aaa/user/default-role GET, PUT
- /nos/api/info/aaa/groups GET

The following AAA commands are available:

- [Get AAA Accounting Configuration](#)
- [Update AAA Accounting Configuration](#)
- [Get AAA User EXEC Commands Authorization Setting](#)
- [Update AAA User EXEC Commands Authorization Settings](#)
- [Get AAA Configuration Commands Authorization Settings](#)
- [Update AAA Configuration Commands Authorization Settings](#)
- [Get AAA Console User Login Authentication Configuration](#)
- [Update AAA Console User Login Authentication Configuration](#)
- [Get AAA Remote User Login Authentication Configuration](#)
- [Update AAA Remote User Login Authentication Configuration](#)
- [Get AAA Authentication Login Error Message Status](#)
- [Update AAA Authentication Login Error Message Status](#)
- [Get AAA Local Authentication Configuration](#)
- [Update AAA Local Authentication Configuration](#)
- [Get AAA User Default Role Status](#)
- [Update AAA User Default Role Status](#)
- [Get AAA Groups](#)

Get AAA Accounting Configuration

Gets the AAA accounting configuration.

Request

Method Type	GET
Request URI	nos/api/cfg/aaa/accounting/default
Request Body (JSON)	

Response

Response Body (JSON)	{ "methods":"[group <group_name>+] [local]" }
----------------------	---

where:

Parameter	Description
methods	The AAA accounting methods (string). Valid values: "group" - followed by a list of maximum 8 AAA groups (optionally followed by "local").

Update AAA Accounting Configuration

Updates the AAA accounting configuration.

Request

Method Type	PUT
Request URI	nos/api/cfg/aaa/accounting/default
Request Body (JSON)	{ "methods": "[group <group_name>+] [local]" }

where:

Parameter	Description
methods	The AAA accounting methods (string). Valid values: "group" - followed by a list of maximum 8 AAA groups (optionally followed by "local").

Response

Response Body (JSON)	{ "methods": "[group <group_name>+] [local]" }
----------------------	--

where:

Parameter	Description
methods	The AAA accounting methods (string). Valid values: "group" - followed by a list of maximum 8 AAA groups (optionally followed by "local").

Get AAA User EXEC Commands Authorization Setting

Gets the current User EXEC command mode authorization settings.

Request

Method Type	GET
Request URI	nos/api/cfg/aaa/authorization/commands/default
Request Body (JSON)	

Response

Response Body (JSON)	{ "methods":"[group <group_name>+] [local]" }
----------------------	---

where:

Parameter	Description
methods	The AAA accounting methods (string). Valid values: "group" - followed by a list of maximum 8 AAA groups (optionally followed by "local").

Update AAA User EXEC Commands Authorization Settings

Updates the AAA User EXEC command mode authorization settings.

Request

Method Type	PUT
Request URI	nos/api/cfg/aaa/authorization/commands/default
Request Body (JSON)	{ "methods": "[group <group_name>+] [local]" }

where:

Parameter	Description
methods	The AAA accounting methods (string). Valid values: "group" - followed by a list of maximum 8 AAA groups (optionally followed by "local").

Response

Response Body (JSON)	{ "methods": "[group <group_name>+] [local]" }
----------------------	--

where:

Parameter	Description
methods	The AAA accounting methods (string). Valid values: "group" - followed by a list of maximum 8 AAA groups (optionally followed by "local").

Get AAA Configuration Commands Authorization Settings

Gets the current configuration command mode authorization settings.

Request

Method Type	GET
Request URI	nos/api/cfg/aaa/authorization/config-commands/default
Request Body (JSON)	

Response

Response Body (JSON)	{ "methods":"[group <group_name>+] [local]" }
----------------------	---

where:

Parameter	Description
methods	The AAA accounting methods (string). Valid values: "group" - followed by a list of maximum 8 AAA groups (optionally followed by "local").

Update AAA Configuration Commands Authorization Settings

Updates the AAA User EXEC command mode authorization settings.

Request

Method Type	PUT
Request URI	nos/api/cfg/aaa/authorization/config-commands/default
Request Body (JSON)	{ "methods": "[group <group_name>+] [local]" }

where:

Parameter	Description
methods	The AAA accounting methods (string). Valid values: "group" - followed by a list of maximum 8 AAA groups (optionally followed by "local").

Response

Response Body (JSON)	{ "methods": "[group <group_name>+] [local]" }
----------------------	--

where:

Parameter	Description
methods	The AAA accounting methods (string). Valid values: "group" - followed by a list of maximum 8 AAA groups (optionally followed by "local").

Get AAA Console User Login Authentication Configuration

Gets the current console user login authentication configuration.

Request

Method Type	GET
Request URI	nos/api/cfg/aaa/authentication/login/console
Request Body (JSON)	

Response

Response Body (JSON)	{ "methods":"[group <group_name>+] [local]" }
----------------------	---

where:

Parameter	Description
methods	The AAA accounting methods (string). Valid values: "group" - followed by a list of maximum 8 AAA groups (optionally followed by "local" and/or "none").

Update AAA Console User Login Authentication Configuration

Updates the console user login authentication configuration.

Request

Method Type	PUT
Request URI	nos/api/cfg/aaa/authentication/login/console
Request Body (JSON)	{ "methods": "[group <group_name>+] [local]" }

where:

Parameter	Description
methods	The AAA accounting methods (string). Valid values: "group" - followed by a list of maximum 8 AAA groups (optionally followed by "local" and/or "none").

Response

Response Body (JSON)	{ "methods": "[group <group_name>+] [local]" }
----------------------	--

where:

Parameter	Description
methods	The AAA accounting methods (string). Valid values: "group" - followed by a list of maximum 8 AAA groups (optionally followed by "local" and/or "none").

Get AAA Remote User Login Authentication Configuration

Gets the current remote user login authentication configuration.

Request

Method Type	GET
Request URI	nos/api/cfg/aaa/authentication/login/default
Request Body (JSON)	

Response

Response Body (JSON)	{ "methods":"[group <group_name>+] [local]" }
----------------------	---

where:

Parameter	Description
methods	The AAA accounting methods (string). Valid values: "group" - followed by a list of maximum 8 AAA groups (optionally followed by "local" and/or "none").

Update AAA Remote User Login Authentication Configuration

Updates the remote user login authentication configuration.

Request

Method Type	PUT
Request URI	nos/api/cfg/aaa/authentication/login/default
Request Body (JSON)	{ "methods": "[group <group_name>+] [local]" }

where:

Parameter	Description
methods	The AAA accounting methods (string). Valid values: "group" - followed by a list of maximum 8 AAA groups (optionally followed by "local" and/or "none").

Response

Response Body (JSON)	{ "methods": "[group <group_name>+] [local]" }
----------------------	--

where:

Parameter	Description
methods	The AAA accounting methods (string). Valid values: "group" - followed by a list of maximum 8 AAA groups (optionally followed by "local" and/or "none").

Get AAA Authentication Login Error Message Status

Checks if error messages are displayed when users fail to authenticate.

Request

Method Type	GET
Request URI	nos/api/cfg/aaa/authentication/login/error-enable
Request Body (JSON)	

Response

Response Body (JSON)	{ "status": "{enable disable}" }
----------------------	--

where:

Parameter	Description
status	The status of authentication login error messages. Valid values: "enable", "disable".

Update AAA Authentication Login Error Message Status

Updates the status of authentication login error messages.

Request

Method Type	PUT
Request URI	nos/api/cfg/aaa/authentication/login/error-enable
Request Body (JSON)	{ "status": "{enable disable}" }

where:

Parameter	Description
status	The status of authentication login error messages. Valid values: "enable", "disable".

Response

Response Body (JSON)	{ "status": "{enable disable}" }
----------------------	--

where:

Parameter	Description
status	The status of authentication login error messages. Valid values: "enable", "disable".

Get AAA Local Authentication Configuration

Gets the AAA local authentication configuration, such as the maximum number of unsuccessful authentication attempts before a user is locked out.

Request

Method Type	GET
Request URI	/nos/api/cfg/aaa//local/authentication
Request Body (JSON)	

Response

Response Body (JSON)	{ "maxfail_attempts":<maxfail_attempts> }
----------------------	---

where:

Parameter	Description
maxfail_attempts	The maximum number of unsuccessful authentication attempts before a user is locked out. An integer from 1-25. Default value: 3.

Update AAA Local Authentication Configuration

Updates the AAA local authentication configuration, such as the maximum number of unsuccessful authentication attempts before a user is locked out.

Request

Method Type	PUT
Request URI	/nos/api/cfg/aaa/local/authentication
Request Body (JSON)	

where:

Parameter	Description
maxfail_attempts	The maximum number of unsuccessful authentication attempts before a user is locked out. An integer from 1-25. Default value: 3.

Response

Response Body (JSON)	{ "maxfail_attempts":<maxfail_attempts> }
----------------------	---

where:

Parameter	Description
maxfail_attempts	The maximum number of unsuccessful authentication attempts before a user is locked out. An integer from 1-25. Default value: 3.

Get AAA User Default Role Status

Checks if users are allowed to login even if the TACACS+ server does not provide a default role. The default role is network-operator.

Request

Method Type	GET
Request URI	nos/api/cfg/aaa/user/default-role
Request Body (JSON)	

Response

Response Body (JSON)	{ "status": "{enable disable}" }
----------------------	--

where:

Parameter	Description
status	The status of allowing users to login even if the TACACS+ server does not provide a role (string). Valid values: "enable", "disable".

Update AAA User Default Role Status

Updates the status of allowing users to login even if the TACACS+ server does not provide a role. The default role is network-operator.

Request

Method Type	PUT
Request URI	/nos/api/cfg/aaa/user/default-role
Request Body (JSON)	{ "status": "{enable disable}" }

where:

Parameter	Description
status	The status of allowing users to login even if the TACACS+ server does not provide a role (string). Valid values: "enable", "disable".

Response

Response Body (JSON)	{ "status": "{enable disable}" }
----------------------	--

where:

Parameter	Description
status	The status of allowing users to login even if the TACACS+ server does not provide a role (string). Valid values: "enable", "disable".

Get AAA Groups

Gets AAA group information.

Request

Method Type	GET
Request URI	nos/api/info/aaa/groups
Request Body (JSON)	

Response

Response Body (JSON)	[{ "group_name": "<group_name>", "type": "{TACACS+}" }]
----------------------	--

where:

Parameter	Description
group_name	The name of the AAA group (string).
type	The type of the AAA group (string). Valid value: "TACACS+".

Note: Currently, the only supported AAA group type is TACACS+.

Ancast Gateway

The following Ancast Gateway URIs are available:

- /nos/api/cfg/agw GET, POST
- /nos/api/cfg/agwintf GET, POST

The following Ancast Gateway commands are available:

- [Get Ancast Gateway MAC Address](#)
- [Set Ancast Gateway MAC Address](#)
- [Get Ancast Gateway Forwarding Mode](#)
- [Set Ancast Gateway Forwarding Mode](#)

Get Anycast Gateway MAC Address

Gets the anycast gateway configured MAC address.

Request

Method Type Type	GET
Request URI	nos/api/cfg/agw
Request Body (JSON)	

Response

Response Body (JSON)	{ "anycast_gw_mac": <mac_address> }
----------------------------	---

where:

Parameter	Description
mac_address	The configured anycast gateway MAC address (string).

Set Anycast Gateway MAC Address

Sets the anycast gateway configured MAC IP address.

Request

Method Type Type	POST
Request URI	nos/api/cfg/agw
Request Body (JSON)	{ "anycast_gw_mac": <mac_address> }

where:

Parameter	Description
anycast_gw_mac	The configured anycast gateway MAC address. A string in the following format: "0000.0000.0000".

Response

True if the operation succeeded; otherwise False.

Get Anycast Gateway Forwarding Mode

Gets the anycast gateway forwarding mode on a specified interface.

Request

Method Type Type	GET
Request URI	nos/api/cfg/agwintf/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The interface on which to check anycast GW forwarding status (string). For example: "Ethernet1%2F1".

Response

Response Body (JSON)	{ "interface": <interface_name>, "any_gw_status": <anycast_fwd_status> }
----------------------------	---

where:

Parameter	Description
<i>interface</i>	The interface on which anycast GW status is checked (string).
<i>anycast_gw_status</i>	The anycast gateway forwarding status (string). Valid values: "enabled", "disabled".

Set Anycast Gateway Forwarding Mode

Sets the anycast gateway forwarding mode on a specified interface.

Request

Method Type Type	POST
Request URI	nos/api/cfg/agwintf
Request Body (JSON)	{ "interface": <interface_name>, "any_gw_status": <any_gw_status> }

where:

Parameter	Description
interface	The interface on which anycast GW status is checked (string).
any_gw_ status	The anycast gateway forwarding status (string). Valid values: "enabled", "disabled".

Response

Boolean (True for enabled, otherwise False).

ARP

The following ARP URIs are available:

- /nos/api/cfg/arp GET, PUT
- /nos/api/cfg/arp_interface GET
- /nos/api/cfg/arp_interface/<if_name> GET, PUT
- /nos/api/cfg/arp_entry GET
- /nos/api/cfg/arp_entry/<if_name> GET, POST
- /nos/api/cfg/arp_entry/<if_name>/<ip_addr> GET, PUT, DELETE
- /nos/api/cfg/arp_refresh GET, PUT

The following ARP commands are available:

- [Get ARP System Properties](#)
- [Update ARP System Properties](#)
- [Get ARP Properties of All Interfaces](#)
- [Get ARP Interface Properties](#)
- [Update ARP Interface Properties](#)
- [Get Static ARP Entries of All Interfaces](#)
- [Get Static ARP Entries of One Interface](#)
- [Create Static ARP Entry](#)
- [Get Static ARP Entry](#)
- [Update Static ARP Entry](#)
- [Delete Static ARP Entry](#)
- [Get ARP Refresh Configuration](#)
- [Update ARP Refresh Configuration](#)

Get ARP System Properties

Gets global ARP properties of the system.

Request

Method Type	GET
Request URI	/nos/api/cfg/arp
Request Body (JSON)	

Response

Response Body (JSON)	{ "ageout_time": "<ageout_time>" }
-------------------------	--

where:

Parameter	Description
ageout_time	The global ARP entry age-out time, in seconds. An integer from 60-28800. Default value: 1500 seconds.

Update ARP System Properties

Updates the global ARP properties of the system.

Request

Method Type	PUT
Request URI	/nos/api/cfg/arp
Request Body (JSON)	{ "ageout_time": "<ageout_time>" }

where:

Parameter	Description
ageout_time	The global ARP entry age-out time, in seconds. An integer from 60-28800. Default value: 1500 seconds.

Response

Response Body (JSON)	{ "ageout_time": "<ageout_time>" }
-------------------------	--

where:

Parameter	Description
ageout_time	The global ARP entry age-out time, in seconds. An integer from 60-28800. Default value: 1500 seconds.

Get ARP Properties of All Interfaces

Gets ARP properties of all interfaces.

Request

Method Type	GET
Request URI	/nos/api/cfg/arp_interface
Request Body (JSON)	

Response

Response Body (JSON)	[{ "if_name": "<if_name>", "ageout_time": "<ageout_time>" }]
-------------------------	---

where:

Parameter	Description
if_name	IP interface name (string). Note: The interface must exist.
ageout_time	The global ARP entry age-out time, in seconds. An integer from 60-28800. Default value: 1500 seconds.

Get ARP Interface Properties

Gets ARP properties of one interface.

Request

Method Type	GET
Request URI	/nos/api/cfg/arp_interface/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The IP interface name (string). For example: "Ethernet1%2F1". Note: The interface must exist.

Response

Response Body (JSON)	[{ "if_name": "<if_name>", "ageout_time": "<ageout_time>" }]
-------------------------	---

where:

Parameter	Description
<i>if_name</i>	IP interface name (string). Note: The interface must exist.
<i>ageout_time</i>	The global ARP entry age-out time, in seconds. An integer from 60-28800. Default value: 1500 seconds.

Update ARP Interface Properties

Updates the ARP properties of one interface.

Request

Method Type	PUT
Request URI	/nos/api/cfg/arp_interface/<if_name>
Request Body (JSON)	[{ "if_name": "<if_name>", "ageout_time": "<ageout_time>" }]

where:

Parameter	Description
if_name	The IP interface name (string). For example: "Ethernet1%2F1". Note: The interface must exist.
ageout_time	The global ARP entry age-out time, in seconds. An integer from 60-28800. Default value: 1500 seconds.

Response

Response Body (JSON)	[{ "if_name": "<if_name>", "ageout_time": "<ageout_time>" }]
-------------------------	---

where:

Parameter	Description
if_name	The IP interface name (string).
ageout_time	The global ARP entry age-out time, in seconds. An integer from 60-28800. Default value: 1500 seconds.

Get Static ARP Entries of All Interfaces

Gets all static ARP entries of all interfaces.

Request

Method Type	GET
Request URI	/nos/api/cfg/arp_entry
Request Body (JSON)	

Response

Response Body (JSON)	[{ "if_name": "<if_name>", "ip_addr": "<ip_addr>", "mac_addr": "<mac_addr>" }]
-------------------------	--

where:

Parameter	Description
if_name	Interface name (string). Note: The interface must exist.
ip_addr	The IP address (string).
mac_addr	The MAC address. A string in the following format: "xxxx.xxxx.xxxx".

Get Static ARP Entries of One Interface

Gets all static ARP entries under the specified interface.

Request

Method Type	GET
Request URI	/nos/api/cfg/arp_entry/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The IP interface name (string). For example: "Ethernet1%2F1". Note: The interface must exist.

Response

Response Body (JSON)	[{ "if_name": "<if_name>", "ip_addr": "<ip_addr>", "mac_addr": "<mac_addr>" }]
-------------------------	--

where:

Parameter	Description
<i>if_name</i>	Interface name (string). Note: The interface must exist.
<i>ip_addr</i>	The IP address (string).
<i>mac_addr</i>	The MAC address. A string in the following format: "xxxx.xxxx.xxxx".

Create Static ARP Entry

Creates a static ARP entry under the specified interface.

Request

Method Type	POST
Request URI	/nos/api/cfg/arp_entry/<if_name>
Request Body (JSON)	{ "if_name": "<if_name>", "ip_addr": "<ip_addr>", "mac_addr": "<mac_addr>" }

where:

Parameter	Description
if_name	Interface name (string.) For example: "Ethernet1%2F1". Note: The interface must exist.
ip_addr	The IP address (string).
mac_addr	The MAC address. A string in the following format: "xxxx.xxxx.xxxx".

Response

Response Body (JSON)	[{ "if_name": "<if_name>", "ip_addr": "<ip_addr>", "mac_addr": "<mac_addr>" }]
-------------------------	--

where:

Parameter	Description
if_name	Interface name (string.) Note: The interface must exist.
ip_addr	The IP address (string).
mac_addr	The MAC address. A string in the following format: "xxxx.xxxx.xxxx".

Get Static ARP Entry

Gets one static ARP entry under the specified interface.

Request

Method Type	GET
Request URI	/nos/api/cfg/arp_entry/<if_name>/<ip_addr>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The IP interface name (string). For example: "Ethernet1%2F1". Note: The interface must exist.
<i>ip_addr</i>	The IP address (string).

Response

Response Body (JSON)	{ "if_name": "<if_name>", "ip_addr": "<ip_addr>", "mac_addr": "<mac_addr>" }
-------------------------	--

where:

Parameter	Description
<i>if_name</i>	Interface name (string). Note: The interface must exist.
<i>ip_addr</i>	The IP address (string).
<i>mac_addr</i>	The MAC address. A string in the following format: "xxxx.xxxx.xxxx".

Update Static ARP Entry

Updates properties of one static ARP entry under the specified interface.

Request

Method Type	PUT
Request URI	/nos/api/cfg/arp_entry/<if_name>/<ip_addr>
Request Body (JSON)	{ "if_name": "<if_name>", "ip_addr": "<ip_addr>", "mac_addr": "<mac_addr>" }

where:

Parameter	Description
if_name	Interface name (string). For example: "Ethernet1%2F1". Note: The interface must exist.
ip_addr	The IP address (string).
mac_addr	The MAC address. A string in the following format: "xxxx.xxxx.xxxx".

Response

Response Body (JSON)	{ "if_name": "<if_name>", "ip_addr": "<ip_addr>", "mac_addr": "<mac_addr>" }
-------------------------	--

where:

Parameter	Description
if_name	Interface name (string). Note: The interface must exist.
ip_addr	The IP address (string).
mac_addr	The MAC address. A string in the following format: "xxxx.xxxx.xxxx".

Delete Static ARP Entry

Deletes a static ARP entry under the specified interface.

Note: If the specified *ip_addr* is **all**, all static ARP entries under specified interface will be deleted.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/arp_entry/<if_name>/<ip_addr>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The IP interface name (string). For example: "Ethernet1%2F1". Note: The interface must exist.
<i>ip_addr</i>	The IP address (string).

Response

Response Body (JSON)	
-------------------------	--

Get ARP Refresh Configuration

Gets the ARP refresh configuration.

Request

Method Type	GET
Request URI	/nos/api/cfg/arp_refresh
Request Body (JSON)	

Response

Response Body (JSON)	{ "state": "{enabled disabled}" }
----------------------	---

where:

Parameter	Description
state	The status of ARP refresh on the switch (string). Valid values: "enabled", "disabled".

Update ARP Refresh Configuration

Updates the ARP refresh configuration.

Request

Method Type	PUT
Request URI	/nos/api/cfg/arp_refresh
Request Body (JSON)	{ "state": "{enabled disabled}" }

where:

Parameter	Description
state	The status of ARP refresh on the switch (string). Valid values: "enabled", "disabled".

Response

Response Body (JSON)	{ "state": "{enabled disabled}" }
----------------------	---

where:

Parameter	Description
state	The status of ARP refresh on the switch (string). Valid values: "enabled", "disabled".

ASP

The following ARP Suppression (ASP) URIs are available:

- `/nos/api/cfg/asp/entry/<vnid>` GET, DELETE
- `/nos/api/cfg/asp/<vnid>` GET
- `/nos/api/cfg/asp` PUT
- `/nos/api/info/asp/vnet/<vnid>` GET

The following ASP commands are available:

- [Get ARP Suppression MAC Entries](#)
- [Delete ARP Suppression MAC Entries](#)
- [Get ARP Suppression Status](#)
- [Set ARP Suppression](#)
- [Get ARP Suppression Virtual Network Information](#)

Get ARP Suppression MAC Entries

Gets ARP suppression MAC entries for all VNIDs or for a specific VNID.

Request

Method Type	GET
Request URI	nos/api/cfg/asp/entry/<vnid>
Request Body (JSON)	

where:

Parameter	Description
<i>vnid</i>	(Optional) The VXLAN ID. An integer from 1-16777214. Note: If <i>vnid</i> is not specified, the ASP entries for all VXLANs is displayed.

Response

Response Body (JSON)	{ "vnid": "<vnid>", "vm_ip": "<vm_ip>", "vm_mac": "<vm_mac>", "age": "<age>", "flag": "<flag>", "vtep_ip": "<vtep_ip>" }
-------------------------	---

where:

Parameter	Description
<i>vnid</i>	The VXLAN ID. An integer from 1-16777214.
<i>vm_ip</i>	The VM IP address (string).
<i>vm_mac</i>	The VM MAC address (string).
<i>age</i>	The ASP entry age.
<i>flag</i>	The flag of the entry (string). Valid values: "Static", "Remote via BGP-EVPN", "Local via Access port", "Local via NPAD", "Remote via NPAD", "Remote via Network port".
<i>vtep_ip</i>	The VTEP IP address (string).

Delete ARP Suppression MAC Entries

Deletes ARP suppression MAC entries for all VNIDs or for a specified VNID.

Request

Method Type	DELETE
Request URI	nos/api/cfg/asp/entry/<vnid>
Request Body (JSON)	

where:

Parameter	Description
<i>vnid</i>	(Optional) The VXLAN ID. An integer from 1-16777214. Note: If <i>vnid</i> is not specified, the ASP entries for all VXLANs are deleted.

Response

Response Body (JSON)	
-------------------------	--

Get ARP Suppression Status

Gets ARP suppression status for all VNIDs or for a specified VNID.

Request

Method Type	GET
Request URI	nos/api/cfg/asp/<vnid>
Request Body (JSON)	

where:

Parameter	Description
<i>vnid</i>	(Optional) The VXLAN ID. An integer from 1-16777214. Note: If <i>vnid</i> is not specified, the information for all VXLANs is displayed.

Response

Response Body (JSON)	{ "vnid": <vnid>, "status": <status>, }
-------------------------	--

where:

Parameter	Description
<i>vnid</i>	The VXLAN ID. An integer from 1-16777214.
<i>status</i>	The ARP suppression status (string). Valid values: "enabled", "disabled".

Set ARP Suppression

Enables or disabled ARP suppression.

Request

Method Type	PUT
Request URI	nos/api/cfg/asp/<vnid>
Request Body (JSON)	

where:

Parameter	Description
<i>vnid</i>	(Optional) The VXLAN ID. An integer from 1-16777214. Note: If <i>vnid</i> is not specified, ARP suppression for all VXLANs is enabled or disabled.

Response

Response Body (JSON)	{ "vnid": <vnid>, "status": <status>, }
-------------------------	--

where:

Parameter	Description
<i>vnid</i>	The VXLAN ID. An integer from 1-16777214.
<i>status</i>	The ARP suppression status (string). Valid values: "enable", "disable".

Get ARP Suppression Virtual Network Information

Gets ARP suppression virtual network information.

Request

Method Type	GET
Request URI	nos/api/info/asp/vnet/<vnid>
Request Body (JSON)	

where:

Parameter	Description
<i>vnid</i>	The VXLAN ID. An integer from 1-16777214.

Response

Response Body (JSON)	<pre>{ "vnid": <vnid>, "status": <status>, "vrf": <vrf>, "interface": <interface>, "vlan":<vlan>, }</pre>
-------------------------	---

where:

Parameter	Description
<i>vnid</i>	The VXLAN ID. An integer from 1-16777214.
<i>status</i>	The status of ARP suppression (string). Valid values: "enabled", "disabled".
<i>vrf</i>	The VFR name (string).
<i>interface</i>	The Ethernet or LAG interface name (string).
<i>vlan</i>	The VLAN ID. An integer from 1-4096.

BFD

The following Bidirectional Forwarding Detection URIs are available:

- /nos/api/info/bfd GET
- /nos/api/info/bfd/details GET
- /nos/api/info/bfd/application/<protocol_name> GET
- /nos/api/info/bfd/application_details/<protocol_name> GET
- /nos/api/info/bfd/loc_addr/<loc_addr> GET
- /nos/api/info/bfd/rem_addr/<rem_addr> GET
- /nos/api/cfg/bfd POST
- /nos/api/cfg/bfd/interface/<if_name> POST
- /nos/api/cfg/bfd/interface/<if_name>/neighbors POST
- /nos/api/cfg/bfd/interface/<if_name>/neighbors/<loc_disc> DELETE
- /nos/api/cfg/bfd/multihop_peer/<rem_addr> POST

The following BFD commands are available:

- [Get all BFD Sessions](#)
- [Get all BFD Sessions Details](#)
- [Get BFD Sessions for the Specified Protocol](#)
- [Get all BFD Session Details for the Specified Protocol](#)
- [Get BFD Sessions with the Specified Local Address](#)
- [Get BFD Sessions with the Specified Remote Address](#)
- [Change BFD Global Options](#)
- [Change BFD Interface Options](#)
- [Create a New BFD Session](#)
- [Delete a BFD Session](#)
- [Set or Unset BFD Multihop Session Options](#)

Get all BFD Sessions

Gets information about all BFD sessions.

Request

Method Type	GET
Request URI	/nos/api/info/bfd
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "loc_addr": <loc_addr>, "rem_addr": <rem_addr>, "loc_disc": <loc_disc>, "rem_disc": <rem_disc>, "RH/RS": <RH/RS>, "holddown": <holddown>, "mult": <mult>, "sess_state": <sess_state>, "if_name": <if_name> }]</pre>
-------------------------	---

where:

Parameter	Description
loc_addr	BFD session source IP address (string). A valid IPv4 or IPv6 address.
rem_addr	BFD session destination IP address (string). A valid IPv4 or IPv6 address.
loc_disc	Unique number used by the local system to identify the BFD session. An integer from 1-2147483647.
rem_disc	Unique number used by the remote system to identify the BFD session. An integer from 1-2147483647.
RH/RS	Remote Heard/Remote State (string). Valid values: "UP", "DOWN", "ADMIN_DOWN".
holddown	If no BFD packet is received in the specified number of milliseconds, the session will be declared down. An integer from 150-2997.
mult	The number of times a packet is missed before BFD declares the neighbor down. An integer from 3-50.

Parameter	Description
sess_state	BFD session state (string). Valid values: "UP", "DOWN", "ADMIN_DOWN".
if_name	Interface on which the BFD session is active (string). Note: The interface must exist.

Get all BFD Sessions Details

Gets detailed information about all BFD sessions.

Request

Method Type	GET
Request URI	/nos/api/info/bfd/details
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "loc_addr": <loc_addr>, "rem_addr": <rem_addr>, "loc_disc": <loc_disc>, "rem_disc": <rem_disc>, "RH/RS": <RH/RS>, "holddown": <holddown>, "mult": <mult>, "sess_state": <sess_state>, "if_name": <if_name>, "echo_mode": <echo_mode>, "gtsm": <gtsm>, "gtsm_ttl": <value>, "minTxInt": <minTxInt>, "minRxInt": <minRxInt>, "negotiated minRxInt": <negotiated minRxInt>, "negotiated multiplier": <negotiated multiplier>, "rx Count": <rx Count>, "tx Count": <tx Count>, "registered protocols": <registered protocols>, "uptime": <uptime> }]</pre>
-------------------------	--

where:

Parameter	Description
loc_addr	BFD session source address (string). A valid IPv4 or IPv6 address.
rem_addr	BFD session destination IP address (string). A valid IPv4 or IPv6 address.
loc_disc	Unique number used by the local system to identify the BFD session. An integer from 1-2147483647.
rem_disc	Unique number used by the remote system to identify the BFD session. An integer from 1-2147483647.

Parameter	Description
RH/RS	Remote Heard/Remote State (string). Valid values: "UP", "DOWN", "ADMIN_DOWN".
holdown	If no BFD packet is received in the specified number of milliseconds, the session will be declared down. An integer from 150-2997.
mult	The number of times a packet is missed before BFD declares the neighbor down. An integer from 3-50.
sess_state	BFD session state (string). Valid values: "UP", "DOWN", "ADMIN_DOWN".
if_name	Interface on which the BFD session is active (string). Note: The interface must exist.
echo_mode	Whether the BFD session has echo mode enabled (string). Valid values: "enabled", "disabled".
gtsm	Whether the BFD session has Generalized TTL Security Mechanism (GTSM) enabled. Valid values: "enabled", "disabled".
gtsm_ttl	Displays BFD GTSM Time-To Live (TTL) value. An integer from 1-255.
minTxInt	Rate at which BFD control packets will be sent to BFD neighbors. An integer from 50-999.
minRxInt	Specifies the rate at which BFD control packets will be expected to be received from BFD neighbors. An integer from 50-999.
negotiated minRxInt	Specifies the negotiated rate at which BFD control packets will be received from BFD neighbors. An integer from 50-999.
negotiated multiplier	The number of times a packet is missed before BFD declares the session down. An integer from 3-50.
rx Count	The number of received BFD packets. A positive integer.
tx Count	The number of sent BFD packets. A positive integer.
registered protocols	Protocol for which the BFD session is active (string). Valid values: "OSPF", "BGP", "RIB", "BFD", "NWV".
uptime	How long the BFD session has been up. A string in the following format: "HH:MM:SS".

Get BFD Sessions for the Specified Protocol

Gets BFD sessions for the specified protocol.

Request

Method Type	GET
Request URI	/nos/api/info/bfd/application/<protocol_name>
Request Body (JSON)	

where:

Parameter	Description
<i>protocol_name</i>	Protocol for which the BFD session is active (string). Valid values: "OSPF", "BGP", "RIB", "BFD", "NWV".

Response

Response Body (JSON)	[{ "loc_addr": <loc_addr>, "rem_addr": <rem_addr>, "loc_disc": <loc_disc>, "rem_disc": <rem_disc>, "RH/RS": <RH/RS>, "holdown": <holdown>, "mult": <mult>, "sess_state": <sess_state>, "if_name": <if_name> }]
-------------------------	--

where:

Parameter	Description
loc_addr	BFD session source address (string). A valid IPv4 or IPv6 address.
rem_addr	BFD session destination IP address (string). A valid IPv4 or IPv6 address.
loc_disc	Unique number used by the local system to identify the BFD session. An integer from 1-2147483647.
rem_disc	Unique number used by the remote system to identify the BFD session. An integer from 1-2147483647.
RH/RS	Remote Heard/Remote State (string). Valid values: "UP", "DOWN", "ADMIN_DOWN".

Parameter	Description
holddown	If no BFD packet is received in the specified number of milliseconds, the session will be declared down. An integer from 150-2997.
mult	The number of times a packet is missed before BFD declares the neighbor down. An integer from 3-50.
sess_state	BFD session state (string). Valid values: "UP", "DOWN", "ADMIN_DOWN".
if_name	Interface on which the BFD session is active (string). Note: The interface must exist.

Get all BFD Session Details for the Specified Protocol

Gets BFD session details for the specified protocol.

Request

Method Type	GET
Request URI	/nos/api/info/bfd/application_details/<protocol_name>
Request Body (JSON)	

where:

Parameter	Description
<i>protocol_name</i>	Protocol for which the BFD session is active (string). Valid values: "OSPF", "BGP", "RIB", "BFD", "NWV".

Response

Response Body (JSON)	<pre>[{ "loc_addr": <loc_addr>, "rem_addr": <rem_addr>, "loc_disc": <loc_disc>, "rem_disc": <rem_disc>, "RH/RS": <RH/RS>, "holddown": <holddown>, "mult": <mult>, "sess_state": <sess_state>, "if_name": <if_name>, "echo_mode": <echo_mode>, "gtsm": <gtsm>, "gtsm_ttl": <gtsm_ttl>, "minTxInt": <minTxInt>, "minRxInt": <minRxInt>, "negotiated minRxInt": <negotiated_minRxInt>, "negotiated multiplier": <negotiated_multiplier>, "rx Count": <rx_Count>, "tx Count": <tx_Count>, "registered protocols": <registered_protocols>, "uptime": <uptime>, }]</pre>
-------------------------	--

where:

Parameter	Description
loc_addr	BFD session source address (string). A valid IPv4 or IPv6 address.
rem_addr	BFD session destination IP address (string). A valid IPv4 or IPv6 address.
loc_disc	Unique number used by the local system to identify the BFD session. An integer from 1-2147483647.
rem_disc	Unique number used by the remote system to identify the BFD session. An integer from 1-2147483647.
RH/RS	Remote Heard/Remote State (string). Valid values: "UP", "DOWN", "ADMIN_DOWN".
holdown	If no BFD packet is received in the specified number of milliseconds, the session will be declared down. An integer from 150-2997.
mult	The number of times a packet is missed before BFD declares the neighbor down. An integer from 3-50.
sess_state	BFD session state (string). Valid values: "UP", "DOWN", "ADMIN_DOWN".
if_name	Interface on which the BFD session is active (string). Note: The interface must exist.
echo_mode	Whether the BFD session has echo mode enabled (string). Valid values: "enabled", "disabled".
gtsm	Whether the BFD session has Generalized TTL Security Mechanism (GTSM) enabled (string). Valid values: "enabled", "disabled".
gtsm_ttl	Displays BFD GTSM Time-To Live (TTL) value. An integer from 1-255.
minTxInt	Rate at which BFD control packets will be sent to BFD neighbors. An integer from 50-999.
minRxInt	Specifies the rate at which BFD control packets will be expected to be received from BFD neighbors. An integer from 50-999.
negotiated minRxInt	Specifies the negotiated rate at which BFD control packets will be received from BFD neighbors. An integer from 50-999.
negotiated multiplier	The number of times a packet is missed before BFD declares the session down. An integer from 3-50.
rx Count	The number of received BFD packets. A positive integer.
tx Count	The number of sent BFD packets. A positive integer.

Parameter	Description
registered protocols	Protocol for which the BFD session is active (string). Valid values: "OSPF", "BGP", "RIB", "BFD", "NWV".
uptime	How long the BFD session has been up. A string in the following format: "HH:MM:SS" .

Get BFD Sessions with the Specified Local Address

Gets BFD sessions with the specified local address.

Request

Method Type	GET
Request URI	/nos/api/info/bfd/loc_addr/<loc_addr>
Request Body (JSON)	

where:

Parameter	Description
<i>loc_addr</i>	The BFD session source IP address (string). A valid IPv4 or IPv6 address.

Response

Response Body (JSON)	[{ "loc_addr": <loc_addr>, "rem_addr": <rem_addr>, "loc_disc": <loc_disc>, "rem_disc": <rem_disc>, "RH/RS": <RH/RS>, "holdown": <holdown>, "mult": <mult>, "sess_state": "<sess_state>", "if_name": <if_name> }]
-------------------------	--

where:

Parameter	Description
<i>loc_addr</i>	BFD session source address (string). A valid IPv4 or IPv6 address.
<i>rem_addr</i>	BFD session destination IP address (string). A valid IPv4 or IPv6 address.
<i>loc_disc</i>	Unique number used by the local system to identify the BFD session. An integer from 1-2147483647.
<i>rem_disc</i>	Unique number used by the remote system to identify the BFD session. An integer from 1-2147483647.
<i>RH/RS</i>	Remote Heard/Remote State (string). Valid values: "UP", "DOWN", "ADMIN_DOWN".

Parameter	Description
holdown	If no BFD packet is received in the specified number of milliseconds, the session will be declared down. An integer from 150-2997.
mult	The number of times a packet is missed before BFD declares the neighbor down. An integer from 3-50.
sess_state	BFD session state (string). Valid values: "UP", "DOWN", "ADMIN_DOWN".
if_name	Interface on which the BFD session is active (string). Note: The interface must exist.

Get BFD Sessions with the Specified Remote Address

Gets BFD sessions with the specified remote address.

Request

Method Type	GET
Request URI	/nos/api/info/bfd/rem_addr/<rem_addr>
Request Body (JSON)	

where:

Parameter	Description
rem_addr	The BFD session destination IP address (string). A valid IPv4 or IPv6 address.

Response

Response Body (JSON)	[{ "loc_addr": <loc_addr>, "rem_addr": <rem_addr>, "loc_disc": <loc_disc>, "rem_disc": <rem_disc>, "RH/RS": <RH/RS>, "holdown": <holdown>, "mult": <mult>, "sess_state": <sess_state>, "if_name": <if_name> }]
-------------------------	--

where:

Parameter	Description
loc_addr	BFD session source address (string). A valid IPv4 or IPv6 address.
rem_addr	BFD session destination IP address (string). A valid IPv4 or IPv6 address.
loc_disc	Unique number used by the local system to identify the BFD session. An integer from 1-2147483647.
rem_disc	Unique number used by the remote system to identify the BFD session. An integer from 1-2147483647.
RH/RS	Remote Heard/Remote State (string). Valid values: "UP", "DOWN", "ADMIN_DOWN".

Parameter	Description
holdown	If no BFD packet is received in the specified number of milliseconds, the session will be declared down. An integer from 150-2997.
mult	The number of times a packet is missed before BFD declares the neighbor down. An integer from 3-50.
sess_state	BFD session state (string). Valid values: "UP", "DOWN", "ADMIN_DOWN".
if_name	Interface on which the BFD session is active (string). Note: The interface must exist.

Change BFD Global Options

Sets or unsets BFD global options.

Request

Method Type	POST
Request URI	/nos/api/cfg/bfd
Request Body (JSON)	[<pre> { "min_tx": <min_tx>, "min_rx" : <min_rx>, "multiplier": <multiplier>, "ai_family" : <ai_family>, "slow_timer" : <slow_timer>, "gtsm_enable" : <gtsm_enable>, "gtsm_ttl" : <gtsm_ttl> }]</pre>

where:

Parameter	Description
min_tx	Desired rate at which BFD will be able to send packets to the BFD neighbors. The string default for the default value, or an integer from 50-999.
min_rx	Desired rate at which BFD will be able to receive packets from the BFD neighbors. The string default for the default value, or an integer from 50-999.
multiplier	Desired number of times a packet can be missed before BFD will declare the neighbor down. The string default for the default value, or an integer from 3-50.
ai_family	The address family (string). Valid values: "ipv4", "ipv6".
slow_timer	(Optional) Desired rate at which BFD will send control packets when the BFD session is down or when the BFD echo feature is enabled, in milliseconds. An integer from 1000-30000.
gtsm_enable	(Optional) Enable or disable GTSM protection (string). Valid values: "true", "false".
gtsm_ttl	(Optional) Sets the desired BFD GTSM TTL. The string default for the default value, or an integer from 1-255.

Note: You must submit values for the parameters `min_tx`, `min_rx`, and `multiplier` in the JSON body for the configuration to be applied. If you do not want to change the BFD options, omit these values from the JSON body.

Response

Response Body (JSON)	
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Change BFD Interface Options

Sets or unsets BFD options for a specified interface.

Request

Method Type	POST
Request URI	/nos/api/cfg/bfd/interface/<if_name>
Request Body (JSON)	<pre>[{ "min_tx": <min_tx>, "min_rx" : <min_rx>, "multiplier": <multiplier>, "ai_family" : <ai_family>, "bfd_ipv4" : <bfd_ipv4>, "bfd_ipv6" : <bfd_ipv6>, "echo_enable" : <echo_enable>, "auth_type" : <auth_type>, "auth_key_id" : <auth_key_id>, "auth_key" : <auth_key>, "auth_key_chain" : <auth_key_chain> }]</pre>

where:

Parameter	Description
<i>if_name</i>	Interface name (string). For example: "Ethernet1%2F1". Note: The interface must exist.
min_tx	(Optional) Desired rate at which BFD will be able to send packets to the BFD neighbors. Either "default" for the default value, or an integer from 50-999.
min_rx	(Optional) Desired rate at which BFD will be able to receive packets from the BFD neighbors. Either "default" for the default value, or an integer from 50-999.
multiplier	(Optional) Desired number of times a packet can be missed before BFD will declare the neighbor down. Either "default" for the default value, or an integer from 3-50.
ai_family	(Optional) The address family (string). Valid values: "ipv4", "ipv6".
bfd_ipv4	(Optional) Enable or disable BFD for all IPv4 BFD sessions that use the named interface (string). Valid values: "true", "false".
bfd_ipv6	(Optional) Enable or disable BFD for all IPv6 BFD sessions that use the named interface (string). Valid values: "true", "false".

Parameter	Description
echo_enable	(Optional) Enable or disable BFD echo feature for all BFD sessions that use the named interface (string). Valid values: "true", "false".
auth_type	(Optional) The authentication for the BFD session (string. Valid values: "simple", "keyed-md5", "keyed-sha1", "keyed-sha256", "meticulous-keyed-md5", "meticulous-keyed-sha1", "meticulous-keyed-sha256", "none".
auth_key_chain	(Optional) Sets the authentication with key chain. A string (key chain name). Note: This value applies to all single-hop BFD sessions that use the named interface. If present in the JSON body, both auth_key_id and auth_key must be absent.
auth_key_id	(Optional) Sets the authentication key ID. An integer from 0-255. Note: This value applies to all single-hop BFD sessions that use the named interface. If present in the JSON body, auth_key_id must also be present and auth_key_chain must be absent.
auth_key	(Optional) Sets the authentication key (string). Note: This value applies to all single-hop BFD sessions that use the named interface. If present in the JSON body, both auth_key_id and auth_key must be absent.

Note: You must submit values for the parameters `min_tx`, `min_rx`, and `multiplier` in the JSON body for the configuration to be applied. If you do not want to change the BFD options, omit these values from the JSON body.

Response

Response Body (JSON)	
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Create a New BFD Session

Creates a new BFD session.

Request

Method Type	POST
Request URI	/nos/api/cfg/bfd/interface/<if_name>/neighbors
Request Body (JSON)	<pre>{ "loc_addr" : <loc_addr>, "rem_addr" : <rem_addr>, "multihop" : <multihop> "admin_down" : <admin_down> "non_persistent" : <non_persistent> }</pre>

where:

Parameter	Description
<i>if_name</i>	Interface on which the BFD session is active (string). A valid IPv4 or IPv6 address. For example: "Ethernet1%2F1". Note: The interface must exist.
local_addr	BFD session source IP address. A valid IPv4 or IPv6 address.
rem_addr	BFD session destination IP address. A valid IPv4 or IPv6 address.
multihop	Sets BFD session type: singlehop or multihop (string). Valid values: "true", "false".
admin_down	(Optional) Set the BFD session state (string). Valid values: "true" for down, "false" for up. Default value: "false".
non_persistent	(Optional) Create the BFD session as non-persistent (string). Valid values: "true" for down, "false" for up. Default value: "false".

Response

Response Body (JSON)	
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Delete a BFD Session

Deletes an existing BFD session

Request

Method Type	DELETE
Request URI	/nos/api/cfg/bfd/interface/<if_name>/neighbors/<loc_disc>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	Interface on which the BFD session is active (string). For example: "Ethernet1%2F1". Note: The interface must exist.
<i>loc_disc</i>	Unique number used by the local system to identify the BFD session (integer).

Response

True if the operation succeeded; otherwise False.

Set or Unset BFD Multihop Session Options

Sets or unsets BFD multihop session options

Request

Method Type	POST
Request URI	/nos/api/cfg/bfd/multihop_peer/<rem_addr>
Request Body (JSON)	<pre>{ "min_tx": <min_tx>, "min_rx" : <min_rx>, "multiplier": <multiplier>, "auth_type" : <auth_type>, "auth_key_id" : <auth_key_id>, "auth_key" : <auth_key>, "auth_key_chain" : <auth_key_chain> }</pre>

where:

Parameter	Description
<i>rem_addr</i>	The IP address of the BFD neighbor (string). A valid IPv4 or IPv6 address.
<i>min_tx</i>	Desired rate at which BFD will be able to send packets to the BFD neighbors. Either "default" for the default value, or an integer from 50-999.
<i>min_rx</i>	Desired rate at which BFD will be able to receive packets from the BFD neighbors. Either "default" for the default value, or an integer from 50-999.
<i>multiplier</i>	Desired number of times a packet can be missed before BFD will declare the neighbor down. Either "default" for the default value, or an integer from 3-50.
<i>auth_type</i>	The authentication for the BFD session (string). Valid values: "simple", "keyed-md5", "keyed-sha1", "keyed-sha256", "meticulous-keyed-md5", "meticulous-keyed-sha1", "meticulous-keyed-sha256", "none".
<i>auth_key_id</i>	Sets the authentication key ID. An integer from 0-255. Note: This value applies to all single-hop BFD sessions that use the named interface. If this value is present in the JSON body, <i>auth_key</i> must be present and <i>auth_key_chain</i> must be absent.
<i>auth_key</i>	Sets the authentication key string (string). Note: This value applies to all single-hop BFD sessions that use the named interface. If present in the JSON body, <i>auth_key_id</i> must also be present and <i>auth_key_chain</i> must be absent.

Parameter	Description
auth_key_chain	<p>Sets the authentication with key chain. A string (key chain name).</p> <p>Note: This value applies to all single-hop BFD sessions that use the named interface. If present in the JSON body, both auth_key_id and auth_key must be absent.</p>

Response

Response Body (JSON)	
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BGP

The following BGP URIs are available:

• /nos/api/info/bgp/global/stats/<vrf_name>	GET, DEL
• /nos/api/info/bgp/neighbor/adj_rib_in	GET
• /nos/api/info/bgp/neighbor/adj_rib_out	GET
• /nos/api/cfg/bgp/global	GET, PUT, DEL
• /nos/api/cfg/bgp/bestpath	GET, PUT
• /nos/api/cfg/bgp/confed	GET,
• /nos/api/cfg/bgp/graceful-restart	GET
• /nos/api/cfg/bgp/route-reflector/<vrf_name>/	GET
• /nos/api/info/bgp/global/rib	GET
• /nos/api/info/bgp/global/rib/details/l2vpn/	GET
• /nos/api/info/bgp/global/rib/network	GET
• /nos/api/info/bgp/neighbor/summary	GET
• /nos/api/info/bgp/neighbor/details/	GET
• /nos/api/info/bgp/neighbor/stats	GET
• /nos/api/cfg/bgp/distance/	GET, PUT
• /nos/api/cfg/bgp/af/maximum_paths	GET
• /nos/api/cfg/bgp/af/nht_delay	GET
• /nos/api/cfg/bgp/af/aggregate	GET,
• /nos/api/cfg/bgp/af/dampening	GET, PUT
• /nos/api/info/bgp/dampening/dampened_path	GET
• /nos/api/cfg/bgp/af/network	GET
• /nos/api/cfg/bgp/af/redistribute	GET, PUT
• /nos/api/cfg/bgp/neighbor/details	GET, PUT, DEL
• /nos/api/cfg/bgp/unnumbered	GET, PUT
• /nos/api/cfg/interface/bgp_unnumbered/<if_name>	PUT

The following BGP commands are available:

- [Get BGP Global Statistics](#)
- [Clear BGP Global Statistics](#)
- [Get BGP Neighbor Received RIB Information](#)
- [Get BGP Neighbor RIB Advertised Information](#)
- [Get BGP Global Configuration](#)

- Set BGP Global Configuration
- Delete BGP Router ID
- Get BGP Best Path Configuration
- Set BGP Best Path Configuration
- Get BGP Confederation Configuration
- Get BGP Graceful-Restart Configuration
- Get BGP Route Reflector Information
- Get BGP RIB Information
- Get BGP RIB Information for EVPN Routes
- Get BGP Detailed RIB Information
- Get BGP Summary Information
- Get BGP Neighbor Details
- Get BGP Neighbor Statistics
- Get BGP Distance Configuration
- Set BGP Distance Configuration
- Get BGP Multipath ECMP Numbers Configuration
- Get BGP Nexthop Trigger-Delay Configuration
- Get BGP Aggregate Configuration
- Get BGP Dampening Parameters Configuration
- Set BGP Dampening Parameters Configuration
- Get BGP Dampened Path Configuration
- Get BGP Network Configuration
- Get BGP Redistribute Configuration
- Set BGP Redistribute Configuration
- Get BGP Neighbor Configuration
- Set BGP Neighbor Configuration
- Delete BGP Neighbor Configuration
- Set BGP Neighbor Configuration
- Delete BGP Neighbor Configuration
- Get Global BGP Unnumbered Configuration
- Update Global BGP Unnumbered Configuration
- Update BGP Unnumbered Interface Configuration

Get BGP Global Statistics

Gets global BGP statistics.

Request

Method Type	GET
Request URI	/nos/api/info/bgp/global/stats/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>vrf_name</i>	(Optional) Virtual Routing and Forwarding name (string). Valid values: the VRF name, "default," "all".

Response

Response Body (JSON)	<pre>[{ "vrf_name":<vrf_name>, "stats": { "in_msgs": <in_msgs>, "out_msgs ": <sent_msg>, "bytes_in": <bytes_in>, "bytes_out": <bytes_out>, "open_in ": <open_in>, "open_out": <open_out>, "update_in": <update_in>, "update_out": <update_out>, "keepalive_in": <keepalive_in>, "keepalive_out": <keepalive_out>, "notify_in": <notify_in>, "notify_out": <notify_out>, "refresh_in": <refresh_in>, "refresh_out": <refresh_out>, "dynamic_cap_in": <dynamic_cap_in>, "dynamic_cap_out": <dynamic_cap_out>, } }]</pre>
-------------------------	--

where:

Parameter	Description
<i>vrf_name</i>	VRF name (string).
<i>in_msgs</i>	Received message number. A positive integer.
<i>out_msgs</i>	Send message number. A positive integer.

Parameter	Description
bytes_in	Bytes received. A positive integer.
bytes_out	Bytes sent. A positive integer.
open_in	Open message input count. A positive integer.
open_out	Open message output count. A positive integer.
update_in	Update message input count. A positive integer.
update_out	Update message output count. A positive integer.
keepalive_in	Keepalive input count. A positive integer.
keepalive_out	Keepalive output count. A positive integer.
notify_in	Notify input count. A positive integer.
notify_out	Notify output count. A positive integer.
refresh_in	Route Refresh input count. A positive integer.
refresh_out	Route Refresh output count. A positive integer.
dynamic_cap_in	Dynamic Capability input count. A positive integer.
dynamic_cap_out	Dynamic Capability output count. A positive integer.

Clear BGP Global Statistics

Clears global BGP statistics.

Request

Method Type	DELETE
Request URI	/nos/api/info/bgp/global/stats/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>vrf_name</i>	(Optional) Virtual Routing and Forwarding name (string). Valid values: the VRF name, "default," "all".

Response

Response Body (JSON)	
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Get BGP Neighbor Received RIB Information

Gets the BGP neighbor received Routing Information Base information.

Request

Method Type	GET
Request URI	/nos/api/info/bgp/neighbor/adj_rib_in/<neighbor_ip>/<af_name>/<vrf_name>/<subaf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>neighbor_ip</i>	Neighbor IP address. A valid IPv4 or IPv6 address.
<i>vrf_name</i>	(Optional) VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".
<i>af_name</i>	(Optional) Address family name (string). Valid values: "ipv4" or "ipv6". Default value: "ipv4".
<i>subaf_name</i>	(Optional) Subaddress family name (string). Valid values: "unicast", "multicast". Default value: "unicast".

Response

Response Body (JSON)	<pre>[{ "routes": [{ "origin": "<origin>", "network": "<network>", "mask_len": "<mask_len>", "weight": "<attr_weight>", "Metric": "<metric>", "nexthop": "<nexthop>", "aspath4B": "<aspath4B>", "status": "<falg>", "local_pref": "<local_pref>", "aspath": "<aspath>", }] }]</pre>
-------------------------	---

where:

Parameter	Description
origin	Route origin attribute (string). Valid values: <ul style="list-style-type: none"> ● "i" - IGP ● "e" - EGP ● "?" - incomplete
network	Route destination IP address (string). A valid IPv4 or IPv6 address.
mask_len	Route mask length. An integer from 0-32.
weight	Route weight attribute. An integer from 0-65535.
metric	Route Multi-Exit Discriminator attribute. An integer from 0-4294967295.
nexthop	Route next hop (string). A valid IP address.
aspath4B	Route 4B AS path. An AS path VTY string.
status	Router status (string). Valid values: <ul style="list-style-type: none"> ● "s" - suppressed ● "d" - damped ● "h" - history ● "*" - valid ● ">" - best ● "i" - internal
local_pref	Route local preference attribute. An integer from 0-4294967295.
aspath	Route AS path attribute. An AS path VTY string.

Get BGP Neighbor RIB Advertised Information

Gets information about the advertised BGP neighbor Routing Information Base.

Request

Method Type	GET
Request URI	/nos/api/info/bgp/neighbor/adj_rib_out/<neighbor>/<af_name>/<vrf_name>/<subaf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>neighbor</i>	Neighbor IP address (string). A valid IPv4 or IPv6 address.
<i>af_name</i>	(Optional) Address family name (string). Valid values: "ipv4", "ipv6". Default value: "ipv4".
<i>vrf_name</i>	(Optional) VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".
<i>subaf_name</i>	(Optional) Subaddress family name (string). Valid values: "unicast", "multicast". Default value: "unicast".

Response

Response Body (JSON)	<pre>[{ "routes": [{ "origin": <origin>, "network": <prefix_addr>, "mask_len": <mask_len>, "weight": <weight>, "Metric": <metric>, "nexthop": <nexthop>, "aspath4B": <aspath4B>, "status": <status>, "local_pref": <local_pref>, "aspath": <aspath>, }] }]</pre>
-------------------------	--

where:

Parameter	Description
origin	Route origin attribute (string). Valid values: <ul style="list-style-type: none"> ● "i" - IGP ● "e" - EGP ● "?" - incomplete
network	Route destination IP address (string). A valid IPv4 or IPv6 address.
mask_len	Route mask length. An integer from 0-32.
weight	Route weight attribute. An integer from 0-65535.
metric	Route med attribute. An integer from 0-4294967295.
nexthop	Route nexthop address (string). A valid IPv4 or IPv6 address.
aspath4B	Route 4B AS path. An AS path VTY string.
status	Router status (string). Valid values: <ul style="list-style-type: none"> ● "s" - suppressed ● "d" - damped ● "h" - history ● "*" - valid ● ">" - best ● "i" - internal
local_pref	Route local preference attribute. An integer from 0-4294967295.
aspath	Route AS path attribute. A valid AS path VTY string.

Get BGP Global Configuration

Gets the BGP global configuration.

Request

Method Type	GET
Request URI	/nos/api/cfg/bgp/global/<vrf_name>/
Request Body (JSON)	

where:

Parameter	Description
<i>vrf_name</i>	(Optional) VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".

Response

Response Body (JSON)	<pre>[{ "vrf_name": <vrf_name>, "status": <status>, "router_id": <router_id>, "as_number": <as_number>, "keep-alive timer": <keep-alive timer>, "hold-down timer": <hold-down timer>, "as-local-count ": <as-local-count>, "enforce-first-as ": <enforce-first-as>, "fast-external-failover ": <fast-external-failover>, "log-neighbor-changes ": <log-neighbor-changes>, "maxas-limit ": <maxas-limit>, "synchronization ": <synchronization> }]</pre>
-------------------------	---

where:

Parameter	Description
<i>vrf_name</i>	VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".
<i>status</i>	BGP global status (string). Valid values: "disable", "enable".
<i>router_id</i>	BGP router ID (string). A valid IPv4 or IPv6 address.
<i>as_number</i>	BGP AS number. An integer from 1-4294967295.
<i>keep-alive timer</i>	Keep alive interval, in seconds. An integer from 0-3600.

Parameter	Description
hold-down timer	Hold time, in seconds. An integer from 0-3600.
as-local-count	Number of times the local AS is to be prepended. An integer from 1-64.
enforce-first-as	Enforce the first AS for EBGp routes (string). Valid values: "disable", "enable".
fast-external-failover	Immediately reset session if a link to a directly connected external peer goes down (string). Valid values: "disable", "enable".
log-neighbor-changes	Log reasons for neighbor going up, down, and resetting (string). Valid values: "disable", "enable".
maxas-limit	Allow the AS-PATH attribute from EBGp neighbor to impose a limit on the number of ASes. An integer from 0-2000.
synchronization	Perform IGP synchronization (string). Valid values: "disable", "enable".

Set BGP Global Configuration

Sets the BGP global configuration.

Request

Method Type	PUT
Request URI	/nos/api/cfg/bgp/global/<vrf_name>/
Request Body (JSON)	<pre>{ "status": <status>, "router_id": <router_id>, "as_number": <as_number>, "keep-alive timer": <keep-alive timer>, "hold-down timer": <hold-down timer>, "enforce-first-as ": <enforce-first-as>, "fast-external-failover ": <fast-external-failover>, "log-neighbor-changes ": <log-neighbor-changes>, "as-local-count ": <as-local-count>, "maxas-limit ": <maxas-limit>, "synchronization ": <synchronization> }</pre>

where:

Parameter	Description
<i>vrf_name</i>	(Optional) VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".
status	BGP global status (string). Valid values: "disable", "enable".
router_id	BGP route ID (string). A valid IPv4 or IPv6 address.
as_number	BGP AS number. An integer from 1-4294967295.
keep-alive timer	Keep alive interval, in seconds. An integer from 0-3600.
hold-down timer	Hold time, in seconds. An integer from 0-3600.
enforce-first-as	Enforce the first AS for EBGp routes (string). Valid values: "disable", "enable".
fast-external-failover	Immediately reset session if a link to a directly connected external peer goes down (string). Valid values: "disable", "enable".
log-neighbor-changes	Log reasons for neighbor going up, down, and resetting (string). Valid values: "disable", "enable".
as-local-count	Number of times the local AS is to be prepended. An integer from 1-64.

Parameter	Description
maxas-limit	Allow the AS-PATH attribute from EBGp neighbor to impose a limit on the number of ASes. An integer from 0-2000.
synchronization	Perform IGP synchronization (string). Valid values: "disable", "enable".

Response

Response Body (JSON)	<pre>{ "vrf_name": <vrf_name>, "status": <status>, "router_id": <router_id>, "as_number": <as_number>, "keep-alive timer": <keep-alive timer>, "hold-down timer": <hold-down timer>, "enforce-first-as ": <enforce-first-as>, "fast-external-failover ": <fast-external-failover>, "log-neighbor-changes ": <log-neighbor-changes>, "as-local-count ": <as-local-count>, "maxas-limit ": <maxas-limit>, "synchronization ": <synchronization> }</pre>
-------------------------	---

where:

Parameter	Description
vrf_name	VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".
status	BGP global status (string). Valid values: "disable", "enable".
router_id	BGP route ID (string). A valid IPv4 or IPv6 address.
as_number	BGP AS number. An integer from 1-4294967295.
keep_alive_timer	Keep alive interval, in seconds. An integer from 0-3600.
hold_down_timer	Hold time, in seconds. An integer from 0-3600.
enforce_first_as	Enforce the first AS for EBGp routes (string). Valid values: "disable", "enable".
fast_external_failover	Immediately reset session if a link to a directly connected external peer goes down (string). Valid values: "disable", "enable".
log_neighbor_changes	Log reasons for neighbor going up, down, and resetting (string). Valid values: "disable", "enable".
as_local_count	Number of times the local AS is to be prepended. An integer from 1-64.

Parameter	Description
maxas_limit	Allow the AS-PATH attribute from EBGP neighbor to impose a limit on the number of ASes. An integer from 0-2000.
synchronization	Perform IGP synchronization (string). Valid values: "disable", "enable".

Delete BGP Router ID

Deletes the BGP AS number.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/bgp/global/<asn>/<vrf_name>/
Request Body (JSON)	

where:

Parameter	Description
<i>asn</i>	The BGP router AS number. A string from 0-4294967295.
<i>vrf_name</i>	(Optional) VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".

Response

Response Body (JSON)	
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Get BGP Best Path Configuration

Gets the BGP best path configuration.

Request

Method Type	GET
Request URI	/nos/api/cfg/bgp/bestpath/<vrf_name>/
Request Body (JSON)	

where:

Parameter	Description
<i>vrf_name</i>	(Optional) VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".

Response

Response Body (JSON)	<pre>[{ "vrf_name": <vrf_name>, "always-compare-med ": <always-compare-med>, "as-path-ignore":<as-path-ignore>, "as-path-multipath-relax": <as-path-multipath-relax>, "compare-confed-aspath": <compare-confed-aspath>, "compare-routerid ": <compare-routerid>, "dont-compare-originator-id": <dont-compare-originator-id>, "med-confed ": <med-confed>, "med-missing-as-worst": <med-missing-as-worst>, "med-non-deterministic": <med-non-deterministic>, "med-remove-recv-med ": <med-remove-recv-med>, "med-remove-send-med ": <med-remove-send-med>, "tie-break-on-age": <tie-break-on-age> }]</pre>
-------------------------	---

where:

Parameter	Description
<i>vrf_name</i>	VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".
<i>always-compare-med</i>	Allow comparing MED from different neighbors (string). Valid values: "enable", "disable".
<i>as-path-ignore</i>	Ignore as-path length in selecting a route (string). Valid values: "enable", "disable".

Parameter	Description
as-path multipath-relax	Relax AS-Path restriction when choosing multipaths (string). Valid values: "enable", "disable".
compare-confed-as path	Allow comparing confederation AS path length (string). Valid values: "enable", "disable".
compare-routerid	Compare router IDs for identical EBGp paths (string). Valid values: "enable", "disable".
dont-compare- originator-id	Don't compare originator IDs for BGP (string). Valid values: "enable", "disable".
med-confed	Compare MED among confederation paths (string). Valid values: "enable", "disable".
med-missing- as-worst	Treat missing MED as the least preferred one (string). Valid values: "enable", "disable".
med-non- deterministic	Best MED path among paths not selected from same AS (string). Valid values: "enable", "disable".
med-remove- recv-med	Whether to remove received MED attribute (string). Valid values: "enable", "disable".
med-remove- send-med	Whether to remove send MED attribute (string). Valid values: "enable", "disable".
tie-break-on-age	Whether to prefer the old route when compare-route-id is not set (string). Valid values: "enable", "disable".

Set BGP Best Path Configuration

Updates the BGP best path configuration.

Request

Method Type	PUT
Request URI	/nos/api/cfg/bgp/bestpath/<vrf_name>/
Request Body (JSON)	<pre>{ "always-compare-med" :<always_compare_med>, "compare-routeid": <compare_routeid>, "as-path-ignore": <as_path_ignore>, "tie-break-on-age": <tie_break_on_age> "compare-confed-aspath": <compare_confed_aspath>, "dont-compare-originator-id": <dont_compare_originator_id>, "med-confed": <med_confed>, "med-missing-as-worst": <med_missing_as_worst>, "med-remote-recv-med": <med_remote_recv_med>, "med-remote-send-med": <med_remote_send_med>, "as-path multipath-relax": <as_path_multipath_relax>, "med-non-deterministic": <med_non_deterministic> }</pre>

where:

Parameter	Description
<i>vrf_name</i>	(Optional) VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".
always_compare_med	Allow comparing MED from different neighbors (string). Valid values: "enable", "disable".
compare_routeid	Compare route IDs for identical EBGp paths (string). Valid values: "enable", "disable".
as_path_ignore	Ignore as-path length in selecting a route (string). Valid values: "enable", "disable".
tie_break_on_age	Whether to prefer the old route when "compare-route-id" is not set (string). Valid values: "enable", "disable".
compare_confed_aspath	Allow comparing confederation AS path length (string). Valid values: "enable", "disable".
dont_compare_originator_id	Don't compare originator IDs for BGP (string). Valid values: "enable", "disable".
med_confed	Compare MED among confederation paths (string). Valid values: "enable", "disable".
med_missing_as_worst	Treat missing MED as the least preferred one (string). Valid values: "enable", "disable".

Parameter	Description
med_remove_recv_med	Whether to remove received MED attribute (string). Valid values: "enable", "disable".
med_remove_send_med	Whether to remove send MED attribute (string). Valid values: "enable", "disable".
as_path_multipath_relax	Relax AS-Path restriction when choosing multipaths (string). Valid values: "enable", "disable".
med_non_deterministic	Best MED path among paths not selected from same AS (string). Valid values: "enable", "disable".

Response

Response Body (JSON)	<pre>{ "always-compare-med" :<always_compare_med>, "compare-routeid": <compare_routeid>, "as-path-ignore": <as_path_ignore>, "tie-break-on-age": <tie_break_on_age> "compare-confed-aspath": <compare_confed_aspath>, "dont-compare-originator-id": <dont_compare_originator_id>, "med-confed": <med_confed>, "med-missing-as-worst": <med_missing_as_worst>, "med-remote-recv_med": <med_remote_recv_med>, "med-remote-send-med": <med_remote_send_med>, "as-path multipath-relax": <as_path_multipath_relax>, "med-non-deterministic": <med_non_deterministic> }</pre>
-------------------------	--

where:

Parameter	Description
always_compare_med	Allow comparing MED from different neighbors (string). Valid values: "enable", "disable".
compare_routeid	Compare route IDs for identical EBGp paths (string). Valid values: "enable", "disable".
as_path_ignore	Ignore as-path length in selecting a route (string). Valid values: "enable", "disable".
tie_break_on_age	Whether to prefer the old route when "compare-route-id" is not set (string). Valid values: "enable", "disable".
compare_confed_aspath	Allow comparing confederation AS path length (string). Valid values: "enable", "disable".
dont_compare_originator_id	Don't compare originator IDs for BGP (string). Valid values: "enable", "disable".
med_confed	Compare MED among confederation paths (string). Valid values: "enable", "disable".

Parameter	Description
med_missing_ as_worst	Treat missing MED as the least preferred one (string). Valid values: "enable", "disable".
med_remove_ recv_med	Whether to remove received MED attribute (string). Valid values: "enable", "disable".
med_remove_ send_med	Whether to remove send MED attribute (string). Valid values: "enable", "disable".
as_path_ multipath_relax	Relax AS-Path restriction when choosing multipaths (string). Valid values: "enable", "disable".
med_non_ deterministic	Best MED path among paths not selected from same AS (string). Valid values: "enable", "disable".

Get BGP Confederation Configuration

Gets the BGP confederation configuration.

Request

Method Type	GET
Request URI	/nos/api/cfg/bgp/confed/<vrf_name>/
Request Body (JSON)	

where:

Parameter	Description
<i>vrf_name</i>	(Optional) VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".

Response

Response Body (JSON)	[{ "vrf_name": <vrf_name>, "identifier ": <identifier>, "peers": <peers>, }]
-------------------------	--

where:

Parameter	Description
<i>vrf_name</i>	VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".
<i>identifier</i>	Routing domain confederation AS. An integer from 0-65535.
<i>peers</i>	Peer ASes in BGP confederation. An integer from 1-65535.

Get BGP Graceful-Restart Configuration

Gets the BGP graceful-restart configuration.

Request

Method Type	GET
Request URI	/nos/api/cfg/bgp/graceful-restart/<vrf_name>/
Request Body (JSON)	

where:

Parameter	Description
<i>vrf_name</i>	(Optional) VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".

Response

Response Body (JSON)	[{ "vrf_name": <vrf_name>, "stalepath-time ": <stalepath-time>, "helper-status": <helper-status>, }]
-------------------------	--

where:

Parameter	Description
<i>vrf_name</i>	VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".
<i>stalepath-time</i>	The delay value, in seconds, to remove routes marked as stale. An integer from 1-3600.
<i>helper-status</i>	Status of Graceful Restart Helper Mode functionality (string). Valid values: "enabled", "disabled".

Get BGP Route Reflector Information

Gets BGP route reflector information.

Request

Method Type	GET
Request URI	/nos/api/cfg/bgp/route-reflector/<vrf_name>/
Request Body (JSON)	

where:

Parameter	Description
<i>vrf_name</i>	(Optional) VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".

Response

Response Body (JSON)	[{ "vrf_name": <vrf_name>, "cluster-id ": <cluster-id>, }]
-------------------------	---

where:

Parameter	Description
<i>vrf_name</i>	VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".
<i>cluster-id</i>	Route reflector cluster ID (string). A valid IP address.

Get BGP RIB Information

Gets BGP Routing Information Base Information.

Request

Method Type	GET
Request URI	/nos/api/info/bgp/global/rib/<af_name>/<vrf_name>/
Request Body (JSON)	

where:

Parameter	Description
<i>af_name</i>	(Optional) Address family name (string). Valid values: "ipv4", "ipv6", "l2vpn".
<i>vrf_name</i>	(Optional) VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".

Response

Response Body (JSON)	[{ "status": <status code>, "network": <network>, "nextHopGlobal": <global next-hop>, "nextHopLocal": <local next-hop>, "Metric": <metric>, "local_pref": <local preference>, "weight": <weight>, "pathInfo": <path information>, "medvalue": <med value>, "med": <med>, "aspath": <as path string>, "aspath4B": <4B as path string>, "origin": <route origin> },]
-------------------------	--

where:

Parameter	Description
status	Router status code (string). Valid values: <ul style="list-style-type: none">● "s" - suppressed● "d" - damped● "h" - history● "*" - valid● ">" - best● "i" - internal

Parameter	Description
network	Route destination IP address. A valid IPv4 or IPv6 address. For l2vpn: <ul style="list-style-type: none"> • EVPN type-1 prefix: "[1]:[ESI]:[EthTag]" • EVPN type-2 prefix: "[2]:[ESI]:[EthTag]:[MAClen]:[MAC]" • EVPN type-3 prefix: "[3]:[EthTag]:[IPlen]:[OrigIP] " • EVPN type-5 prefix: "[5]:[EthTag]:[IPlen]:[IPPrefix]"
nextHopGlobal	Route nexthop IPv6 address. Not used for IPv4.
nextHopLocal	Route nexthop. A valid IPv4 or IPv6 address.
weight	Route weight attribute. An integer from 0-65535.
pathInfo	Route path information. A valid AS path VTY string.
medvalue	Multi-exit discriminator value if the MED attribute is missing and missing-as-worst is set. An integer from 0-4294967294.
med	Multi-exit discriminator value. An integer from 0-4294967294.
aspath	Route AS path attribute. A valid AS path VTY string.
aspath4B	Route 4B AS path. A valid AS path VTY string.
origin	Route origin attribute (string). Valid values: <ul style="list-style-type: none"> • "i" - IGP • "e" - EGP • "?" - incomplete

Get BGP RIB Information for EVPN Routes

Gets BGP Routing Information Base Information.

Request

Method Type	GET
Request URI	nos/api/info/bgp/global/rib/details/l2vpn/<keyword>/<value>/<vni>/<rd>
Request Body (JSON)	

where:

Parameter	Description
<i>keyword</i>	A string describing the route type (string). Valid values: "esi", "mac".
<i>value</i>	A MAC or Ethernet segment ID. A string in the following format: "EEEE . EEEE . EEEE/ESI".
<i>vni</i>	(Optional) The virtual network identifier; an integer from 1 -16777216.
<i>rd</i>	(Optional) The route distinguisher. A string in the following format: "IP_address:nn".

Response

Response Body (JSON)	<pre>[{ "table entry for":<prefix> "paths":<count> "best":<prefix> "no advertise":<prefix> " no export":<prefix> " local as":<prefix> " suppress":<prefix> "adv non peer-group":<non_peer_group> "adv peer-group":<peer_group> "no peer adv":<peer_no_val> { "as path str":<as_path_str> "aggregator as":<aggregator_as> "aggregator as4":<aggregator_as4> "aggregator address":<aggregator_addr> "Rec from RR-client":<af_flag> "suppressed (damp)":<rt_state_is_damp> "history entry":<rt_state_is_history> " nexthop address":<nexthop> "peer":<peer> "inaccessible":<flag> "igpmetric":<igpmetric> "from peer":<peer_su_str> "orig id":<org_id> "next-hop local ip":<nexthop_local_ipv6> "metric removed":<metric_removed> "local pref":<local_pref> "weight":<weight> "label":<label> "valid":<valid> "stale":<stale> "multipath-candidate":<flag_misc> "installed":<flag_misc> "synchronized":<flag_misc> "atomic aggregate":<flags_atomic_agg> "best":<flag> "community":<community> "extended community":<ecommunity> "originator":<originator_id> "cluster id":<cluster_id> "reuse info":<reuse_info> "last update":<curr_time> } },]</pre>
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where:

Parameter	Description
table entry for	Route IP address/mask (string). A valid IP address and net mask.
paths	The number of paths to destination.
best	Whether this is the best path (string). Valid values: "Yes", "No".

Parameter	Description
no advertise	Not advertised to any peers (string). Valid values: "Yes", "No".
no export	Not advertised to EBGp peers (string). Valid values: "Yes", "No".
local as	The local AS number. An integer from 1-4294967295.
suppress	Whether advertisements are suppressed by an aggregate (string). Valid values: "Yes", "No".
adv non peer-group	The non-peer group name (string).
adv peer-group	The peer group name (string).
no peer adv	Not advertised to any peer (string). Valid values: "Yes", "No".
as path str	Route AS path attribute. A valid AS path VTY string.
aggregator as	Aggregator AS number.
aggregator as4	Aggregator 4-byte AS number.
aggregator address	Aggregator address.
rec from RR-client	Received from RR-client (string). Valid values: "Yes", "No".
suppressed (damp)	Suppressed due to dampening (string). Valid values: "Yes", "No".
history entry	History entry; one of Yes, No.
nexthop address	Route nexthop (string). A valid IP address.
peer	Peer address (string).
inaccessible	Whether the RIB is can be accessed (string). Valid values: "Yes", "No".
igpmetric	IGP metric value (string). Valid value: "No".
from peer	The peer address.
orig id	The originator ID (string). Valid value: "No".
next-hop local ip	The nexthop IP address. A valid IP address.
metric removed	Whether the metric is removed (string). Valid values: "Yes", "No".

Parameter	Description
local pref	Local preference value (integer).
weight	Route weight attribute. An integer from 0-65535.
label	The label (integer).
valid	Whether the path is valid (string). Valid values: "Yes", "No".
stale	Whether the state is stale (string). Valid values: "Yes", "No".
multipath-candidate	Whether this is a multipath candidate (string). Valid values: "Yes", "No".
installed	Whether installed (string). Valid values: "Yes", "No".
synchronized	Whether synchronized (string). Valid values: "Yes", "No".
atomic aggregate	Whether this is as atomic aggregate (string). Valid values: "Yes", "No".
best	Whether this is the best path (string). Valid values: "Yes", "No".
community	The community string.
extended community	The extended community string.
originator	Originator ID.
cluster id	Cluster ID.
reuse info	Reuse information.
last update	Last update time.

Get BGP Detailed RIB Information

Gets detailed BGP Routing Information Base information.

Request

Method Type	GET
Request URI	/nos/api/info/bgp/global/rib/network/<afi>/<ip_addr>/<mask>/<vrf_name>/
Request Body (JSON)	

where:

Parameter	Description
<i>afi</i>	The address family name (string). Valid values: "ipv4", "ipv6".
<i>ip_addr</i>	The IP address (string). A valid IPv4 or IPv6 address.
<i>mask</i>	(Optional) Network mask: <ul style="list-style-type: none">• IPv4: An integer from 0-32• IPv6: An integer from 0-128
<i>vrf_name</i>	(Optional) VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".

Response

Response Body (JSON)	<pre> { "table entry for:": <table_entry_for>, "best": <best>, "advertised?": <advertised>, "adv EBGP": <adv_ebgp>, "adv out locAS": <adv_out_locas>, "agg suppress": <agg_suppress>, "adv non peer-group": <adv_non_peer_group>, "adv peer-groups": <adv_peer_groups>, "not adv?": <not_adv>, "paths": { "as path str": <as_path_str>, "aggregator as": <aggregator_as>, "aggregator as4": <aggregator_as4>, "aggregator address": <aggregator_address>, "Rec from RR-client": <rec_from_rr_client>, "suppressed (damp)": <suppressed>, "history entry": <history_entry>, "nexthop address": <nexthop_address>, "peer": <peer>, "inaccessible": <inaccessible>, "igpmetric": <igpmetric>, "from peer": <from_peer>, "orig id": <orig_id>, "next-hop local ip": <next_hop_local_ip>, "origin": <origin>, "metric": <metric>, "local pref": <local_pref>, "weight": <weight>, "label": <label>, "valid": <valid>, "stale": <stale>, "type": <type>, "multipath-candidate": <multipath_candidate>, "installed": <installed>, "synchronized": <synchronized>, "atomic aggregate": <atomic_aggregate>, "community": <community>, "extended community": <extended_community>, "originator": <originator>, "cluster-id": <cluster_id>, "reuse info": <reuse_info>, "last update": <last_update> } } </pre>
-------------------------	--

where:

Parameter	Description
table_entry_for	Route IP address/mask (string). A valid IP address and net mask.
best	Whether this is the best path (string). Valid values: "Yes", "No".
advertised	Whether this is advertised to any peers (string). Valid values: "Yes", "No".

Parameter	Description
adv_ebgp	Whether this is advertised outside to an EBGp peer (string). Valid values: "Yes", "No".
adv_out_locas	Whether the route is advertised outside the local AS (string). Valid values: "Yes", "No".
agg_suppress	Whether advertisements are suppressed by an aggregate (string). Valid values: "Yes", "No".
adv_non_peer_group	IP address advertised to non peer-group peers (string).
adv_peer_groups	IP address advertised to peer groups (string).
not_adv	Not advertised to any peer (string). Note: This value only appears if "true".
paths	Dictionary that marks the beginning of path table for specific route entry.
as_path_str	Route path information (string). A valid AS path VTY string.
aggregator_as	Aggregator AS number. A positive integer.
aggregator_as4	Aggregator 4-byte AS number. A positive integer.
aggregator_address	Aggregator address (string). A valid IP address.
rec_from_rr_client	Received from route-reflector client (string). Valid value: "Yes". Note: This value only appears if it has been set.
suppressed	Suppressed due to dampening (string). Valid value: "Yes". Note: This value only appears if it has been set.
history_entry	History entry (string). Valid value: "Yes". Note: This value only appears if it has been set.
nexthop_address	Route nexthop (string). A valid IPv4 or IPv6 address.
peer	Peer address (string). A valid IP address.
inaccessible	Whether the RIB is can be accessed (string). Valid values: "Yes", "No".
igpmetric	IGP metric value (string). Valid value: "No". Note: This value only appears if it is "No".
from_peer	Whether the from peer address can be accessed (string). Valid value: "No". Note: This value only appears if it is "No".

Parameter	Description
orig_id	Whether the originator ID can be accessed (string). Valid value: "No". Note: This value only appears if it is "No".
next_hop_local_ip	Whether the next-hop IP address can be accessed (string). A valid IP address or "No". Note: The value "No" only appears if it is inaccessible.
origin	Origin protocol. A string up to 25 characters long.
metric	Metric (string). Valid values: one of the metric values or "removed".
local_pref	Local preference value. Only appears if set. A positive integer.
weight	Route weight attribute. An integer from 0-65535. Note: This value only appears if it is set.
label	Label. Only appears if set. A positive integer.
valid	Whether the path is valid (string). Valid value: "Yes". Note: This value only appears if the path is valid.
stale	Whether the state is stale (string). Valid values: "Yes". Note: This value only appears if the state is stale.
type	The type. A string up to 30 characters long.
multipath_candidate	Whether this is a multipath candidate (string). Valid values: "Yes", "No".
installed	Whether installed (string). Valid values: "Yes", "No".
synchronized	Whether synchronized (string). Valid values: "Yes", "No".
atomic_aggregate	Whether this is an atomic aggregate (string). Valid value: "Yes", "No". Note: This value only appears if it is "Yes".
community	Community string. A string up to 128 characters long.
extended_community	Extended community string. A string up to 128 characters long.
originator	Originator ID. A string up to 46 characters long.
cluster_id	Cluster ID. A string up to 128 characters long.
reuse_info	Reuse information. A string up to 32 characters long.
last_update	Last update time. A string up to 256 characters long.

Get BGP Summary Information

Gets BGP summary information.

Request

Method Type	GET
Request URI	/nos/api/info/bgp/neighbor/summary/<af_name> /<subaf_name>/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>af_name</i>	(Optional) Address family name (string). Valid values: "ipv4", "ipv6", "l2vpn". Default value: "ipv4".
<i>subaf_name</i>	(Optional) Subsequent Address Family Identifier name (string). Valid values: "unicast", "epvn". Default value: "unicast".
<i>vrf_name</i>	(Optional) VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".

Response

Response Body (JSON)	<pre>[{ "router id":<router_id> "table version":<table_version> "path count":<aspath_count> "conf max ebgp paths":<cfg_maxpath_ebgp> "max ebgp paths":<maxpath_ebgp> "conf max ibgp paths":<cfg_maxpath_ibgp> "max ibgp paths":<maxpath_ibgp> "local AS count":<local_as_count> "peer":<host_name> "peer version":<version> "peer AS":<peer_as> "open in":<open_in> "update in":<update_in> "keepalive in":<keepalive_in> "refresh in":<refresh_in> "dynamic cap in":<dynamic_cap_in> "open out":<open_out> "update out":<update_out> "keepalive out":<keepalive_out> "refresh out":<refresh_out> "dynamic cap out":<dynamic_cap_out> },]</pre>
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where:

Parameter	Description
router id	Router ID (string). A valid IPv4 or IPv6 address.
table version	The table version.
path count	The path number.
conf max ebgp paths	The maximum configured EBGp paths.
max ebgp paths	The maximum EBGp paths.
conf max ibgp paths	The maximum configured IBGP paths.
max ibgp paths	The maximum IBGP paths.
local AS count	The local AS count.
peer	Peer address (string). A valid IPv4 or IPv6 address.
peer version	Peer version.
peer AS	Peer AS.
open in	Number of received open messages.
update in	Number of received updates.
keepalive in	Number of received keepalives.

Parameter	Description
refresh in	Number of received route refresh.
dynamic cap in	Dynamic capabilities input count.
open out	Number of sent open messages.
update out	Number of sent updates.
keepalive out	Number of sent keepalive messages.
refresh out	Number of sent route refresh messages.
dynamic cap out	Dynamic capabilities output count.

Get BGP Neighbor Details

Gets BGP neighbor detailed information.

Request

Method Type	GET
Request URI	/nos/api/info/bgp/neighbor/details/<nbr-ip>/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>nbr-ip</i>	(Optional) Neighbor IP address (string). A valid IPv4 or IPv6 address.
<i>vrf_name</i>	(Optional) VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".

Response

Response Body (JSON)	[{ "neighbor": <neighbor> "vrfname": <vrfname> "remote AS": <remote AS> "local AS": <local AS> "address family": <address family> "table version": <table version> "neighbor version": <neighbor version> "index val": <index val> "index offset": <index offset> "index mask": <index mask> "link type": <link type> "version": <version> "description": <description> "remote router-ID": <remote router-ID> "admin": <admin> "ifbound": <ifbound> "state": <state> "dyncap_adv": <dyncap_adv> "dyncap_rec": <dyncap_rec> "refresh_adv": <refresh_adv> "refresh_new_rec": <refresh_new_rec> "refresh_old_rec": <refresh_old_rec> "ext_asn_adv": <ext_asn_adv> "ext_asn_rec": <ext_asn_rec> "afc_adv": <afc_adv> "afc_recv": <afc_recv> "afc_VPN_adv": <afc_VPN_adv> "afc_VPN_recv": <afc_VPN_recv> "afc_mcast_adv": <afc_mcast_adv> "afc_mcast_recv": <afc_mcast_recv> }]
-------------------------	--

Response Body (JSON-continued)	<pre> "uptime": <uptime> "peer-group name": <peer-group name> "holdtime": <holdtime> "keepalive": <keepalive> "conf holdtime": <conf holdtime> "conf keepalive": <conf keepalive> "recvMsg": <recvMsg> "recvNotf": <recvNotf> "recvQueue": <recvQueue> "sentMsg": <sentMsg> "sentNotf": <sentNotf> "sentQueue": <sentQueue> "refresh_in": <refresh_in" "refresh_out": <refresh_out" "routeadv": <routeadv" "update_if": <update_if" "update_source": <update_source" "established": <established" "dropped": <dropped" "prefix overflow": <prefix overflow" "ttl": "<ttl>" "local address": <local address" "local port": <local port" "remote address": <remote address" "remote port": <remote port" "nextHopAddress": <nextHopAddress" "nextHopLocalV6": <nextHopLocalV6" "nextHopGlobalV6": <nextHopGlobalV6" "shared_network": <shared_network" "next conn retry": <next conn retry" "err notif": <err notif" "last_reset_time": <last_reset_time" "error code": <error code" "error subcode": <error subcode" "rmap_map": <rmap_map" },] </pre>
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where:

Parameter	Description
neighbor	Neighbor address (string).
vrfname	VRF name (string).
remote AS	AS number. An integer from 1-65535.
local AS	Local AS number. An integer from 1-65535.
address family	Address family.
table version	Table version (integer).
neighbor version	Neighbor version (integer).
index val	Index value (integer).
index offset	Index offset (integer).
index mask	Index mask (integer).

Parameter	Description
link type	Link type (string). Valid values: "internal", "external".
version	Version (integer).
description	Description. A string up to 150 characters long.
remote router-ID	Remote router ID (string).
admin	Admin state. A string up to 40 characters long.
ifbound	Whether the interface is bound (string). Valid values: "No interface binding", "Interface bound".
state	Neighbor state (string).
dyncap_adv	Dynamic capability advertised, only if advertised (string).
dyncap_rec	Dynamic capability received, only if received (string).
refresh_adv	Refresh capability advertised, only if advertised (string).
refresh_new_rec	Refresh New received, only if received (string).
refresh_old_rec	Refresh Old received, only if received (string).
ext_asn_adv	Extended ASN capability advertised (string).
ext_asn_rec	Extended ASN capability received (string).
afc_adv	Address family unicast sent (string).
afc_rcv	Address family unicast received (string).
afc_VPN_adv	Address family VPN sent (string).
afc_VPN_rcv	Address family VPN received (string).
afc_mcast_adv	Address family multicast sent (string).
afc_mcast_rcv	Address family multicast received (string).
uptime	Uptime (string).
peer-group name	Peer IP address (string).
holdtime	Holdtime (integer).
keepalive	Keepalive time (integer).
conf holdtime	Configured holdtime (integer).
conf keepalive	Configured keepalive time (integer).
recvMsg	Number of received messages (integer).
recvNotf	Number of received notifications (integer).

Parameter	Description
recvQueue	Received messages queue count (integer).
sentMsg	Number of sent messages (integer).
sentNotf	Number of sent notifications (integer).
sentQueue	Sent messages queue count (integer).
refresh_in	Number of route refresh messages received (integer).
refresh_out	Number of route refresh messages sent (integer).
routeadv	Number of router advertisements (integer).
update_if	Update interface. A string up to 150 characters long.
update_source	Update source address. A string up to 150 characters long.
established	Established count (integer).
dropped	Dropped count (integer).
prefix overflow	Whether there is a prefix overflow (string). Valid values: "Yes", "No".
t1	Time to live value (integer).
local address	Local neighbor IP address (string).
local port	Local port number (integer).
remote address	Remote peer IP address (string).
remote port	Remote port number (integer).
nextHopAddress	Next-hop address (string).
nextHopLocalV6	Next-hop address (link local) (string).
nextHopGlobalV6	Next-hop address (global) (string).
shared network	Shared network. A string up to 128 characters long.
next conn retry	Number of retries (integer).
err notif	Whether there was an error notification (string). Valid values: "sent", "received".
last_reset_time	Last reset time.
err code	Code string. A string up to 32 characters long.
err subcode	Subcode string. A string up to 32 characters long.
rmap_name	Default originating route map (integer).

Get BGP Neighbor Statistics

Gets BGP neighbor detailed statistics.

Request

Method Type	GET
Request URI	/nos/api/info/bgp/neighbor/stats/<nbr-ip>/<item>/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>nbr-ip</i>	IP address (string). Valid values: one or more valid IPv4 or IPv6 addresses.
<i>item</i>	The type of statistics (string). Valid values: "keepalive", "notification", "open", "update", "recv_msgs", "sent_msgs".
<i>vrf_name</i>	(Optional) VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".

Response

Response Body (JSON)	[{ "statistic type": <statistic> "received": <received> "sent": <sent> }]
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where:

Parameter	Description
statistic type	Statistic type (string). Valid values: "keepalive", "notification", "open", "update", "recv_msgs", "sent_msgs".
received	Number of received messages of the specified type or types.
sent	Number of sent messages of the specified type or types.

Get BGP Distance Configuration

Gets the BGP distance configuration.

Request

Method Type	GET
Request URI	/nos/api/cfg/bgp/distance/<af_name>/<saf_name>/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>af_name</i>	Address family name (string). Valid values: "ipv4", "ipv6".
<i>saf_name</i>	Subsequent Address Family Identifier name (string). Valid values: "unicast", "multicast".
<i>vrf_name</i>	(Optional) VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".

Response

Response Body (JSON)	[{ "vrf_name": <vrf_name> "distance_ebgp": <distance_ebgp> "distance_ibgp": <distance_ibgp> "distance_local": <distance_local> }]
-------------------------	--

where:

Parameter	Description
<i>vrf_name</i>	VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".
<i>distance_ebgp</i>	Distance for routes external to the AS. An integer from 0-255.
<i>distance_ibgp</i>	Distance for routes internal to the AS. An integer from 0-255.
<i>distance_local</i>	Distance for routes local to the AS. An integer from 0-255.

Set BGP Distance Configuration

Sets the BGP distance configuration.

Request

Method Type	PUT
Request URI	/nos/api/cfg/bgp/distance/<af_name>/<saf_name>/<vrf_name>
Request Body (JSON)	{ "distance_ebgp": <distance_ebgp> "distance_ibgp": <distance_ibgp> "distance_local": <distance_local> }

where:

Parameter	Description
<i>af_name</i>	Address family name (string). Valid values: "ipv4", "ipv6".
<i>saf_name</i>	Subsequent Address Family Identifier name (string). Valid values: "unicast", "multicast".
<i>vrf_name</i>	(Optional) VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".
<i>distance_ebgp</i>	Distance for routes external to the AS. An integer from 0-255.
<i>distance_ibgp</i>	Distance for routes internal to the AS. An integer from 0-255.
<i>distance_local</i>	Distance for routes local to the AS. An integer from 0-255.

Response

Response Body (JSON)	{ "vrf_name": <vrf_name> "distance_ebgp": <distance_ebgp> "distance_ibgp": <distance_ibgp> "distance_local": <distance_local> }
-------------------------	--

where:

Parameter	Description
<i>vrf_name</i>	VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".
<i>distance_ebgp</i>	Distance for routes external to the AS. An integer from 0-255.

Parameter	Description
distance_ibgp	Distance for routes internal to the AS. An integer from 0-255.
distance_local	Distance for routes local to the AS. An integer from 0-255.

Get BGP Multipath ECMP Numbers Configuration

Gets the BGP multipath maximum ECMP numbers configuration.

Request

Method Type	GET
Request URI	/nos/api/cfg/bgp/af/maximum_paths/<af_name>/<saf_name>/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>af_name</i>	Address family name (string). Valid values: "ipv4", "ipv6".
<i>saf_name</i>	Subsequent Address Family Identifier name (string). Valid values: "unicast", "multicast".
<i>vrf_name</i>	(Optional) VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".

Response

Response Body (JSON)	[{ "vrf_name": <vrf_name> "ibgp_max_number": <ibgp_max_number> "ebgp_max_number": <ebgp_max_number> }]
-------------------------	--

where:

Parameter	Description
<i>vrf_name</i>	VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".
<i>ibgp_max_number</i>	IBGP multipath maximum ECMP number. An integer from 1-32.
<i>ebgp_max_number</i>	EBGP multipath maximum ECMP number. An integer from 1-32.

Get BGP Nexthop Trigger-Delay Configuration

Gets the BGP nexthop trigger-delay configuration.

Request

Method Type	GET
Request URI	/nos/api/cfg/bgp/af/nht_delay/<af_name>/<saf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>af_name</i>	Address family name (string). Valid values: "ipv4", "ipv6".
<i>saf_name</i>	Subsequent Address Family Identifier name (string). Valid values: "unicast", "multicast".

Response

Response Body (JSON)	[{ "critical": <critical> "non-critical": <noncritical> }]
-------------------------	---

where:

Parameter	Description
<i>critical</i>	Nexthop changes affecting reachability. An integer from 1-4294967295.
<i>non-critical</i>	Nexthop changes affecting metric. An integer from 1-4294967295.

Get BGP Aggregate Configuration

Gets the BGP aggregate configuration.

Request

Method Type	GET
Request URI	/nos/api/cfg/bgp/af/aggregate/<af_name>/<saf_name>/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>af_name</i>	Address family name (string). Valid values: "ipv4", "ipv6".
<i>saf_name</i>	Subsequent Address Family Identifier name (string). Valid values: "unicast", "multicast".
<i>vrf_name</i>	(Optional) VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".

Response

Response Body (JSON)	[{ "vrf_name": <vrf_name> "prefix": <prefix> "type": <type> }]
-------------------------	--

where:

Parameter	Description
<i>vrf_name</i>	VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".
<i>prefix</i>	Aggregate prefix (string). An IP address in one of the following format: <ul style="list-style-type: none">• "A.B.C.D/M"• "X:X::X:X/M"
<i>type</i>	Aggregate type (string). Valid values: <ul style="list-style-type: none">• "as_set" - Generate AS set path information.• "summary_only" - Filter more specific routes from updates.• "as_set_summary_only" - Both "as-set" and "summary-only".

Get BGP Dampening Parameters Configuration

Gets the BGP dampening parameters configuration.

Request

Method Type	GET
Request URI	/nos/api/cfg/bgp/af/dampening/<af_name>/<saf_name>/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>af_name</i>	Address family name (string). Valid values: "ipv4", "ipv6".
<i>saf_name</i>	Subsequent Address Family Identifier name (string). Valid values: "unicast", "multicast".
<i>vrf_name</i>	(Optional) VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".

Response

Response Body (JSON)	<pre>[{ "vrf_name": <vrf_name>, "half_life": <half_life>, "reuse_penalty": <reuse_penalty>, "suppress_penalty": <suppress_penalty>, "max_suppress": <max_suppress>, "unreach_half_life": <unreach_half_life>, "rmap_name": "<rmap_name>" }]</pre>
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where:

Parameter	Description
<i>vrf_name</i>	VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".
<i>half_life</i>	Reachability half-life time for the penalty, in minutes. An integer from 1-45.
<i>reuse_penalty</i>	Value to start reusing a route. An integer from 1-20000.
<i>suppress_penalty</i>	Value to start suppressing a route. An integer from 1-20000.

Parameter	Description
max_suppress	Maximum duration to suppress a stable route, in minutes. An integer from 1-255.
unreach_half_ life	Unreachability half-life time for the penalty, in minutes. An integer from 1-45.
rmap_name	Route-map name. A string up to 63 characters long.

Set BGP Dampening Parameters Configuration

Sets the BGP dampening parameters configuration.

Request

Method Type	PUT
Request URI	/nos/api/cfg/bgp/af/dampening/<af_name>/<saf_name>/<vrf_name>
Request Body (JSON)	{ "half_life": <half_life>, "reuse_penalty": <reuse_penalty>, "max_suppress": <max_suppress>, "unreach_half_life": <unreach_half_life>, "rmap_name": "<rmap_name>" }

where:

Parameter	Description
<i>af_name</i>	Address family name (string). Valid values: "ipv4", "ipv6".
<i>saf_name</i>	Subsequent Address Family Identifier name (string). Valid values: "unicast", "multicast".
<i>vrf_name</i>	(Optional) VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".
<i>half_life</i>	Reachability half-life time for the penalty, in minutes. An integer from 1-45.
<i>reuse_penalty</i>	Value to start reusing a route. An integer from 1-20000.
<i>suppress_penalty</i>	Value to start suppressing a route. An integer from 1-20000.
<i>max_suppress</i>	Maximum duration to suppress a stable route, in minutes. An integer from 1-255.
<i>rmap_name</i>	Route-map name. A string up to 64 characters long.

Response

Response Body (JSON)	{ "vrf_name": <vrf_name>, "half_life": <half_life>, "reuse_penalty": <reuse_penalty>, "max_suppress": <max_suppress>, "unreach_half_life": <unreach_half_life>, "rmap_name": "<rmap_name>" }
-------------------------	---

where:

Parameter	Description
vrf_name	VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".
half_life	Reachability half-life time for the penalty, in minutes. An integer from 1-45.
reuse_penalty	Value to start reusing a route. An integer from 1-20000.
suppress_penalty	Value to start suppressing a route. An integer from 1-20000.
max_suppress	Maximum duration to suppress a stable route, in minutes. An integer from 1-255.
rmap_name	Route-map name. A string up to 64 characters long.

Get BGP Dampened Path Configuration

Gets the BGP dampened path configuration.

Request

Method Type	GET
Request URI	/nos/api/info/bgp/dampening/dampened_path/<afi> /<safi>/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>afi</i>	The BGP address family name (string). Valid values: "ipv4", "ipv6". Default value: "ipv4". Note: Only if <i>safi</i> and <i>vrf_name</i> are specified.
<i>safi</i>	The BGP Subsequent Address Family Identifier name (string). Valid values: "unicast", "multicast". Default value: "unicast". Note: Only if <i>vrf_name</i> is specified.
<i>vrf_name</i>	(Optional) VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".

Response

Response Body (JSON)	[{ "status": <status>, "network": <network>, "nextHopGlobal": <nextHopGlobal>, "nextHopLocal": <nextHopLocal>, "metric": <metric>, "pathInfo": <pathInfo>, "reuseTime": <reuseTime>, "recTime": <recTime>, "asPathStr": <asPathStr>, "asPath4BStr": <asPath4BStr>, "routeOriginType": <routeOriginType> }]
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where:

Parameter	Description
status	Router status code (string). Valid values: <ul style="list-style-type: none"> ● "s" - suppressed ● "d" - damped ● "h" - history ● "*" - valid ● ">" - best ● "i" - internal
network	Route destination IP address (string). A valid IPv4 or IPv6 address.
nextHopGlobal	Route nexthop, if route is IPv4 (string).
nextHopLocal	Route nexthop, if route is IPv6 (string).
metric	Route metric (integer).
pathInfo	Route path information (string). A valid AS path VTY string.
reuseTime	Route reuse time (string).
recTime	Time stamp when route was received (string).
asPathStr	Route AS path attribute (string). A valid AS path VTY string.
asPath4BStr	Route 4B AS path (string). A valid AS path VTY string.
routeOrigin Type	Route origin type (string). Valid values: <ul style="list-style-type: none"> ● "i" - IGP ● "e" - EGP ● "?" - incomplete

Get BGP Network Configuration

Gets the BGP network configuration.

Request

Method Type	GET
Request URI	/nos/api/cfg/bgp/af/network/<af_name>/<saf_name>/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>af_name</i>	Address family name (string). Valid values: "ipv4", "ipv6".
<i>saf_name</i>	Subsequent Address Family Identifier name (string). Valid values: "unicast", "multicast".
<i>vrf_name</i>	(Optional) VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".

Response

Response Body (JSON)	<pre>[{ "vrf_name": <vrf_name>, "prefix": <prefix>, "backdoor": <backdoor>, "rmap_name": <rmap_name> }]</pre>
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where:

Parameter	Description
<i>vrf_name</i>	VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".
<i>prefix</i>	Network prefix (string). An IP address in the following format: <ul style="list-style-type: none">"A.B.C.D/M""X:X::X:X/M"
<i>backdoor</i>	Whether a BGP backdoor route is specified (string). Valid values: "enable", "disable".
<i>rmap_name</i>	Route map name. A string up to 63 characters long.

Get BGP Redistribute Configuration

Gets the BGP network redistribute configuration.

Request

Method Type	GET
Request URI	/nos/api/cfg/bgp/af/redistribute/<af_name>/<saf_name>/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>af_name</i>	Address family name (string). Valid values: "ipv4", "ipv6".
<i>saf_name</i>	Subsequent Address Family Identifier name (string). Valid values: "unicast", "multicast".
<i>vrf_name</i>	(Optional) VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".

Response

Response Body (JSON)	<pre>[{ "vrf_name": <vrf_name>, "redist_direct": <redist_direct>, "direct_rmap_name": <direct_rmap_name>, "redist_host_info": <redist_host_info>, "redist_ospf": <redist_ospf>, "ospf_rmap_name": <ospf_rmap_name>, "redist_static": <redist_static>, "static_rmap_name": <static_rmap_name> }]</pre>
-------------------------	---

where:

Parameter	Description
<i>vrf_name</i>	VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".
<i>redist_direct</i>	Whether redistribute direct is enabled (string). Valid values: "enable", "disable".
<i>direct_rmap_name</i>	Route map name for redistribute direct (string). Valid values: "enable", "disable".

Parameter	Description
redist_host_info	Whether redistribute host information is enabled (string). Valid values: "enable", "disable".
redist_ospf	Whether redistribute OSPF is enabled (string). Valid values: "enable", "disable".
ospf_rmap_name	Route map name for redistribute OSPF. A string up to 63 characters long.
redist_static	Whether redistribute static is enabled (string). Valid values: "enable", "disable".
static_rmap_name	Route map name for redistribute static (string). Valid values: "enable", "disable".

Set BGP Redistribute Configuration

Sets the BGP address family redistribute configuration.

Request

Method Type	PUT
Request URI	/nos/api/cfg/bgp/af/redistribute/<af_name>/<saf_name>/<vrf_name>
Request Body (JSON)	{ "redist_direct": <redist_direct>, "direct_rmap_name": <direct_rmap_name>, "redist_host_info": <redist_host_info>, "redist_ospf": <redist_ospf>, "ospf_rmap_name": <ospf_rmap_name>, "redist_static": <redist_static>, "static_rmap_name": <static_rmap_name> }

where:

Parameter	Description
<i>af_name</i>	Address family name (string). Valid values: "ipv4", "ipv6", "l2vpn".
<i>saf_name</i>	Subsequent Address Family Identifier name (string). Valid values: "unicast", "evpn". Default value: "unicast".
<i>vrf_name</i>	(Optional) The VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".
<i>redist_direct</i>	Whether redistribute direct is enabled (string). Valid values: "enable", "disable".
<i>direct_rmap_name</i>	Route map name for redistribute direct. A string up to 63 characters long.
<i>redist_host_info</i>	Whether redistribute host information is enabled (string). Valid values: "enable", "disable".
<i>redist_ospf</i>	Whether redistribute OSPF is enabled (string). Valid values: "enable", "disable".
<i>ospf_rmap_name</i>	Route map name for redistribute OSPF. A string up to 63 characters long.
<i>redist_static</i>	Whether redistribute static is enabled (string). Valid values: "enable", "disable".
<i>static_rmap_name</i>	oute map name for redistribute static. A string up to 63 characters long.

Response

Response Body (JSON)	<pre>{ "vrf_name": <vrf_name>, "redist_direct": <redist_direct>, "direct_rmap_name": <direct_rmap_name>, "redist_host_info": <redist_host_info>, "redist_ospf": <redist_ospf>, "ospf_rmap_name": <ospf_rmap_name>, "redist_static": <redist_static>, "static_rmap_name": <static_rmap_name> }</pre>
-------------------------	---

where:

Parameter	Description
vrf_name	The VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".
redist_direct	Whether redistribute direct is enabled (string). Valid values: "enable", "disable".
direct_rmap_name	Route map name for redistribute direct. A string up to 63 characters long.
redist_host_info	Whether redistribute host information is enabled (string). Valid values: "enable", "disable".
redist_ospf	Whether redistribute OSPF is enabled (string). Valid values: "enable", "disable".
ospf_rmap_name	Route map name for redistribute OSPF. A string up to 63 characters long.
redist_static	Whether redistribute static is enabled (string). Valid values: "enable", "disable".
static_rmap_name	oute map name for redistribute static. A string up to 63 characters long.

Get BGP Neighbor Configuration

Gets the BGP network neighbor configuration.

Request

Method Type	GET
Request URI	/nos/api/cfg/bgp/neighbor/details/<neighbor_ip>/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>neighbor_ip</i>	(Optional) The IP address of the neighbor (string). A valid IPv4 or IPv6 address. No value will display all neighbors.
<i>vrf_name</i>	(Optional) VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".

Response

Response Body (JSON)	<pre>[{ "neighbor": <neighbor>, "vrfname": <vrfname>, "remote as": <remote as>, "local as": <local as>, "address family": <address family>, "advertisement interval": <advertisement interval>, "bfd": <bfd>, "connection retry time": <connection retry time>, "description": <description>, "disallow infinite holdtime": <disallow infinite holdtime>, "do not capability negotiate": <do not capability negotiate>, "advertise dynamic capability": <advertise dynamic capability>, "EBGP multihop": <EBGP multihop>, "remote private as": <remote private as>, "maximum peers": <maximum peers>, "password": <password>, "shutdown": <shutdown>, "peer holdtime": <peer holdtime>, "peer keepalive": <peer keepalive>, "connection-mode passive": <connection-mode passive>, "ttl security hops": <ttl security hops>, "update-source": <update-source>, "weight": <weight>, "allow as in": <allow as in>, "default originate": <default originate>, "default originate rmap": <default originate rmap>, "prefix-list in": <prefix-list in>, "prefix-list out": <prefix-list out>, "maximum-prefix": <maximum-prefix>, "maximum-prefix warning": <maximum-prefix warning>, "maximum-prefix threshold percent":<maximum-prefix threshold percent>, "next-hop-self": <next-hop-self>, "filter-list in": <filter-list in>, "filter-list out": <filter-list out>, "route-map in": <route-map in>, "route-map out": <route-map out>, "route reflector client": <route reflector client>, "send community": <send community>, "send community extended": <send community extended>, "soft reconfiguration inbound": <soft reconfiguration inbound>, "unsuppress-map": <unsuppress-map> }]</pre>
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where:

Parameter	Description
neighbor	Neighbor IP address (string). A valid IPv4 or IPv6 address.
vrf_name	VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".
remote as	Current neighbor AS (integer). An AS number.
local as	Switch AS (integer). An AS number.
address family	Neighbor address family (string). An address family.
advertisement interval	Minimum interval between BGP updates, in seconds (integer).

Parameter	Description
bfd	BFD state (string). Valid values: <ul style="list-style-type: none"> • "enabled" • "disabled" • "multihop enabled"
connection retry time	BGP connect timer, in seconds (integer).
description	Neighbor description (string).
disallow infinite holdtime	Neighbor disallow infinite hold time (string). Valid values: "Yes", "No".
do not capability negotiate	Whether to perform capability negotiations (string). Valid values: "Yes", "No".
advertise dynamic capability	Advertise dynamic capability to this neighbor (string). Valid values: "Yes", "No".
EBGP multihop	Number of multihops. An integer from 1-255.
remote private as	Whether to remove private AS number from outbound packets (string). Valid values: "Yes", "No".
maximum peers	Maximum number of peers for this prefix. An integer from 1-96.
password	Neighbor password (string). An encrypted password.
shutdown	Neighbor state (string). Valid values: "Yes", "No".
peer holdtime	Holdtime value, in seconds. An integer from 0-3600.
peer keepalive	Keepalive value, in seconds. An integer from 0-3600.
connection-mode passive	Whether to allow a passive connection (string). Valid values: "Yes", "No".
ttl security hops	Number of hops. An integer from 1-254.
update-source	Source of routing updates (string). Valid values: <ul style="list-style-type: none"> • "ethernet" • "vlan" • "loopback interfaces"
weight	The default weight for routes from this neighbor. An integer from 0-65535.
allow as in	Accept AS path with own AS in it. An integer from 1-10.
default originate	Whether to originate default route to this neighbor (string). Valid values: "Yes", "No".

Parameter	Description
default originate rmap	Route map that specifies criteria (string). An RMAP name.
prefix-list in	Filter updates from this neighbor (string). A filter name.
prefix-list out	Filter updates to this neighbor (string). A filter name.
maximum-prefix	Maximum number of prefix accept from this peer. An integer from -15782.
maximum-prefix warning	Whether to only give a warning message when limit is exceeded (string). Valid values: "Yes", "No".
maximum-prefix threshold percent	Threshold value. An integer from 1-100.
next-hop-self	Whether to disable the next hop calculation for this neighbor (string). Valid values: "Yes", "No".
filter-list in	Establish filter for incoming routes (string). A filter name.
filter-list out	Establish filter for outgoing routes (string). A filter name.
route-map in	Apply routemap for incoming routes (string). An RMAP name.
route-map out	Apply routemap for outgoing routes (string). An RMAP name.
route reflector client	Whether to set neighbor as route reflector client (string). Valid values: "Yes", "No".
send community	Whether to send community attribute to this neighbor (string). Valid values: "Yes", "No".
send community extended	Whether to send extended community attribute to this neighbor (string). Valid values: "Yes", "No".
soft reconfiguration inbound	Whether to allow inbound soft reconfiguration for this neighbor (string). Valid values: "Yes", "No".
unsuppress-map	Route map to selectively unsuppress suppressed routes (string). An RMAP name.

Set BGP Neighbor Configuration

Sets the BGP network neighbor configuration details. If a neighbor does not exist, it will be created.

Request

Method Type	PUT
Request URI	<code>/nos/api/cfg/bgp/neighbor/details/<ip_address>/<mask>/vrf/<vrf_name></code> or <code>/nos/api/cfg/bgp/neighbor/details/<ip_address>/</code> or <code>/nos/api/cfg/bgp/neighbor/details/<ip_address>/vrf/<vrf_name></code>

Request Body (JSON)	<pre>"neighbor": <neighbor>, "vrfname": <vrf_name>, "remote AS": <remote_as>, "local AS": <local_as>, "address family": <address_family>, "advertisement interval": <advertisement_interval>, "bfd": <bfd>, "connection retry time": <connection_retry_time>, "description": <description>, "disallow infinite holdtime": <disallow_infinite_holdtime>, "do not capability negotiate": <do_not_capability_negociate>, "advertise dynamic capability": <advertise_dynamic_capability>, "EBGP multihop": <ebgp_multihop>, "remove private as": <remove_private_as>, "maximum peers": <maximum_peers>, "password": <password>, "shutdown": <shutdown>, "peer holdtime": <peer_holdtime>, "peer keepalive": <peer_keepalive>, "connection-mode passive": <connection_mode_passive>, "ttl security hops": <ttl_security_hops>, "update_if": <update_if>, "update_source": <update_source>, "weight": <weight>, "allow as in": <allow_as_in>, "default originate": <default_originate>, "default originate rmap": <default_originate_map>, "prefix-list in": <prefix_list_in>, "prefix-list out": <prefix_list_out>, "maximum-prefix": <maximum_prefix>, "maximum-prefix warning": <maximum_prefix_warning>, "maximum-prefix threshold percent": <maximum_prefix_threshold_percent>, "next-hop-self": <next_hop_self>, "filter-list in": <filter_list_in>, "filter-list out": <filter_list_out>, "route-map in": <route_map_in>, "route-map out": <route_map_out>, "route reflector client": <route_reflector_client>, "send community": <send_community>, "send community extended": <sent_community_exceeded>, "soft reconfiguration inbound": <soft_reconfiguration_inbound>, "unsuppress-map": <unsuppress_map></pre>
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where:

Parameter	Description
<i>ip_address</i>	The IP address of the BGP neighbor (string). A valid IPv4 or IPv6 address.
<i>mask</i>	(Optional) The network mask. Valid values: <ul style="list-style-type: none"> ● 1-32 for IPv4 ● 1-128 for IPv6 Note: This parameter is used for dynamic neighbors.

Parameter	Description
<i>vrf_name</i>	(Optional) VRF name (string). Valid values: the VRF name, "default". Default value: "default".
neighbor	The IP address of the BGP neighbor (string). A valid IPv4 or IPv6 address.
vrfname	VRF instance of the BGP neighbor (string). Valid values: the VRF name, "default". Default value: "default".
remote AS	Current remote AS number. An integer from 1-4294967295.
local AS	The current local AS number. An integer from 1-4294967295.
address family	The BGP neighbor address family (string). Valid values: "ipv4", "ipv6", "l2vpn evpn". For "l2vpn evpn", you can configure only the following parameters: <ul style="list-style-type: none"> ● address family ● remote as ● allow as in ● route reflector client ● send community extended
advertisement interval	The minimum time interval, in seconds, between configured BGP updates. An integer from 1-65535.
bfd	BFD status (string). Valid values: <ul style="list-style-type: none"> ● "enabled" ● "disabled" ● "multihop enabled"
connection retry time	BGP connect timer, in seconds. An integer from 1-65535.
description	The BGP neighbor description. A string up to 150 characters long.
disallow infinite holdtime	Whether the configuration of infinite hold time is disallowed (string). Valid values: "Yes", "No".
do not capability negotiate	Whether to perform capability negotiations (string). Valid values: "Yes", "No".
advertise dynamic capability	Advertise dynamic capability to this neighbor (string). Valid values: "Yes", "No".
EBGP multihop	Number of EBGP multihops. An integer from 1-255.

Parameter	Description
remote private as	Whether to remove private AS number from outbound packets (string). Valid values: "Yes", "No".
maximum peers	Maximum number of peers for this prefix. An integer from 1-96.
password	The encrypted password for the BGP neighbor. A string up to 512 characters long.
shutdown	Neighbor state (string). Valid values: "Yes", "No".
peer holdtime	The time interval, in seconds, the switch awaits before transitioning the BGP neighbor to the IDLE state, if the switch doesn't receive an update or keep-alive message from the neighbor. An integer from 0-3600.
peer keepalive	The time interval, in seconds, the switch awaits before sending another keep-alive message to the BGP neighbor. An integer from 0-3600.
connection-mode passive	Whether the initiations to TCP sessions with the BGP neighbor are disabled (string). Valid values: "Yes", "No".
ttl security hops	The minimum number of TTL router hops an IP packet must have to not be discarded. An integer from 1-254.
update_if	The interface of the BGP session and updates. A string containing ethernet port, VLAN and loop-back interfaces information.
update_source	Source of the BGP session and updates. A string containing ethernet port, VLAN and loop-back interfaces information.
weight	The default weight for routes from this neighbor. An integer from 0-65535.
allow as in	Whether AS paths with the local AS number are accepted by the switch (string). Valid values: "Yes", "No".
default originate	Whether a default route to the BGP neighbor is configured (string). Valid values: "Yes", "No".
default originate rmap	The name of the route map for the default route. A string up to 32 characters long.
prefix-list in	The prefix list for routes incoming from the BGP neighbor. A string up to 32 characters long.
prefix-list out	The prefix list for routes outgoing from the BGP neighbor. A string up to 32 characters long.
maximum-prefix	Maximum number of prefix accept from the BGP neighbor. An integer from -15782.

Parameter	Description
maximum-prefix warning	Whether to only give a warning message when the maximum prefix limit is exceeded (string). Valid values: "Yes", "No".
maximum-prefix threshold percent	The percentage of the maximum prefix limit at which the switch starts to generate a warning message. An integer from 1-100.
next-hop-self	Whether next hop calculations for the BGP neighbor are disabled (string). Valid values: "Yes", "No".
filter-list in	The AS path ACL for routes incoming from the BGP neighbor. A string up to 32 characters long.
filter-list out	The AS path ACL for routes outgoing from the BGP neighbor. A string up to 32 characters long.
route-map in	The applied route map for incoming routes from the BGP neighbor. A string up to 32 characters long.
route-map out	The applied route map for outgoing routes from the BGP neighbor. A string up to 32 characters long.
route reflector client	Whether the BGP neighbor is configured as a route reflector client (string). Valid values: "Yes", "No".
send community	Whether to send community attribute to the BGP neighbor (string). Valid values: "Yes", "No".
send community extended	Whether extended community attribute are sent to the BGP neighbor (string). Valid values: "Yes", "No".
soft reconfiguration inbound	Whether the switch is configured to store BGP neighbor updates (string). Valid values: "Yes", "No".
unsuppress-map	The name of the route map configured to selectively unsuppress suppressed routes (string). A string up to 32 characters long.

Response

Response Body (JSON)	<pre>{ "neighbor": <neighbor>, "vrfname": <vrf_name>, "remote AS": <remote_as>, "local AS": <local_as>, "address family": <address_family>, "advertisement interval": <advertisement_interval>, "bfd": <bfd>, "connection retry time": <connection_retry_time>, "description": <description>, "disallow infinite holdtime": <disallow_infinite_holdtime>, "do not capability negotiate": <do_not_capability_negotiate>, "advertise dynamic capability": <advertise_dynamic_capability>, "EBGP multihop": <ebgp_multihop>, "remove private as": <remove_private_as>, "maximum peers": <maximum_peers>, "password": <password>, "shutdown": <shutdown>, "peer holdtime": <peer_holdtime>, "peer keepalive": <peer_keepalive>, "connection-mode passive": <connection_mode_passive>, "ttl security hops": <ttl_security_hops>, "update_if": <update_if>, "update_source": <update_source>, "weight": <weight>, "allow as in": <allow_as_in>, "default originate": <default_originate>, "default originate rmap": <default_originate_map>, "prefix-list in": <prefix_list_in>, "prefix-list out": <prefix_list_out>, "maximum-prefix": <maximum_prefix>, "maximum-prefix warning": <maximum_prefix_warning>, "maximum-prefix threshold percent": <maximum_prefix_threshold_percent>, "next-hop-self": <next_hop_self>, "filter-list in": <filter_list_in>, "filter-list out": <filter_list_out>, "route-map in": <route_map_in>, "route-map out": <route_map_out>, "route reflector client": <route_reflector_client>, "send community": <send_community>, "send community extended": <sent_community_exceeded>, "soft reconfiguration inbound": <soft_reconfiguration_inbound>, "unsuppress-map": <unsuppress_map> }</pre>
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where:

Parameter	Description
neighbor	The IP address of the BGP neighbor (string). A valid IPv4 or IPv6 address.
vrfname	VRF instance of the BGP neighbor (string). Valid values: the VRF name, "default". Default value: "default".

Parameter	Description
remote AS	Current remote AS number. An integer from 1-4294967295.
local AS	The current local AS number. An integer from 1-4294967295.
address family	The BGP neighbor address family (string). Valid values: "ipv4", "ipv6".
advertisement interval	The minimum time interval, in seconds, between configured BGP updates. An integer from 1-65535.
bfd	BFD status (string). Valid values: <ul style="list-style-type: none"> • "enabled" • "disabled" • "multihop enabled"
connection retry time	BGP connect timer, in seconds. An integer from 1-65535.
description	The BGP neighbor description. A string up to 150 characters long.
disallow infinite holdtime	Whether the configuration of infinite hold time is disallowed (string). Valid values: "Yes", "No".
do not capability negotiate	Whether capability negotiations are disabled (string). Valid values: "Yes", "No".
advertise dynamic capability	Whether dynamic capability advertisements are enabled (string). Valid values: "Yes", "No".
EBGP multihop	Number of EBGP multi-hops. An integer from 1-255.
remote private as	Whether to remove private AS number from outbound packets (string). Valid values: "Yes", "No".
maximum peers	Maximum number of peers for this prefix. An integer from 1-96.
password	The encrypted password for the BGP neighbor. A string up to 512 characters long.
shutdown	Whether the BGP neighbor is shutdown (string). Valid values: "Yes", "No".
peer holdtime	The time interval, in seconds, the switch awaits before transitioning the BGP neighbor to the IDLE state, if the switch doesn't receive an update or keep-alive message from the neighbor. An integer from 0-3600.
peer keepalive	The time interval, in seconds, the switch awaits before sending another keep-alive message to the BGP neighbor. An integer from 0-3600.

Parameter	Description
connection-mode passive	Whether the initiations to TCP sessions with the BGP neighbor are disabled (string). Valid values: "Yes", "No".
ttl security hops	The minimum number of TTL router hops an IP packet must have to not be discarded. An integer from 1-254.
update_if	The interface of the BGP session and updates. A string containing ethernet port, VLAN and loop-back interfaces information.
update_source	Source of the BGP session and updates. A string containing ethernet port, VLAN and loop-back interfaces information.
weight	The default weight for routes from this neighbor. An integer from 0–65535.
allow as in	Whether AS paths with the local AS number are accepted by the switch (string). Valid values: "Yes", "No".
default originate	Whether a default route to the BGP neighbor is configured (string). Valid values: "Yes", "No".
default originate rmap	The name of the route map for the default route. A string up to 32 characters long.
prefix-list in	The prefix list for routes incoming from the BGP neighbor. A string up to 32 characters long.
prefix-list out	The prefix list for routes outgoing from the BGP neighbor. A string up to 32 characters long.
maximum-prefix	Maximum number of prefix accept from the BGP neighbor. An integer from -15782.
maximum-prefix warning	Whether to only give a warning message when the maximum prefix limit is exceeded (string). Valid values: "Yes", "No".
maximum-prefix threshold percent	The percentage of the maximum prefix limit at which the switch starts to generate a warning message. An integer from 1-100.
next-hop-self	Whether next hop calculations for the BGP neighbor are disabled (string). Valid values: "Yes", "No".
filter-list in	The AS path ACL for routes incoming from the BGP neighbor. A string up to 32 characters long.
filter-list out	The AS path ACL for routes outgoing from the BGP neighbor. A string up to 32 characters long.

Parameter	Description
route-map in	The applied route map for incoming routes from the BGP neighbor. A string up to 32 characters long.
route-map out	The applied route map for outgoing routes from the BGP neighbor. A string up to 32 characters long.
route reflector client	Whether the BGP neighbor is configured as a route reflector client (string). Valid values: "Yes", "No".
send community	Whether to send community attribute to the BGP neighbor (string). Valid values: "Yes", "No".
send community extended	Whether extended community attribute are sent to the BGP neighbor (string). Valid values: "Yes", "No".
soft reconfiguration inbound	Whether the switch is configured to store BGP neighbor updates (string). Valid values: "Yes", "No".
unsuppress-map	The name of the route map configured to selectively unsuppress suppressed routes (string). A string up to 32 characters long.

Delete BGP Neighbor Configuration

Deletes the BGP network neighbor configuration information.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/bgp/neighbor/details/<ip_addr>/<afi>/<safi>/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>ip_addr</i>	BGP router neighbor IP address (string).
<i>afi</i>	The BGP neighbor address family name (string). Valid values: "ipv4", "ipv6", "l2vpn".
<i>safi</i>	(Optional) Delete SAFI of a BGP neighbor (string). Valid values: "unicast", "evpn". Note: If <i>afi</i> is "l2vpn", <i>safi</i> must be "evpn", otherwise <i>safi</i> must be "unicast".
<i>vrf_name</i>	(Optional) VRF name (string). Valid values: the VRF name, "default". Default value: "default".

Response

Response Body (JSON)	<pre>[{ " neighbor":<ip_addr>, " vrfname": <vrf>, " remote as": <as value of neighbor>, " local as": <local as value>, " address family": <address family type>, " advertisement interval": <advertisement interval value>, " bfd": <enabled/disabled/multihop enabled>, "connection retry time" : <connection retry time value>, "description" : <peer description>, "disallow infinite holdtime" : <yes/no>, "do not capability negotiate" : <yes/no>, "advertise dynamic capability" : <yes/no>, "EBGP multihop" : <multihop value>, "remote private as" : "<yes/no>", "maximum peers" : <maximum peers value>, "password" : <encrypted password>, "shutdown" : <yes/no>, "peer holdtime" : "<holdtime value>", "peer keepalive" : <keepalive value>, "connection-mode passive" : <yes/no>, "ttl security hops" : <number of hops>, "update-source" : <update source>, "weight" : <weight value>, "allow as in" : <number of as allowed>, "default originate" : <yes/no>, "default originate rmap" : <rmap name>, "prefix-list in" : <prefix list name>," "prefix-list out" : <prefix list name>, "maximum-prefix" : <max prefix value>, "maximum-prefix warning" : <yes/no>," "maximum-prefix threshold percent" : <percent value>, "next-hop-self" : <yes/no>, "filter-list in" : <list name>, "filter-list out" : <list name>, "route-map in" : <route map name>, "route-map out" : <route map name>, "route reflector client" : <yes/no >, "send community" : <yes/no>, "send community extended" : <yes/no>, "soft reconfiguration inbound" : <yes/no>, "unsuppress-map" : <route map name> }]</pre>
-------------------------	--

where:

Parameter	Description
neighbor	Neighbor IP address (string). A valid IPv4 or IPv6 address.
vrf_name	VRF name (string). Valid values: the VRF name, "default". Default value: "default".
remote_as	Current neighbor AS (integer). An AS number.
local_as	Switch AS (integer). An AS number.

Parameter	Description
address_family	Neighbor address family (string). An address family.
advertisement_interval	Minimum interval between BGP updates, in seconds (integer).
bfd	BFD state (string). Valid values: <ul style="list-style-type: none"> • "enabled" • "disabled" • "multihop enabled"
connection_retry_time	BGP connect timer, in seconds (integer).
description	Neighbor description (string)
disallow_infinite_holdtime	Neighbor disallow infinite hold time (string). Valid values: "Yes", "No".
do_not_capability_negotiate	Whether to perform capability negotiations (string). Valid values: "Yes", "No".
advertise_dynamic_capability	Advertise dynamic capability to this neighbor (string). Valid values: "Yes", "No".
EBGP_multihop	Number of multihops. An integer from 1 - 255.
remote_private_as	Whether to remove private AS number from outbound packets (string). Valid values: "Yes", "No".
maximum_peers	Maximum number of peers for this prefix. An integer from 1-96.
password	Neighbor password (string). An encrypted password.
shutdown	Neighbor state (string). Valid values: "Yes", "No".
peer_holdtime	Holdtime value, in seconds. An integer from 0-3600.
peer_keepalive	Keepalive value, in seconds. An integer from 0-3600.
connection_mode_passive	Whether to allow a passive connection (string). Valid values: "Yes", "No".
ttl_security_hops	Number of hops. An integer from 1-254.
update_source	Source of routing updates (string). Valid values: <ul style="list-style-type: none"> • "ethernet" • "vlan" • "loopback interfaces"
weight	The default weight for routes from this neighbor. An integer from 0-65535.

Parameter	Description
allow_as_in	Accept AS path with own AS in it. An integer from 1-10.
default_originate	Whether to originate default route to this neighbor (string). Valid values: "Yes", "No".
default_originate_rmap	Route map that specifies criteria (string). An RMAP name.
prefix_list_in	Filter updates from this neighbor (string). A filter name.
prefix_list_out	Filter updates to this neighbor (string). A filter name.
maximum_prefix	Maximum number of prefix accept from this peer. An integer from -15782.
maximum_prefix_warning	Whether to only give a warning message when limit is exceeded (string). Valid values: "Yes", "No".
maximum_prefix_threshold_percent	Threshold value. An integer from 1-100.
next_hop_self	Whether to disable the next hop calculation for this neighbor (string). Valid values: "Yes", "No".
filter_list_in	Establish filter for incoming routes (string). A filter name.
filter_list_out	Establish filter for outgoing routes (string). A filter name.
route_map_in	Apply routemap for incoming routes; an RMAP name.
route_map_out	Apply routemap for outgoing routes (string). An RMAP name.
route_reflector_client	Whether to set neighbor as route reflector client (string). Valid values: "Yes", "No".
send_community	Whether to send community attribute to this neighbor (string). Valid values: "Yes", "No".
send_community_extended	Whether to send extended community attribute to this neighbor (string). Valid values: "Yes", "No".
soft_reconfiguration_inbound	Whether to allow inbound soft reconfiguration for this neighbor (string). Valid values: "Yes", "No".
unsuppress_map	Route map to selectively unsuppress suppressed routes (string). An RMAP name.

Get Global BGP Unnumbered Configuration

Gets the global BGP unnumbered configuration.

Request

Method Type	GET
Request URI	/nos/api/cfg/bgp/unnumbered/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>vrf_name</i>	(Optional) VRF name (string). Valid values: the VRF name, "default", "all". Default value: "default".

Response

Response Body (JSON)	{ "bfd":<bfd> }
----------------------	-----------------------

where:

Parameter	Description
<i>bfd</i>	The BFD status (string). Valid values: "enabled", "disabled".

Update Global BGP Unnumbered Configuration

Updates the global BGP unnumbered configuration.

Request

Method Type	PUT
Request URI	/nos/api/cfg/bgp/unnumbered
Request Body (JSON)	{ "state":<state> "bfd":<bfd> }

where:

Parameter	Description
state	The status of the global BGP unnumbered feature (string). Valid values: "enabled", "disabled".
bfd	The BFD feature status for all unnumbered neighbors (string). Valid values: "enabled", "disabled".

Response

True if the operation succeeded; otherwise False.

Update BGP Unnumbered Interface Configuration

Updates the BGP unnumbered configuration for a specific switch interface.

Request

Method Type	PUT
Request URI	/nos/api/cfg/interface/bgp_unnumbered/<if_name>
Request Body (JSON)	{ "state": "{enabled disabled}" }

where:

Parameter	Description
<i>if_name</i>	The name of the switch interface (string). For example: "Ethernet1%2F1".
<i>state</i>	The status of the global BGP unnumbered feature (string). Valid values: "enabled", "disabled".

Response

True if the operation succeeded; otherwise False.

Boot Profile

The following Boot Profile URI is available:

- /nos/api/bootprofile GET, PUT

The following Port Profile commands are available:

- [Get Boot Profile](#)
- [Set Boot Profile](#)

Get Boot Profile

Gets boot profiles information.

Request

Method Type	GET
Request URI	/nos/api/bootprofile/<index>/<detailed>
Request Body (JSON)	

where:

Parameter	Description
<i>index</i>	(Optional) The boot profile ID (integer). Valid values: 0 for all profiles, 1-N for a specified profile. Default value: 0. Note: The maximum number depends on the platform.
<i>detailed</i>	(Optional) Detailed information about the boot profiles (integer). Valid values: 0 for false, 1 for true. Default value: 0.

Response

Response Body (JSON)	<pre>[(optional - appears once if detailed) { "cur_mode": "<cur_mode>", "conf_mode": "<conf_mode>" }, { "profile_index": "<profile_index>", "mac_table": { "mac_addr": "<mac_addr>" }, "host ENTR": { "ipv4_uni": "<ipv4_uni>", "ipv6_uni": "<ipv6_uni>", "ipv4_multi": "<ipv4_multi>", "ipv6_multi": "<ipv6_multi>" }, "route ENTR": { "ipv4": "<ipv4>", "ipv6": "<ipv6>" } }]</pre>
-------------------------	---

where:

Parameter	Description
cur_mode	The ID of the running boot profile (string). Valid values: 1-N. Note: The maximum number depends on the platform.
conf_mode	The ID of the configured boot profile. Valid values: 1-N. Note: The maximum number depends on the platform.
mac_addr	The number of available MAC addresses (integer).
ipv4_uni	The number of IPv4 unicast addresses (integer).
ipv6_uni	The number of IPv6 unicast addresses (integer).
ipv4_multi	The number of IPv4 multicast addresses (integer).
ipv6_multi	The number of IPv6 multicast addresses (integer).
ipv4	The number of IPv4 unicast routes (integer).
ipv6	The number of IPv6 unicast routes (integer).

Set Boot Profile

Sets the profile that will be used after the next unit boot.

Request

Method Type	PUT
Request URI	/nos/api/bootprofile
Request Body (JSON)	{ "profile": <profile> }

where:

Parameter	Description
profile	The boot profile ID (integer). Valid values: 0 for all profiles, 1-N for a specified profile. Default value: 0. Note: The maximum number depends on the platform.

Response

Returns the operation status (string). Valid value: "OK".

CEE

The following Converged Enhanced Ethernet (CEE) URIs are available:

- /nos/api/cfg/cee GET, PUT
- /nos/api/cfg/cee/pfc GET, PUT
- /nos/api/cfg/cee/pfc/<if_name> GET, PUT
- /nos/api/info/cee/pfc/counters/<if_name> GET
- /nos/api/cfg/cee/ets GET, PUT
- /nos/api/cfg/cee/app-proto GET, POST, DELETE
- /nos/api/cfg/cee/dcbx/<if_name> GET, PUT
- /nos/api/info/cee/dcbx/ctrl/<if_name> GET
- /nos/api/info/cee/dcbx/admin/<if_name> GET
- /nos/api/info/cee/dcbx/oper/<if_name> GET
- /nos/api/info/cee/dcbx/remote/<if_name> GET

The following CEE commands are available:

- [Get CEE Configuration](#)
- [Update CEE Configuration](#)
- [Get PFC Configuration](#)
- [Update PFC Configuration](#)
- [Get PFC Interface Configuration](#)
- [Update PFC Interface Configuration](#)
- [Get PFC Interface Statistics](#)
- [Get ETS Configuration](#)
- [Update ETS Configuration](#)
- [Get Application Protocol Configuration](#)
- [Create Application Protocol Configuration](#)
- [Delete Application Protocol Configuration](#)
- [Get DCBX Configuration](#)
- [Update DCBX Configuration](#)
- [Get DCBX Control Interface Information](#)
- [Get DCBX Administrative Interface Information](#)
- [Get DCBX Operational Interface Information](#)
- [Get DCBX Remote Interface Information](#)

Get CEE Configuration

Gets the current CEE configuration.

Request

Method Type	GET
Request URI	/nos/api/cfg/cee
Request Body (JSON)	

Response

Response Body (JSON)	{ "status": "{off on}", }
----------------------	---------------------------------

where:

Parameter	Description
status	The status of the CEE service on the switch (string). Valid values: "off" for disabled, "on" for enabled. Default value: "off".

Update CEE Configuration

Updates the CEE configuration.

Request

Method Type	PUT
Request URI	/nos/api/cfg/cee
Request Body (JSON)	{ "status": <CEE status : "off" or "on"> }

where:

Parameter	Description
status	The status of the CEE service on the switch (string). Valid values: "off" for disabled, "on" for enabled. Default value: "off".

Response

Response Body (JSON)	{ "status": <CEE status : "off" or "on"> }
----------------------	--

where:

Parameter	Description
status	The status of the CEE service on the switch (string). Valid values: "off" for disabled, "on" for enabled. Default value: "off".

Get PFC Configuration

Gets the current Priority Flow Control (PFC) configuration.

Request

Method Type	GET
Request URI	/nos/api/cfg/cee/pfc
Request Body (JSON)	

Response

Response Body (JSON)	{ "state":<off on>, "priority_map":<priority_map> }
----------------------	--

where:

Parameter	Description
state	The status of PFC on the switch (string). Valid values: "off" for disabled, "on" for enabled.
priority_map	The PFC priority flow map. A list of enabled priorities. Valid values: 0-7.

Update PFC Configuration

Updates the PFC configuration.

Note: Unlike the CLI command, the PUT operation overwrites any previous configurations.

Request

Method Type	PUT
Request URI	/nos/api/cfg/cee/pfc
Request Body (JSON)	{ "state":<off on>, "priority_map":<priority_map> }

where:

Parameter	Description
state	The status of PFC on the switch (string). Valid values: "off" for disabled, "on" for enabled.
priority_map	The PFC priority flow map. A list of enabled priorities. Valid values: 0-7. Notes: <ul style="list-style-type: none">Up to two PFC priorities can be simultaneously enabled, except for the NE10032, where the limit is one priority.The PFC priority flow map must not contain a combination of enabled and disabled priorities. Configure ETS appropriately and then enabled PFC to avoid configuration issues.

Response

Response Body (JSON)	{ "state":<off on>, "priority_map":<priority_map> }
----------------------	--

where:

Parameter	Description
state	The status of PFC on the switch (string). Valid values: "off" for disabled, "on" for enabled.
priority_map	The PFC priority flow map. A list of enabled priorities. Valid values: 0-7.

Get PFC Interface Configuration

Gets the current PFC configuration for a specific switch interface.

Request

Method Type	GET
Request URI	/nos/api/cfg/cee/pfc/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The name of the switch interface (string). The interface name. For example: "Ethernet1%2F1"..

Response

Response Body (JSON)	{ "state":<off on>, "priority_map":<priority_map> }
----------------------	--

where:

Parameter	Description
state	The status of PFC on the switch (string). Valid values: "off" for disabled, "on" for enabled.
priority_map	The PFC priority flow map. A list of enabled priorities. Valid values: 0-7.

Update PFC Interface Configuration

Updates the PFC configuration for a specific switch interface.

Request

Method Type	PUT
Request URI	/nos/api/cfg/cee/pfc/<if_name>
Request Body (JSON)	{ "state":<off on>, "priority_map":<priority_map> }

where:

Parameter	Description
<i>if_name</i>	The name of the switch interface (string). The interface name. For example: "Ethernet1%2F1".
state	The status of PFC on the switch (string). Valid values: "off" for disabled, "on" for enabled.
priority_map	The PFC priority flow map. A list of enabled priorities. Valid values: 0-7.

Response

Response Body (JSON)	{ "state":<off on>, "priority_map":<priority_map> }
----------------------	--

where:

Parameter	Description
state	The status of PFC on the switch (string). Valid values: "off" for disabled, "on" for enabled.
priority_map	The PFC priority flow map. A list of enabled priorities. Valid values: 0-7.

Get PFC Interface Statistics

Gets PFC statistics for a specific switch interface.

Request

Method Type	GET
Request URI	/nos/api/info/cee/pfc/counters/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The name of the switch interface (string). The interface name. For example: "Ethernet1%2F1".

Response

Response Body (JSON)	<pre>{ "if_name": "<if_name>", "pfc_received": <Rx count>, "pfc_sent": <Tx count> }</pre>
----------------------	---

where:

Parameter	Description
<i>if_name</i>	The name of the switch interface (string).
<i>pfc_received</i>	The number of received PFC packets (integer).
<i>pfc_sent</i>	The number of sent PFC packets (integer).

Get ETS Configuration

Gets the current Enhanced Transmission Selection (ETS) configuration.

Request

Method Type	GET
Request URI	/nos/api/cfg/cee/ets
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "pgid": 0, "bandwidth": "<banwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 1, "bandwidth": "<banwidth>", "priority_pgid_mapping": "{priority_map}" }, { "pgid": 2, "bandwidth": "<banwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 3, "bandwidth": "<banwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 4, "bandwidth": "<banwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 5, "bandwidth": "<banwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 6, "bandwidth": "<banwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 7, "bandwidth": "<banwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 15, "bandwidth": "<banwidth>", "priority_pgid_mapping": "<priority_map>" },]</pre>
----------------------	--

where:

Parameter	Description
pgid	The ID of the ETS priority group. An integer from 0-7, or 15.

Parameter	Description
bandwidth	The bandwidth percentage allocated to the priority group. An integer from 0-100.
priority_ pgid_ mapping	The priorities mapped to the priority group. An integer from 0-7.

Update ETS Configuration

Updates the ETS configuration.

Request

Method Type	PUT
Request URI	/nos/api/cfg/cee/ets
Request Body (JSON)	<pre>[{ "pgid": 0, "bandwidth": "<bandwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 1, "bandwidth": "<bandwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 2, "bandwidth": "<bandwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 3, "bandwidth": "<bandwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 4, "bandwidth": "<bandwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 5, "bandwidth": "<bandwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 6, "bandwidth": "<bandwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 7, "bandwidth": "<bandwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 15, "bandwidth": "<bandwidth>", "priority_pgid_mapping": "<priority_map>" },]</pre>

where:

Parameter	Description
pgid	The ID of the ETS priority group. An integer from 0-7, or 15.
bandwidth	The bandwidth percentage allocated to the priority group. An integer from 0-100. Note: The total bandwidth percentage for all priority groups must not exceed 100%
priority_ pgid_ mapping	The priorities mapped to the priority group. An integer from 0-7.

Response

Response Body (JSON)	<pre>[{ "pgid": 0, "bandwidth": "<banwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 1, "bandwidth": "<banwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 2, "bandwidth": "<banwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 3, "bandwidth": "<banwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 4, "bandwidth": "<banwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 5, "bandwidth": "<banwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 6, "bandwidth": "<banwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 7, "bandwidth": "<banwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 15, "bandwidth": "<banwidth>", "priority_pgid_mapping": "<priority_map>" },]</pre>
----------------------	--

where:

Parameter	Description
pgid	The ID of the ETS priority group. An integer from 0-7, or 15.

Parameter	Description
bandwidth	The bandwidth percentage allocated to the priority group. An integer from 0-100.
priority_ pgid_ mapping	The priorities mapped to the priority group. An integer from 0-7.

Get Application Protocol Configuration

Gets the current application protocol configuration.

Request

Method Type	GET
Request URI	/nos/api/cfg/cee/app-proto
Request Body (JSON)	

Response

Response Body (JSON)	[{ "config_name": "<config_name>", "protocol": "<protocol>", "protoid": "<proto_id>", "priority": "<priority>" },]
----------------------	---

where:

Parameter	Description
config_name	The name of application protocol configuration (string).
protocol	The name of the protocol (string). Valid values: "Ethertype", "tcp", "udp".
protoid	The protocol identifier (string): <ul style="list-style-type: none">● hexadecimal for Ethernet type (for example, "0x8900")● "fcoe", "iscsi", "roce", "rocev2" for well known protocols● 0-65535 for TCP or UDP ports
priority	The priority mapped to the application protocol configuration. An integer from 0-7.

Create Application Protocol Configuration

Creates a new application protocol configuration.

Request

Method Type	POST
Request URI	/nos/api/cfg/cee/app-proto
Request Body (JSON)	[<pre> { "config_name": "<config_name>", "protocol": "<protocol>", "protoid": "<proto_id>", "priority": "<priority>" },]</pre>

where:

Parameter	Description																				
config_name	The name of application protocol configuration (string).																				
protocol	(Optional) The unique name of the configured application protocol (string). Valid values: "Ethertype", "tcp", "udp". Note: For well known protocols (fcoe, iscsi, roce, rocev2) this variable is not mandatory. For user defined protocols, the value of the variable must be ethertype and protoid must be a valid Ethernet type value (0x800 - 0x9100).																				
protoid	The protocol identifier (string): <ul style="list-style-type: none"> hexadecimal for Ethernet type (for example, "0x8900") "fcoe", "iscsi", "roce", "rocev2" for well known protocols 0-65535 for TCP or UDP ports Note: This variable is optional for well known protocols. To create a new application protocol for other proto-IDs, protocol information is required as showed in the following example for TCP port 8090. <table border="1" style="margin-top: 10px;"> <thead> <tr> <th>Protocol</th> <th>ProtoId</th> <th>Priorities</th> <th>ConfigName</th> </tr> </thead> <tbody> <tr> <td>Ethertype</td> <td>fcoe</td> <td>5</td> <td>fcoe_app</td> </tr> <tr> <td>TCP</td> <td>iSCSI</td> <td>4</td> <td>iscsi_app</td> </tr> <tr> <td>UDP</td> <td>RoCEv2</td> <td>3</td> <td>rocev2_app</td> </tr> <tr> <td>Ethertype</td> <td>0x8900</td> <td>1</td> <td>my_eth_app</td> </tr> </tbody> </table>	Protocol	ProtoId	Priorities	ConfigName	Ethertype	fcoe	5	fcoe_app	TCP	iSCSI	4	iscsi_app	UDP	RoCEv2	3	rocev2_app	Ethertype	0x8900	1	my_eth_app
Protocol	ProtoId	Priorities	ConfigName																		
Ethertype	fcoe	5	fcoe_app																		
TCP	iSCSI	4	iscsi_app																		
UDP	RoCEv2	3	rocev2_app																		
Ethertype	0x8900	1	my_eth_app																		
priority	The priority mapped to the application protocol configuration. An integer from 0-7.																				

Response

Response Body (JSON)	<pre>[{ "config_name": "<config_name>", "protocol": "<protocol>", "protoid": "<proto_id>", "priority": "<priority>" },]</pre>
----------------------	---

where:

Parameter	Description
config_name	The name of application protocol configuration (string).
protocol	The name of the protocol (string). Valid values: "Ethertype", "tcp", "udp".
protoid	The name of the protocol (string).
priority	The priority mapped to the application protocol configuration. An integer from 0-7.

Delete Application Protocol Configuration

Deletes an application protocol configuration.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/cee/app-proto/<config_name>
Request Body (JSON)	

where:

Parameter	Description
<i>config_name</i>	The name of application protocol configuration (string).

Response

Response Body (JSON)	
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Get DCBX Configuration

Gets the current Data Center Bridging Exchange (DCBX) configuration for a specific switch interface.

Request

Method Type	GET
Request URI	/nos/api/cfg/cee/dcbx/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The name of the switch interface (string). The interface name. For example: "Ethernet1%2F1".

Response

Response Body (JSON)	<pre>{ "if_name": "<if_name>", "dcbx state": "<enable disable>", "pfc advt": "<on off>", "ets advt": "<on off>", "app advt": "<on off>" }</pre>
----------------------	---

where:

Parameter	Description
<i>if_name</i>	The name of the switch interface (string).
<i>dcbx state</i>	The status of DCBX on the interface (string). Valid values: "enable", "disable".
<i>pfc advt</i>	The status of PFC local configuration advertisement to the DCBX peer (string). Valid values: "on", "off".
<i>ets advt</i>	The status of ETS local configuration advertisement to the DCBX peer (string). Valid values: "on", "off".
<i>app advt</i>	The status of application protocol local configuration advertisement to the DCBX peer (string). Valid values: "on", "off".

Update DCBX Configuration

Updates the DCBX configuration for a specific switch interface.

Request

Method Type	PUT
Request URI	/nos/api/cfg/cee/dcbx/<if_name>
Request Body (JSON)	<pre>{ "if_name": "<if_name>", "dcbx_state": "<enable disable>", "pfc advt": "<on off>", "ets advt": "<on off>", "app advt": "<on off>" }</pre>

where:

Parameter	Description
if_name	The name of the switch interface (string). For example: "Ethernet1%2F1".
dcbx_state	The status of DCBX on the interface (string). Valid values: one of "enable", "disable".
pfc advt	The status of PFC local configuration advertisement to the DCBX peer (string). Valid values: "on", "off".
ets advt	The status of ETS local configuration advertisement to the DCBX peer (string). Valid values: "on", "off".
app advt	The status of application protocol local configuration advertisement to the DCBX peer (string). Valid values: "on", "off".

Response

Response Body (JSON)	<pre>{ "if_name": "<if_name>", "dcbx_state": "<enable disable>", "pfc advt": "<on off>", "ets advt": "<on off>", "app advt": "<on off>" }</pre>
----------------------	---

where:

Parameter	Description
if_name	The name of the switch interface (string).
dcbx_state	The status of DCBX on the interface (string). Valid values: one of "enable", "disable".

Parameter	Description
pfc advt	The status of PFC local configuration advertisement to the DCBX peer (string). Valid values: "on", "off".
ets advt	The status of ETS local configuration advertisement to the DCBX peer (string). Valid values: "on", "off".
app advt	The status of application protocol local configuration advertisement to the DCBX peer (string). Valid values: "on", "off".

Get DCBX Control Interface Information

Gets DCBX control information for a specific switch interface.

Request

Method Type	GET
Request URI	/nos/api/info/cee/dcbx/ctrl/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The name of the switch interface (string). The interface name. For example: "Ethernet1%2F1".

Response

Response Body (JSON)	{ "if_name": <interface name>, "DCBX Admin-state": <DCBX Admin-state>, "DCBX version": <DCBX version> }
----------------------	---

where:

Parameter	Description
<i>if_name</i>	The name of the switch interface (string).
DCBX Admin-state	The status of DCBX on the switch interface (string). Valid values: "enable", "disable". Default value: "disable".
DCBX version	The version of DCBX (string). Valid values: <ul style="list-style-type: none">"DCBX CEE (v1.01)""DCBX IEEE 802.1Qaz (v2.5)"
<i>seq_no</i>	The sequence number, in case of DCBX CEE.
<i>ack_no</i>	The acknowledgement number, in case of DCBX CEE.

Get DCBX Administrative Interface Information

Gets DCBX administrative information for a specific switch interface.

Request

Method Type	GET
Request URI	/nos/api/info/cee/dcbx/admin/<if_name>
Request Body (JSON)	>

where:

Parameter	Description
<i>if_name</i>	The name of the switch interface (string). The interface name. For example: "Ethernet1%2F1".

Response

Response Body (JSON)	<pre>{ "if_name": "<if_name>", "dcbx_state": "<enable disable>", "pfc_admin": { "state": "<on off>", "advt": "<on off>", "willing": "<on off>", "max_cap": "<max_cap>", "syncd": "<on off>", "priority_map": "<priority_map>" }, "ets_admin": { "state": "<on off>", "advt": "<on off>", "willing": "<on off>", "syncd": "<on off>", "tcg": [{ "pgid": 0, "bandwidth": "<bandwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 1, "bandwidth": "<bandwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 2, "bandwidth": "<bandwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 3, "bandwidth": "<bandwidth>", "priority_pgid_mapping": "{<riority_map>" }, ...] } }</pre>
-------------------------	---

Response Body (JSON)	<pre> ... { "pgid": 4, "bandwidth": "<banwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 5, "bandwidth": "<banwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 6, "bandwidth": "<banwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 7, "bandwidth": "<banwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 15, "bandwidth": "<banwidth>", "priority_pgid_mapping": "<priority_map>" },], "app_admin": { "state": "<on off>", "advrt": "<on off>", "willing": "<on off>", }, "app_protocol": [{ "protocol": "<protocol>", "protostr": "<proto_str>", "priority": "<priority>" },],] } </pre>
----------------------	--

where:

Parameter	Description
if_name	The name of the switch interface (string).
dcbx state	The status of DCBX on the interface (string). Valid values: "enable", "disable".
pfc_admin	The current PFC configuration.
state	The status of PFC on the switch interface (string). Valid values: "on", "off".

Parameter	Description
adv_t	The status of PFC local configuration advertisement to the DCBX peer (string). Valid values: "on", "off".
willing	Whether the switch is "willing" to learn PFC configurations from a DCBX peer (string). Valid values: "on", "off".
max_cap	The maximum PFC capability (integer).
syncd	The status of PFC information synchronization (string). Valid values: "on", "off".
priority_map	The PFC priorities enabled on the interface. An integer from 0-7.
ets_admin	The current ETS configuration.
state	The status of ETS on the switch interface (string). Valid values: "on", "off".
adv_t	The status of ETS local configuration advertisement to the DCBX peer (string). Valid values: "on", "off".
willing	Whether the switch is "willing" to learn ETS configurations from a DCBX peer (string). Valid values: "on", "off".
syncd	The status of ETS information synchronization (string). Valid values: "on", "off".
pgid	The ID of the ETS priority group. An integer from 0-7, or 15.
bandwidth	The bandwidth percentage allocated to the priority group. An integer from 0-100.
priority_pgid_mapping	The priorities mapped to the priority group. An integer from 0-7.
app_admin	The current application control configuration.
state	The status of application control on the switch interface (string). Valid values: "on", "off".
adv_t	The status of application control local configuration advertisement to the DCBX peer (string). Valid values: "on", "off".
willing	Whether the switch is "willing" to learn application control configurations from a DCBX peer (string). Valid values: "on", "off".
app_protocol	The list of created application protocols (string).
protocol	The name of the protocol (string). Valid values: "Ether type", "tcp", "udp".

Parameter	Description
protostr	The protocol identifier. Valid values: <ul style="list-style-type: none">• a string for Ethertype or well known protocols• 0-65535 for TCP or UDP ports
priority	The priority mapped to the application protocol configuration. An integer from 0-7.

Get DCBX Operational Interface Information

Gets DCBX operational information for a specific switch interface.

Request

Method Type	GET
Request URI	/nos/api/info/cee/dcbx/oper/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The name of the switch interface (string). The interface name. For example: "Ethernet1%2F1".

Response

Response Body (JSON)	<pre>{ "if_name": "<if_name>", "dcbx_state": "<enable disable>", "pfc_admin": { "state": "<on off>", "max_cap": "<max_cap>", "syncd": "<on off>", "priority_map": "<priority_map>" }, "ets_admin": { "state": "<on off>", "tcg": [{ "pgid": 0, "bandwidth": "<bandwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 1, "bandwidth": "<bandwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 2, "bandwidth": "<bandwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 3, "bandwidth": "<bandwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 4, "bandwidth": "<bandwidth>", "priority_pgid_mapping": "<priority_map>" }], ... } }</pre>
----------------------	--

Response Body (JSON)	<pre> ... { "pgid": 5, "bandwidth": "<bandwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 6, "bandwidth": "<bandwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 7, "bandwidth": "<bandwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 15, "bandwidth": "<bandwidth>", "priority_pgid_mapping": "<priority_map>" },], "app_admin": { "state": "<on off>", }, "app_protocol": [{ "protocol": "<protocol>", "protostr": "<proto_str>", "priority": "<priority>" },],] } </pre>
----------------------	---

where:

Parameter	Description
if_name	The name of the switch interface (string).
dcbx_state	The status of DCBX on the interface (string). Valid values: "enable", "disable".
pfc_admin	The current PFC configuration.
state	The status of PFC on the switch interface (string). Valid values: "on", "off".
max_cap	The maximum PFC capability (integer).
syncd	The status of PFC information synchronization (string). Valid values: "on", "off".
priority_map	The PFC priorities enabled on the interface (string). Valid values: "on", "off".

Parameter	Description
ets_admin	The current ETS configuration.
state	The status of ETS on the switch interface (string). Valid values: "on", "off".
pgid	The ID of the ETS priority group. An integer from 0-7, or 15.
bandwidth	The bandwidth percentage allocated to the priority group. An integer from 0-100.
priority_ pgid_ mapping	The priorities mapped to the priority group. An integer from 0-7.
app_admin	The current application control configuration.
state	The status of application control on the switch interface (string). Valid values: "on", "off".
app_ protocol	The list of created application protocols (string).
protocol	The name of the protocol (string). For example: "Ethertype", "tcp", "udp".
protostr	The protocol identifier. Valid values: <ul style="list-style-type: none"> • a string for Ethertype or well known protocols • 0-65535 for TCP or UDP ports
priority	The priority mapped to the application protocol configuration. An integer from 0-7.

Get DCBX Remote Interface Information

Gets DCBX remote information for a specific switch interface.

Request

Method Type	GET
Request URI	/nos/api/info/cee/dcbx/remote/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The name of the switch interface (string). The interface name. For example: "Ethernet1%2F1".

Response

Response Body (JSON)	<pre>{ "if_name": "<if_name>", "dcbx_state": "<enable disable>", "pfc_admin": { "state": "<on off>", "willing": "<on off>", "max_cap": "<max_cap>", "priority_map": "<priority_map>" }, "ets_admin": { "state": "<on off>", "willing": "<on off>", "tcg": [{ "pgid": 0, "bandwidth": "<bandwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 1, "bandwidth": "<bandwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 2, "bandwidth": "<bandwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 3, "bandwidth": "<bandwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 4, "bandwidth": "<bandwidth>", "priority_pgid_mapping": "<priority_map>" }, ...] } }</pre>
----------------------	---

Response Body (JSON)	<pre> ... { "pgid": 5, "bandwidth": "<bandwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 6, "bandwidth": "<bandwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 7, "bandwidth": "<bandwidth>", "priority_pgid_mapping": "<priority_map>" }, { "pgid": 15, "bandwidth": "<bandwidth>", "priority_pgid_mapping": "<priority_map>" },], "app_admin": { "state": "<on off>", "willing": "<on off>", }, "app_protocol": [{ "protocol": "<protocol>", "protostr": "<proto_id>", "priority": "<priority>" },], } </pre>
----------------------	---

where:

Parameter	Description
if_name	The name of the switch interface (string).
dcbx state	The status of DCBX on the interface (string). Valid values: "enable", "disable".
pfc_admin	The current PFC configuration.
state	The status of PFC on the switch interface (string). Valid values: "on", "off".
willing	Whether the switch is "willing" to learn PFC configurations from a DCBX peer (string). Valid values: "on", "off".
max_cap	The maximum PFC capability (integer).
priority_map	The PFC priorities enabled on the interface. An integer from 0-7.

Parameter	Description
ets_admin	The current ETS configuration.
state	The status of ETS on the switch interface (string). Valid values: "on", "off".
willing	Whether the switch is "willing" to learn ETS configurations from a DCBX peer (string). Valid values: "on", "off".
pgid	The ID of the ETS priority group. An integer from 0-7, or 15.
bandwidth	The bandwidth percentage allocated to the priority group (string). Valid values: "on", "off".
priority_ pgid_ mapping	The priorities mapped to the priority group. An integer from 0-7.
app_admin	The current application control configuration.
state	The status of application control on the switch interface (string). Valid values: "on", "off".
willing	Whether the switch is "willing" to learn application control configurations from a DCBX peer (string). Valid values: "on", "off".
app_ protocol	The list of created application protocols (string).
protocol	The name of the protocol (string). Valid values: "Ethertype", "TCP", "UDP".
protostr	The protocol identifier. Valid values: <ul style="list-style-type: none"> • a string for Ethertype or well known protocols • 0-65535 for TCP or UDP ports
priority	The priority mapped to the application protocol configuration. An integer from 0-7.

DCI

The following Data Center Interconnection (DCI) URIs are available:

- /nos/api/cfg/nwv GET, POST
- /nos/api/cfg/nwv/vxlan GET, POST, PUT
- /nos/api/cfg/<if_name>/vxlan GET, POST, PUT
- /nos/api/cfg/lag/<id>/vxlan GET, POST, PUT
- /nos/api/info/nwv/vxlan GET
- /nos/api/info/nwv/vxlan/mac-address GET
- /nos/api/info/nwv/vxlan/vni GET
- /nos/api/info/nwv/vxlan/vni/counters GET, DELETE
- /nos/api/info/nwv/vxlan/tunnel GET
- /nos/api/info/nwv/vxlan/bfd GET
- /nos/api/info/nwv/vxlan/mac-address GET
- /nos/api/info/nwv/vxlan/virtual-port GET
- /nos/api/info/nwv/vxlan/virtualport/counters GET, DELETE
- /nos/api/info/nwv/vxlan/l3vniid GET
- /nos/api/cfg/nwv/vxlan/routing_state PUT

The following DCI commands are available:

- [Get NWV Configuration](#)
- [Update NWV Configuration](#)
- [Get NWV VXLAN \(DCI\) Configuration](#)
- [Set NWV VXLAN \(DCI\) Configuration](#)
- [Update NWV VXLAN \(DCI\) Configuration](#)
- [Get Interface Ethernet VXLAN Configuration](#)
- [Set Interface Ethernet VXLAN Configuration](#)
- [Update Interface Ethernet VXLAN Configuration](#)
- [Get Interface LAG VXLAN Configuration](#)
- [Set Interface LAG VXLAN Configuration](#)
- [Update Interface LAG VXLAN Configuration](#)
- [Get NWV VXLAN Information](#)
- [Get NWV VXLAN VNI nformation](#)
- [Get NWV VXLAN VNI Counters Information](#)
- [Delete NWV VXLAN VNI Counters](#)

- [Get NWV VXLAN Tunnel Information](#)
- [Get NWV VXLAN BFD Information](#)
- [Get NWV VXLAN MAC-Address Information](#)
- [Get NWV VXLAN Virtual Ports Information](#)
- [Get NWV VXLAN Virtual Port Counters Information](#)
- [Delete NWV VXLAN Virtual Port Counters](#)
- [Get VXLAN VNID List](#)
- [Set VXLAN Routing State](#)

Get NWV Configuration

Gets global Network Virtualization (NWV) configuration of the system.

Request

Method Type	GET
Request URI	nos/api/cfg/nwv
Request Body (JSON)	

Response

Response Body (JSON)	{ "encapsulation": <encapsulation>, "ha":<ha>, "mode": <mode> }
-------------------------	---

where:

Parameter	Description
encapsulation	The Encapsulation method: VTEP (VXLAN). A string. Note: This parameter is valid for hsc and disabled modes.
ha	High Availability mode (string). Valid values: "vlag", "disabled".
mode	NWM mode (string). Valid values: "disabled", "static", "bgp-evpn". Note: If the hardware install/uninstall process is not finished, "Vxlan not ready" is displayed.

Update NWV Configuration

Updates the NWV status.

Request

Method Type	POST
Request URI	nos/api/cfg/nwv
Request Body (JSON)	{ "encapsulation": <encapsulation>, "ha": <ha>, "mode": <mode> }

where:

Parameter	Description
encapsulation	The Encapsulation method: VTEP (VXLAN). A string. Note: This parameter is valid for hsc and disabled modes.
ha	High Availability mode (string). Valid values: "vlag", "disabled".
mode	NWM mode (string). Valid values: "disabled", "static", "bgp-evpn". Note: If the hardware install/uninstall process is not finished, "Vxlan not ready" is displayed.

Response

Response Body (JSON)	{ "encapsulation": <encapsulation>, "ha": <ha>, "mode": <mode> }
-------------------------	--

where:

Parameter	Description
encapsulation	The Encapsulation method: VTEP (VXLAN). A string. Note: This parameter is valid for hsc and disabled modes.
ha	High Availability mode (string). Valid values: "vlag", "disabled".
mode	NWM mode (string). Valid values: "disabled", "static", "bgp-evpn". Note: If the hardware install/uninstall process is not finished, "Vxlan not ready" is displayed.

Get NWV VXLAN (DCI) Configuration

Gets NWV VXLAN (DCI) configuration.

Request

Method Type	GET
Request URI	nos/api/cfg/nwv/vxlan
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "tunnel_ip_addr": "2.100.30.30", "vlan_bindings": ["map" [[101, 10001], [201, 20001]]], "remote_vtep": ["map", [[10001, ["10.10.1.1", "10.2.2.3"]], [20001, ["10.10.1.5"]]]] }</pre>
-------------------------	--

where:

Parameter	Description
tunnel_ip_addr	Configures the local VTEP interface (string).
vlan_bindings	Maps the global VLAN ID to a Virtual Network ID.
remote_vtep	Maps the VTEP to a specific VNID network.

Set NWV VXLAN (DCI) Configuration

Updates the NWV VXLAN (DCI) configuration.

Request

Method Type	POST
Request URI	/nos/api/cfg/nwv/vxlan
Request Body (JSON)	<pre>{ "tunnel_ip_addr": "2.100.30.30", "vlan_bindings": ["map", [[101,10001], [201,20001]]], "remote_vtep": ["map", [[10001, ["10.10.1.1", "10.2.2.3"]], [20001, ["10.10.1.5"]]] }</pre>

where:

Parameter	Description
tunnel_ip_addr	Configures the local VTEP interface (string). A valid IP address. Note: Make sure the IP address is properly configured.
vlan_bindings	(Optional) Configure the global VLAN-VNI mapping; a list of VLANID, VNID. The <code>map</code> parameter is used to add a new mapping to the existing one.
remote_vtep	(Optional) A list of VTEP IP address per VNID. The <code>map</code> parameter is used to add a new VTEP to the existing one.

Response

Response Body (JSON)	<pre>{ "tunnel_ip_addr": "2.100.30.30", "vlan_bindings": ["map", [[101, 10001], [201, 20001]]], "remote_vtep": ["map", [[10001, ["10.10.1.1", "10.2.2.3"]], [20001, ["10.10.1.5"]]]] }</pre>
-------------------------	--

where:

Parameter	Description
tunnel_ip_addr	Configures the local VTEP interface (string). A valid IP address. Note: Make sure the IP address is properly configured.
vlan_bindings	Configure the global VLAN-VNI mapping; a list of VLANID, VNID.
remote_vtep	A list of VTEP IP address per VNID. The map parameter is used to add a new VTEP to the existing one.

Update NWV VXLAN (DCI) Configuration

Updates the NWV VXLAN (DCI) configuration.

Request

Method Type	PUT
Request URI	nos/api/cfg/nwv/vxlan
Request Body (JSON)	<pre>{ "tunnel_ip_addr": "2.100.30.30", "vlan_bindings": ["set", [[201,20001]]], "remote_vtep": ["set", [[10001, ["10.10.1.1", "10.2.2.3"]], [20001, ["10.10.1.5"]]]] }</pre>

where:

Parameter	Description
tunnel_ip_addr	(Optional) Configures the local VTEP interface (string). A valid IP address. Note: Make sure the IP address is properly configured.
vlan_bindings	(Optional) Configure the global VLAN-VNI mapping; a list of VLANID, VNID. set removes the vni-mapping, map adds a new vni-mapping to the existing list.
remote_vtep	(Optional) A list of VTEP IP address per VNID. set removes the remote-vtep. The map parameter is used to add a new remote-vtep to the existing list.

Response

Response Body (JSON)	<pre>{ "tunnel_ip_addr": "2.100.30.30", "vlan_bindings": ["map", [[101, 10001], [201, 20001]]], "remote_vtep": ["map", [[10001, ["10.10.1.1", "10.2.2.3"]], [20001, ["10.10.1.5"]]]] }</pre>
-------------------------	--

where:

Parameter	Description
tunnel_ip_addr	Configures the local VTEP interface (string). A valid IP address. Note: Make sure the IP address is properly configured.
vlan_bindings	Configure the global VLAN-VNI mapping; a list of VLANID, VNID.
remote_vtep	A list of VTEP IP address per VNID.

Get Interface Ethernet VXLAN Configuration

Gets VXLAN configuration for a specified interface.

Request

Method Type	GET
Request URI	/nos/api/cfg/<if_name>/vxlan
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	Interface name. Note: The interface must exist. For example Ethernet 1/1 or Ethernet1%2F1 for RESTfulAPI.

Response

Response Body (JSON)	{ "vxlan": "enabled disabled" }
-------------------------	---

where:

Parameter	Description
<i>if_name</i>	Interface name. Note: The interface must exist. For example Ethernet 1/1 or Ethernet1%2F1 for RESTfulAPI.
<i>vxlan</i>	The VXLAN interface state (string). Valid values: "enabled", "disabled". Default value: "disabled".

Set Interface Ethernet VXLAN Configuration

Updates the VXLAN configuration for a specified interface.

Request

Method Type	POST
Request URI	/nos/api/cfg/<if_name>/vxlan
Request Body (JSON)	{ "vxlan": "enabled disabled " }

where:

Parameter	Description
<i>if_name</i>	Interface name. Note: The interface must exist. For example Ethernet 1/1 or Ethernet1%2F1 for RESTfulAPI.
vxlan	The VXLAN interface state (string). Valid values: "enabled", "disabled". Default value: "disabled".

Response

Response Body (JSON)	{ "vxlan": "disabled" }
-------------------------	-------------------------------

where:

Parameter	Description
<i>if_name</i>	Interface name. Note: The interface must exist.
vxlan	The VXLAN interface state (string). Valid values: "enabled", "disabled". Default value: "disabled".

Update Interface Ethernet VXLAN Configuration

Updates the VXLAN configuration for a specified interface.

Request

Method Type	PUT
Request URI	/nos/api/cfg/<if_name>/vxlan
Request Body (JSON)	{ "vxlan": "enabled disabled" }

where:

Parameter	Description
<i>if_name</i>	Interface name. For example: "Ethernet1%2F1". Note: The interface must exist.
vxlan	The VXLAN interface state (string). Valid values: "enabled", "disabled". Default value: "disabled".

Response

Response Body (JSON)	{ "vxlan": "disabled" }
-------------------------	-------------------------------

where:

Parameter	Description
<i>if_name</i>	Interface name. Note: The interface must exist.
vxlan	The VXLAN interface state (string). Valid values: "enabled", "disabled". Default value: "disabled".

Get Interface LAG VXLAN Configuration

Gets VXLAN configuration for a specified interface.

Request

Method Type	GET
Request URI	/nos/api/cfg/lag/<id>/vxlan
Request Body (JSON)	

where:

Parameter	Description
<i>id</i>	LAG interface ID.

Response

Response Body (JSON)	{ "vxlan": "enabled disabled" }
-------------------------	---

where:

Parameter	Description
<i>id</i>	LAG interface ID.
<i>vxlan</i>	The VXLAN interface state (string). Valid values: "enabled", "disabled". Default value: "disabled".

Set Interface LAG VXLAN Configuration

Updates VXLAN configurations for a specified interface.

Request

Method Type	POST
Request URI	/nos/api/cfg/lag/<id>/vxlan
Request Body (JSON)	{ "vxlan": "enabled disabled" }

where:

Parameter	Description
<i>id</i>	LAG interface ID.
vxlan	The VXLAN interface state (string). Valid values: "enabled", "disabled". Default value: "disabled".

Response

Response Body (JSON)	{ "vxlan": "disabled" }
-------------------------	-------------------------------

where:

Parameter	Description
<i>id</i>	LAG interface ID.
vxlan	The VXLAN interface state (string). Valid values: "enabled", "disabled". Default value: "disabled".

Update Interface LAG VXLAN Configuration

Updates the VXLAN configuration for a specific interface.

Request

Method Type	PUT
Request URI	/nos/api/cfg/lag/<id>/vxlan
Request Body (JSON)	{ "vxlan": "enabled disabled" }

where:

Parameter	Description
<i>id</i>	LAG interface ID.
<i>vxlan</i>	The VXLAN interface state (string). Valid values: "enabled", "disabled". Default value: "disabled".

Response

Response Body (JSON)	{ "vxlan": "disabled" }
-------------------------	-------------------------------

where:

Parameter	Description
<i>id</i>	LAG interface ID.
<i>vxlan</i>	The VXLAN interface state (string). Valid values: "enabled", "disabled". Default value: "disabled".

Get NWV VXLAN Information

Gets the NWV VXLAN information.

Request

Method Type	GET
Request URI	/nos/api/info/nwv/vxlan
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "tunnel_ip_addr": "2.100.30.30", "vlan_bindings": ["map", [[101, 10001]]], "remote_vtep": ["map", [[10001, ["10.10.1.1", "10.2.2.3"]], [20001, ["10.10.1.5"]]]] }</pre>
----------------------	--

where:

Parameter	Description
tunnel_ip_addr	Configures the local VTEP interface (string). A valid IP address.
vlan_bindings	The global VLAN ID to Virtual Network ID mapping.
remote_vtep	The VTEP mapping to a specific VNID network.

Get NWV VXLAN VNI nformation

Gets NWV VXLAN VNI information.

Request

Method Type	GET
Request URI	nos/api/info/nwv/vxlan/vni
Request Body (JSON)	

Response

Response Body (JSON)	{ "count":<count>, "vni": [<vni>, ...] }
-------------------------	---

where:

Parameter	Description
count	The count of items in the "vni" list.
vni	The VXLAN network identifier. An integer from 1-16777214.

Get NWV VXLAN VNI Counters Information

Displays the NWV VXLAN virtual network counters.

Request

Method Type	GET
Request URI	/nos/api/info/nwv/vxlan/vni/counters
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "bin": <bin>, "pktin": <pktin>, "bout": <bout>, "pktout": <pktout>, "vni": <vni> }, ...]</pre>
----------------------	--

where:

Parameter	Description
bin	Number of bytes received (integer).
pktin	Number of packets in (integer).
bout	Number of bytes sent (integer).
pktout	Number of packets out (integer).
vni	The number of configured VNI. An integer from 1-16777214.

Delete NWV VXLAN VNI Counters

Resets the NWV VXLAN virtual network counters.

Request

Method Type	DELETE
Request URI	nos/api/info/nwv/vxlan/vni/counters
Request Body (JSON)	

Response

Response Body (JSON)	
----------------------	--

Get NWV VXLAN Tunnel Information

Gets NWV VXLAN tunnel information.

Request

Method Type	GET
Request URI	nos/api/info/nwv/vxlan/tunnel
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "count":1, "tunnel":[{"remote-ip":"192.168.1.3", "status":"UP"}, {"remote-ip":"192.168.1.4", "status":"UP"}, {"remote-ip":"192.168.1.4", "status":"UP"},] }</pre>
-------------------------	--

where:

Parameter	Description
count	The total number of tunnels.
tunnel	The list of configured VTEP. The remote IP address and BFD status are displayed for each tunnel.

Get NWV VXLAN BFD Information

Gets NWV VXLAN (DCI) BFD information.

Request

Method Type	GET
Request URI	nos/api/info/nwv/vxlan/bfd
Request Body (JSON)	

Response

Response Body (JSON)	{ "remote_vtep": [<vtep_ip>, ...] }
-------------------------	---

where:

Parameter	Description
vtep_ip	The VTEP IP address (string).

Get NWV VXLAN MAC-Address Information

Gets NWV VXLAN MAC-Address information.

Request

Method Type	GET
Request URI	nos/api/info/nwv/vxlan/mac-address
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "local-count": 3048, "local-umac": [{ "tunnel": "200.100.0.128", "mac": "00:B3:33:33:33:38", "vni": 206 }, { "tunnel": "200.100.0.128", "mac": "00:B3:33:33:33:39", "vni": 207 }, { "tunnel": "200.100.0.128", "mac": "00:B3:33:33:33:3A", "vni": 208 }, { "tunnel": "10.99.250.1", "mac": "00:AA:AA:AB:18:09", "vni": 3000 }, { "tunnel": "10.99.250.1", "mac": "00:AA:AA:AB:27:A9", "vni": 3000 }] }</pre>
-------------------------	---

where:

Parameter	Description
local-count	Number of local MAC addresses (integer).
remote-count	Number of remote MAC addresses (integer).
local-umac	List of local MAC address. Each MAC address has an associated VNI and VTEP.
remote-umac	List of remote MAC address. Each MAC address has an associated VNI and VTEP.

Get NWV VXLAN Virtual Ports Information

Displays the virtual ports.

Request

Method Type	GET
Request URI	nos/api/info/nwv/vxlan/virtualport
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "count": 2, "virtual-port": [{"remoteTEP": "LOCAL", "vlan": "10", "port": "Ethernet1/7/2(A)", "vni": "10001"}, {"remoteTEP": "18.18.200.3", "vlan": "4093", "port": "Ethernet1/7/1(N,M)", "vni": "10001"}] }</pre>
-------------------------	--

where:

Parameter	Description
count	The total number of virtual ports (integer).
virtual-port	The list of virtual-ports and associated interface name, VNI and VLAN. The type is displayed for each virtual port (local/remote) VLAN and VNI.

Get NWV VXLAN Virtual Port Counters Information

Displays the virtual ports counters.

Request

Method Type	GET
Request URI	/nos/api/info/nwv/vxlan/virtualport/counters
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "virtualport-counters": [{"bin": 0, "vnid": "201", "pktout": 0, "pktin": 0, "bout": 0, "port": "po100"}, {"bin": 2343960, "vnid": "201", "pktout": 67404, "pktin": 34470, "bout": 2239512, "port": "po4000"}, {"bin": 0, "vnid": "202", "pktout": 0, "pktin": 0, "bout": 0, "port": "po100"}, {"bin": 2343960, "vnid": "202", "pktout": 39712, "pktin": 34470, "bout": 356456, "port": "po4000"}, {"bin": 54930725, "vnid": "2999", "pktout": 115577, "pktin": 68947, "bout": 52406893, "port": "po520"}, {"bin": 0, "vnid": "3000", "pktout": 0, "pktin": 0, "bout": 0, "port": "po100"}, {"bin": 54951789, "vnid": "3000", "pktout": 115701, "pktin": 68947, "bout": 52511883, "port": "po520"}, {"bin": 0, "vnid": "MULTIPLE", "pktout": 0, "pktin": 0, "bout": 0, "port": "Ethernet1/11"}, {"bin": 0, "vnid": "MULTIPLE", "pktout": 0, "pktin": 0, "bout": 0, "port": "Ethernet1/11"}]}</pre>
-------------------------	---

where:

Parameter	Description
virtual-port-counters	The list of counters for each virtual-port: <ul style="list-style-type: none">● bin: number of bytes in (integer)● bout: number of bytes out (integer)● pktout: number of packets out (integer)● pktin: number of packets in (integer)

Delete NWV VXLAN Virtual Port Counters

Deletes the virtual ports counters.

Request

Method Type	DELETE
Request URI	/nos/api/info/nwv/vxlan/virtualport/counters
Request Body (JSON)	

Response

Response Body (JSON)	
-------------------------	--

Get VXLAN VNID List

Gets VXLAN L3 VNID list.

Request

Method Type	GET
Request URI	nos/api/info/nwv/vxlan/l3vnid
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "count":<count>, "l3vnid-table": [{"vni": <vni>,"vrf_id": <vrfid>}, {"vni": <vni>,"vrf_id": <vrfid>}, ...] }</pre>
-------------------------	---

where:

Parameter	Description
count	The number of items in the list "l3vnid-table" (integer).
vni	The VXLAN network identifier. An integer from 1-16777214.
vrfid	THE VRF ID (integer).

Set VXLAN Routing State

Sets the state of VXLAN routing feature.

Request

Method Type	PUT
Request URI	nos/api/cfg/nwv/vxlan/routing_state
Request Body (JSON)	{ "state" : <state> }

where:

Parameter	Description
state	The VXLAN routing state (string). Valid values: "enable", "disable".

Response

Boolean (True for enabled, otherwise False).

Default IP Address

The following default IP address URI is available:

- [/nos/api/cfg/defaultipaddress/](#) GET, POST

The following default IP address commands are available:

- [Get Default IP Address](#)
- [Set Default IP Address](#)

Get Default IP Address

Gets default IP address on the management interface.

Request

Method Type	GET
Request URI	/nos/api/cfg/defaultipaddress
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "interface": "mgmt0", "state": <state_value> }</pre>
-------------------------	---

where:

Parameter	Description
interface	The interface name (string). Note: The interface must exist.
state	The state value (string). Valid values: "set", "unset".

Set Default IP Address

Sets default IP address on the management interface.

Request

Method Type	POST
Request URI	/nos/api/cfg/defaultipaddress
Request Body (JSON)	<pre>{ "state": < state_value > }</pre>

where:

Parameter	Description
state	The state value (string). Valid values: "set", "unset".

Response

Response Body (JSON)	<pre>{ "interface": "mgmt0", "state": <state_value> }</pre>
-------------------------	---

where:

Parameter	Description
interface	The interface name (string). Note: The interface must exist.
state	The state value (string). Valid values: "set", "unset".

DHCP

The following DHCP URIs are available:

● /nos/api/cfg/dhcp	GET, PUT
● /nos/api/cfg/dhcp_client/interface	GET
● /nos/api/cfg/dhcp_client/interface/<if_name>	PUT
● /nos/api/cfg/dhcp_client/interface/class_id/<if_name>	DELETE
● /nos/api/cfg/dhcp_relay	GET, PUT
● /nos/api/cfg/dhcp_relay/interface	GET
● /nos/api/cfg/dhcp_relay/interface/<if_name>	GET, PUT
● /nos/api/cfg/dhcp_relay/interface/<if_name>/<relay_address>	DELETE
● /nos/api/cfg/dhcpsnp/entry	GET, POST
● /nos/api/cfg/dhcpsnp/entry/<mac_vlan_ifname>	DELETE
● /nos/api/cfg/dhcpsnp	GET, PUT
● /nos/api/cfg/dhcpsnp/vlan	GET
● /nos/api/cfg/dhcpsnp/vlan/<vlan_id>	PUT, DELETE
● /nos/api/cfg/dhcpsnp/trust	GET, PUT
● /nos/api/info/dhcpsnp/cnt	GET, DELETE

The following DHCP commands are available:

- [Get the Global DHCP Client Feature Property](#)
- [Update DHCP Client Feature Property](#)
- [Get DHCP Client Properties of All Interfaces](#)
- [Update DHCP Client Interface Properties](#)
- [Delete the Vendor Class Identifier of an Interface](#)
- [Get the Global DHCP Relay Service Property](#)
- [Update the Global DHCP Relay Service Property](#)
- [Get the DHCP Relay Properties of All Interfaces](#)
- [Get DHCP Relay Interface Properties](#)
- [Update DHCP Relay Interface Properties](#)
- [Delete DHCP Relay Interface Properties](#)
- [Get DHCP Snooping Binding Table Entry](#)
- [Create DHCP Snooping Binding Table Entry](#)
- [Delete DHCP Snooping Binding Table Entry](#)
- [Get DHCP Snooping Configuration](#)

- Update DHCP Snooping Configuration
- Get DHCP Snooping VLAN Configuration
- Update DHCP Snooping VLAN Configuration
- Delete DHCP Snooping VLAN Configuration
- Get DHCP Snooping Trusted Ports Configuration
- Update DHCP Snooping Trusted Ports Configuration
- Get DHCP Snooping Statistics
- Clear DHCP Snooping Statistics

Get the Global DHCP Client Feature Property

Gets the global DHCP client feature property (whether or not DHCP is globally enabled).

Request

Method Type	GET
Request URI	/nos/api/cfg/dhcp
Request Body (JSON)	

Response

Response Body (JSON)	{ "ena_dhcp_feature": <ena_dhcp_feature> }
-------------------------	--

where:

Parameter	Description
ena_dhcp_feature	Whether the DHCP client feature is enabled globally (string). Valid values: "yes", "no". Default value: "yes". Note: If disabled globally, DHCP client and DHCP relay is disabled on all interfaces. If enabled globally, the per-interface setting of DHCP client and DHCP relay takes effect.

Update DHCP Client Feature Property

Sets the global DHCP client feature property (whether or not DHCP is globally enabled).

Request

Method Type	PUT
Request URI	/nos/api/cfg/dhcp
Request Body (JSON)	{ "ena_dhcp_feature": <ena_dhcp_feature> }

where:

Parameter	Description
ena_dhcp_feature	Whether the DHCP client feature is enabled globally (string). Valid values: "yes", "no". Default value: "yes". Note: If disabled globally, DHCP client and DHCP relay is disabled on all interfaces. If enabled globally, the per-interface setting of DHCP client and DHCP relay takes effect.

Response

Response Body (JSON)	{ "ena_dhcp_feature": <ena_dhcp_feature> }
-------------------------	--

where:

Parameter	Description
ena_dhcp_feature	Whether the DHCP client feature is enabled globally (string). Valid values: "yes", "no". Default value: "yes". Note: If disabled globally, DHCP client and DHCP relay is disabled on all interfaces. If enabled globally, the per-interface setting of DHCP client and DHCP relay takes effect.

Get DHCP Client Properties of All Interfaces

Gets DHCP client properties of all interfaces.

Request

Method Type	GET
Request URI	/nos/api/cfg/dhcp_client/interface
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "if_name": <if_name>, "ena_v4_client": <ena_v4_client>, "ena_v6_client": <ena_v6_client>, "req_hostname": <req_hostname>, "req_ntp_server": <req_ntp_server>, "req_log_server": <req_log_server>, "class_id": <class_id> }</pre>
-------------------------	---

where:

Parameter	Description
if_name	Interface name (string). Note: The interface must exist.
ena_v4_client	Whether the DHCPv4 client is enabled on the interface (string). Valid values: "yes", "no". Default values: "yes" for the management interface and "no" for other switch interfaces.
ena_v6_client	Whether the DHCPv6 client is enabled on the interface (string). Valid values: "yes", "no". Default values: "yes" for the management interface and "no" for other switch interfaces.
req_hostname	Whether a request has been issued for the host name option on an interface (string). Valid values: "yes", "no". Default value: "no".
req_ntp_server	Whether a request has been issued for the NTP-server option on an interface (string). Valid values: "yes", "no". Default value: "no".
req_log_server	Whether a request has been issued for the Log server option on an interface (string). Valid values: "yes", "no". Default value: "no".

Parameter	Description
class_id	The name of Vendor class identifier (string). Note: The Vendor class identifier name must exist.

Update DHCP Client Interface Properties

Updates DHCP client properties of a specific interface.

Request

Method Type	PUT
Request URI	/nos/api/cfg/dhcp_client/interface/<if_name>
Request Body (JSON)	<pre>{ "if_name": <if_name>, "ena_v4_client": <ena_v4_client>, "ena_v6_client": <ena_v6_client>, "req_hostname": <req_hostname>, "req_ntp_server": <req_ntp_server>, "req_log_server": <req_log_server>, "class_id": <class_id> }</pre>

where:

Parameter	Description
if_name	Interface name (string). For example: "Ethernet1%2F1". Note: The interface must exist.
ena_v4_client	Whether the DHCPv4 client is enabled on the interface (string). Valid values: "yes", "no". Default values: "yes" for the management interface and "no" for other switch interfaces.
ena_v6_client	Whether the DHCPv6 client is enabled on the interface (string). Valid values: "yes", "no". Default values: "yes" for the management interface and "no" for other switch interfaces.
req_hostname	Whether a request has been issued for the host name option on an interface (string). Valid values: "yes", "no". Default value: "no".
req_ntp_server	Whether a request has been issued for the NTP-server option on an interface (string). Valid values: "yes", "no". Default value: "no".
req_log_server	Whether a request has been issued for the Log server option on an interface (string). Valid values: "yes", "no". Default value: "no".
class_id	The name of Vendor class identifier (string). Note: The Vendor class identifier name must exist.

Response

Response Body (JSON)	<pre>{ "if_name": <if_name>, "ena_v4_client": <ena_v4_client>, "ena_v6_client": <ena_v6_client>, "req_hostname": <req_hostname>, "req_ntp_server": <req_ntp_server>, "req_log_server": <req_log_server>, "class_id": <class_id> }</pre>
-------------------------	---

where:

Parameter	Description
if_name	Interface name (string). Note: The interface must exist.
ena_v4_client	Whether the DHCPv4 client is enabled on the interface (string). Valid values: "yes", "no". Default values: "yes" for the management interface and "no" for other switch interfaces.
ena_v6_client	Whether the DHCPv6 client is enabled on the interface (string). Valid values: "yes", "no". Default values: "yes" for the management interface and "no" for other switch interfaces.
req_hostname	Whether a request has been issued for the host name option on an interface (string). Valid values: "yes", "no". Default value: "no".
req_ntp_server	Whether a request has been issued for the NTP-server option on an interface (string). Valid values: "yes", "no". Default value: "no".
req_log_server	Whether a request has been issued for the Log server option on an interface (string). Valid values: "yes", "no". Default value: "no".
class_id	The name of Vendor class identifier (string). Note: The Vendor class identifier name must exist.

Delete the Vendor Class Identifier of an Interface

Deletes the vendor class identifier of a specific interface.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/dhcp_client/interface/class_id/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	Interface name (string). For example: "Ethernet1%2F1". Note: The interface must exist.

Response

Response Body (JSON)	
-------------------------	--

Get the Global DHCP Relay Service Property

Gets the global DHCP relay service property (whether the relay service has been enabled globally) class identifier of a specific interfaces.

Request

Method Type	GET
Request URI	/nos/api/cfg/dhcp_relay
Request Body (JSON)	

Response

Response Body (JSON)	{ "ena_v4_relay": <ena_v4_relay>, "ena_v6_relay": <ena_v6_relay>, }
-------------------------	--

where:

Parameter	Description
ena_v4_relay	Whether DHCPv4 relay is enabled on the interface (string). Valid values: "yes", "no". Default value: "yes". Note: If disabled globally, DHCPv4 relay is disabled on all interfaces. If DHCPv4 relay service is enabled globally, the per-interface setting of DHCPv4 relay takes effect.
ena_v6_relay	Whether DHCPv6 relay is enabled on the interface (string). Valid values: "yes", "no". Default value: "yes". Note: If disabled globally, DHCPv6 relay is disabled on all interfaces. If DHCPv6 relay service is enabled globally, the per-interface setting of DHCPv6 relay takes effect.

Update the Global DHCP Relay Service Property

Updates the global DHCP relay service property (whether the relay service has been enabled globally) class identifier of a specific interfaces.

Request

Method Type	PUT
Request URI	/nos/api/cfg/dhcp_relay
Request Body (JSON)	

Response

Response Body (JSON)	{ "ena_v4_relay": <ena_v4_relay>, "ena_v6_relay": <ena_v6_relay>, }
-------------------------	--

where:

Parameter	Description
ena_v4_relay	Whether DHCPv4 relay is enabled on the interface (string). Valid values: "yes", "no". Default value: "yes". Note: If disabled globally, DHCPv4 relay is disabled on all interfaces. If DHCPv4 relay service is enabled globally, the per-interface setting of DHCPv4 relay takes effect.
ena_v6_relay	Whether DHCPv6 relay is enabled on the interface (string). Valid values: "yes", "no". Default value: "yes". Note: If disabled globally, DHCPv6 relay is disabled on all interfaces. If DHCPv6 relay service is enabled globally, the per-interface setting of DHCPv6 relay takes effect.

Get the DHCP Relay Properties of All Interfaces

Gets the DHCP relay properties for all interfaces.

Request

Method Type	GET
Request URI	/nos/api/cfg/dhcp_relay/interface/
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "if_name": <if_name>, "dhcpv4_relay": [{ "v4_relay_addr": <v4_relay_addr>, }], "dhcpv6_relay": [{ "v6_relay_addr": <v6_relay_addr>, "v6_relay_out_if": <v6_relay_out_if> }] }</pre>
-------------------------	--

where:

Parameter	Description
if_name	Interface name (string). Note: The interface must exist.
v4_relay_addr	IPv4 address of the relay server (string). A valid IPv4 address.
v6_relay_addr	IPv6 address of the relay server (string). A valid IPv6 address.
v6_relay_out_if	Outgoing interface of the relay service (string). Note: The interface must exist.

Get DHCP Relay Interface Properties

Gets the DHCP relay interface properties for a specific interfaces.

Request

Method Type	GET
Request URI	/nos/api/cfg/dhcp_relay/interface/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	Interface name (string). For example: "Ethernet1%2F1". Note: The interface must exist.

Response

Response Body (JSON)	<pre>[{ "if_name": <if_name>, "dhcpv4_relay": [{ "v4_relay_addr": <v4_relay_addr>, }], "dhcpv6_relay": [{ "v6_relay_addr": <v6_relay_addr>, "v6_relay_out_if": <v6_relay_out_if> }] }]</pre>
-------------------------	--

where:

Parameter	Description
<i>if_name</i>	Interface name (string). Note: The interface must exist.
<i>v4_relay_addr</i>	IPv4 address of the relay server (string). A valid IPv4 address.
<i>v6_relay_addr</i>	IPv6 address of the relay server (string). A valid IPv6 address.

Parameter	Description
v6_relay_out_if	Outgoing interface of the relay service (string). Note: The interface must exist.

Notes:

- The response body will be empty if no DHCP relay configuration has been made on the specified interface.
- Only the what is configured will be displayed. For example, if no `dhcpv6_relay` is configured, none will be displayed.

Update DHCP Relay Interface Properties

Updates the DHCP relay interface properties for a specific interface.

Request

Method Type	PUT
Request URI	/nos/api/cfg/dhcp_relay/interface/<if_name>
Request Body (JSON)	<pre>{ "if_name": <if_name>, "dhcpv4_relay": [{ "v4_relay_addr": <v4_relay_addr>, }], "dhcpv6_relay": [{ "v6_relay_addr": <v6_relay_addr>, "v6_relay_out_if": <v6_relay_out_if> }] }</pre>

where:

Parameter	Description
if_name	Interface name (string). For example: "Ethernet1%2F1". Note: The interface must exist.
v4_relay_addr	IPv4 address of the relay server (string). A valid IPv4 address.
v6_relay_addr	IPv6 address of the relay server (string). A valid IPv6 address.
v6_relay_out_if	Outgoing interface of the relay service (string). Note: The interface must exist.

Response

Response Body (JSON)	<pre>[{ "if_name": <if_name>, "dhcpv4_relay": [{ "v4_relay_addr": <v4_relay_addr>, }], "dhcpv6_relay": [{ "v6_relay_addr": <v6_relay_addr>, "v6_relay_out_if": <v6_relay_out_if> }] }]</pre>
-------------------------	--

where:

Parameter	Description
if_name	Interface name (string). Note: The interface must exist.
v4_relay_addr	IPv4 address of the relay server (string). A valid IPv4 address.
v6_relay_addr	IPv6 address of the relay server (string). A valid IPv6 address.
v6_relay_out_if	Outgoing interface of the relay service (string). Note: The interface must exist.

Delete DHCP Relay Interface Properties

Deletes the DHCP relay interface properties for a specific interface.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/dhcp_relay/interface/<if_name>/<relay_address>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	Interface name (string). For example: "Ethernet1%2F1". Note: The interface must exist.
<i>relay_address</i>	IPv4 or IPv6 address of the relay server (string). A valid IPv4 or IPv6 address. Note: If no relay address is specified, all relay server configuration information for this interface will be removed.

Response

Response Body (JSON)	
-------------------------	--

Get DHCP Snooping Binding Table Entry

Gets the DHCP Snooping binding table entries.

Request

Method Type	GET
Request URI	/nos/api/cfg/dhcpsnp/entry
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "mac": <mac>, "ip_addr": <ip_addr>, "lease_time": <lease_time>, "type": <type>, "vlan": <vlan>, "if_name": <if_name> }]</pre>
----------------------	---

where:

Parameter	Description
mac	The MAC address of the binding table entry. A string in the following format: "XX:XX:XX:XX:XX:XX".
ip_addr	The IP address of the binding table entry (string).
lease_time	The lease time, in seconds, for the binding table entry. An integer from 1-4294967295.
type	The type of the binding table entry (string). Valid values: "dynamic", "static".
vlan	The VLAN of the binding table entry. An integer from 1-4093.
if_name	The name of the switch interface for the binding table entry (string).

Create DHCP Snooping Binding Table Entry

Adds a DHCP Snooping binding table entry.

Request

Method Type	POST
Request URI	/nos/api/cfg/dhcpsnp/entry
Request Body (JSON)	<pre>{ "mac": <mac>, "ip_addr": <ip_addr>, "lease_time": <lease_time>, "type": <type>, "vlan": <vlan>, "if_name": <if_name> }</pre>

where:

Parameter	Description
mac	The MAC address of the binding table entry. A string in the following format: "XX:XX:XX:XX:XX:XX".
ip_addr	The IP address of the binding table entry (string).
lease_time	The lease time, in seconds, for the binding table entry. An integer from 1-4294967295.
type	The type of the binding table entry (string). Valid values: "dynamic", "static".
vlan	The VLAN of the binding table entry. An integer from 1-4093.
if_name	The name of the switch interface for the binding table entry (string).

Response

Response Body (JSON)	
----------------------	--

Delete DHCP Snooping Binding Table Entry

Removes an entry from the DHCP Snooping binding table.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/dhcpsnp/entry/<mac_vlan_ifname>
Request Body (JSON)	

where:

Parameter	Description
<i>mac_vlan_ifname</i>	The MAC address, VLAN, or interface name to identify the binding table entry; one of: <ul style="list-style-type: none">the MAC address in the following format: "XX:XX:XX:XX:XX:XX"VLAN number: 1-4093Interface name

Response

Response Body (JSON)	
----------------------	--

Get DHCP Snooping Configuration

Gets the DHCP Snooping configuration.

Request

Method Type	GET
Request URI	/nos/api/cfg/dhcpsnp
Request Body (JSON)	

Response

Response Body (JSON)	{ "dhcpsnp_feature": <dhcpsnp_feature>, "option_82": <option_82> }
----------------------	---

where:

Parameter	Description
dhcpsnp_feature	The global status of the DHCP service on the switch (string). Valid values: "enable", "disable". Default value: "disable".
option_82	The status of DHCP Option 82 (string). Valid values: "enable", "disable". Default value: "disable".

Update DHCP Snooping Configuration

Updates the DHCP Snooping configuration.

Request

Method Type	PUT
Request URI	/nos/api/cfg/dhcpsnp
Request Body (JSON)	{ "dhcpsnp_feature": <dhcpsnp_feature>, "option_82": <option_82> }

where:

Parameter	Description
dhcpsnp_feature	The global status of the DHCP service on the switch (string). Valid values: "enable", "disable". Default value: "disable".
option_82	The status of DHCP Option 82 (string). Valid values: "enable", "disable". Default value: "disable".

Response

Response Body (JSON)	
----------------------	--

Get DHCP Snooping VLAN Configuration

Gets the DHCP Snooping VLAN configuration.

Request

Method Type	GET
Request URI	/nos/api/cfg/dhcpsnp/vlan
Request Body (JSON)	

Response

Response Body (JSON)	{ "vlan_enabled": <vlan_id>, }
----------------------	--------------------------------------

where:

Parameter	Description
vlan_id	The VLAN for DHCP Snooping. An integer from 1-4093.

Update DHCP Snooping VLAN Configuration

Updates the DHCP Snooping VLAN configuration.

Request

Method Type	PUT
Request URI	/nos/api/cfg/dhcpsnp/vlan
Request Body (JSON)	{ "vlan_enabled": <vlan_id>, }

where:

Parameter	Description
vlan_enabled	The VLAN on which DHCP Snooping is enabled. An integer from 1-4093.

Response

Response Body (JSON)	
----------------------	--

Delete DHCP Snooping VLAN Configuration

Deletes the DHCP Snooping VLAN configuration.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/dhcpsnp/vlan/<vlan_id>
Request Body (JSON)	

where:

Parameter	Description
<i>vlan_id</i>	The VLAN for DHCP Snooping. An integer from 1-4093.

Response

Response Body (JSON)	
----------------------	--

Get DHCP Snooping Trusted Ports Configuration

Gets the DHCP Snooping trusted ports configuration.

Request

Method Type	GET
Request URI	/nos/api/cfg/dhcpsnp/trust
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "if_name": <if_name>, "trusted": <trusted> }]</pre>
----------------------	---

where:

Parameter	Description
if_name	The name of the switch interface to be configured as a DHCP Snooping trusted port (string).
trusted	Whether the specified switch interface is a trusted port (string). Valid values: "yes", "no".

Update DHCP Snooping Trusted Ports Configuration

Updates the DHCP Snooping trusted ports configuration.

Request

Method Type	PUT
Request URI	/nos/api/cfg/dhcpsnp/trust
Request Body (JSON)	{ "if_name": <if_name>, "trusted": <trusted> }

where:

Parameter	Description
if_name	The name of the switch interface to be configured as a DHCP Snooping trusted port (string). For example: "Ethernet1/12".
trusted	Whether the specified switch interface is a trusted port (string). Valid values: "yes", "no".

Response

Response Body (JSON)	
----------------------	--

Get DHCP Snooping Statistics

Gets DHCP Snooping statistics.

Request

Method Type	GET
Request URI	/nos/api/info/dhcpsnp/cnt
Request Body (JSON)	

Response

Response Body (JSON)	{ "rcv_req_pkts": <rcv_req_pkts>, "rcv_rep_pkts": <rcv_rep_pkts> "drop_pkts": <drop_pkts> }
----------------------	---

where:

Parameter	Description
rcv_req_pkts	The number of received DHCP request packets. An integer from 0-4294967295.
rcv_rep_pkts	The number of received DHCP reply packets. An integer from 0-4294967295.
drop_pkts	The number of dropped DHCP packets. An integer from 0-4294967295.

Clear DHCP Snooping Statistics

Resets DHCP Snooping statistics.

Request

Method Type	DELETE
Request URI	/nos/api/info/dhcpsnp/cnt
Request Body (JSON)	

Response

Response Body (JSON)	
----------------------	--

DNS

The following Domain Name System (DNS) URIs are available:

- /nos/api/info/dns GET
- /nos/api/cfg/dns POST
- /nos/api/cfg/dns/nameserver POST, DELETE
- /nos/api/cfg/dns/defaultdomain POST, DELETE
- /nos/api/cfg/dns/domain POST, DELETE
- /nos/api/cfg/dns/nametoip POST, DELETE

The following DNS commands are available:

- [Get DNS Host Information](#)
- [Configure DNS Client Service](#)
- [Configure DNS Name Server](#)
- [Delete DNS Name Server](#)
- [Configure DNS Default Domain Name](#)
- [Delete DNS Default Domain Name](#)
- [Configure DNS Domain Name](#)
- [Delete DNS Domain Name](#)
- [Configure DNS Hostname to IP Address Mapping](#)
- [Delete DNS Hostname to IP Address Mapping](#)

Get DNS Host Information

Gets DNS Client information, such as domain-lookup service state, default domain name, and additional domain names.

Request

Method Type	GET
Request URI	/nos/api/info/dns/<vrf_name>
Request Body (JSON)	

here:

Parameter	Description
<i>vrf_name</i>	(Optional) The VRF instance of the DNS domain (string). Default value: "all".

Response

Response Body (JSON)	<pre>[{ "domain_lookup": <domain_lookup>, "dynamic_domain": <dynamic_domain>, "dynamic_nameserver": <dynamic_nameserver>, "domain_list": [{ "domain_name": <domain_name> }], "nameserver_list": [{ "address": <address> }], "nametoip_list": [{ "name": <name>, "address": <address> }] }]</pre>
----------------------	--

where:

Parameter	Description
domain_lookup	The status of the DNS service on the switch (string). Valid values: "enabled", "disabled".
dynamic_domain	Whether the DNS Client domain name is dynamically learnt (string). Valid values: "dynamic domain", "no dynamic domain".
dynamic_nameserver	Whether the DNS Client name server is dynamically learnt (string). Valid values: "dynamic name server", "no dynamic name server".
domain_list	(Optional) The DNS Client configured domain name list.
domain_name	The domain name. A string up to 64 characters long.
nameserver_list	(Optional) The DNS Client configured name server list.
nametoip_list	(Optional) The DNS Client configured hostname to IP address mapping list. Valid value: the list of hostname to IP address mappings.

Configure DNS Client Service

Configures the status of the DNS Client service on the switch.

Request

Method Type	POST
Request URI	/nos/api/cfg/dns
Request Body (JSON)	{ "dns_client_status":<dns_client_status> }

where:

Parameter	Description
dns_client_status	The status of the DNS Client service (string). Valid values: "enabled", "disabled".

Response

Response Body (JSON)	{ "dns_client_status":<dns_client_status> }
----------------------	---

where:

Parameter	Description
dns_client_status	The status of the DNS Client service (string). Valid values: "enabled", "disabled".

Configure DNS Name Server

Configures a DNS name server.

Request

Method Type	POST
Request URI	/nos/api/cfg/dns/nameserver
Request Body (JSON)	<pre>{ "nameserver1": <nameserver1>, "nameserver2": <nameserver2>, "nameserver3": <nameserver3>, "vrf": <vrf_name> }</pre>

where:

Parameter	Description
nameserver1	The first name server address (string). Valid value: the IP address.
nameserver2	The second name server address (string). Valid value: the IP address.
nameserver3	The third name server address (string). Valid value: the IP address.
vrf	The VRF instance for the name server (string). Valid value: the VRF instance name.

Response

Response Body (JSON)	
----------------------	--

Delete DNS Name Server

Removes a configured DNS name server.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/dns/nameserver/<server_addr>/<vrf>

where:

Parameter	Description
<i>server_addr</i>	The name server address (string). Valid value: the IP address.
<i>vrf</i>	(Optional) The VRF instance for the name server (string). Valid values: the VRF instance name. Default value: "default".

Response

Response Body (JSON)	
----------------------	--

Configure DNS Default Domain Name

Configures the default DNS domain name.

Request

Method Type	POST
Request URI	/nos/api/cfg/dns/defaultdomain
Request Body (JSON)	{ "domain_name":<default_domain_name>, "vrf":<vrf_name> }

where:

Parameter	Description
domain_name	The name of the default DNS domain (string).
vrf	The VRF instance for the name server (string). Valid values: the VRF instance name. Default value: "default".

Response

Response Body (JSON)	
----------------------	--

Delete DNS Default Domain Name

Removes the default DNS domain name.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/dns/defaultdomain/<domain_name>/<vrf>

where:

Parameter	Description
<i>domain_name</i>	The name of the default DNS domain (string).
<i>vrf</i>	The VRF instance for the name server (string). Valid values: the VRF instance name. Default value: "default".

Response

Response Body (JSON)	
----------------------	--

Configure DNS Domain Name

Configures a DNS domain name.

Request

Method Type	POST
Request URI	/nos/api/cfg/dns/domain
Request Body (JSON)	{ "domain_name":<domain_name>, "vrf":<vrf_name> }

where:

Parameter	Description
domain_name	The name of the default DNS domain (string).
vrf	The VRF instance for the name server (string). Valid values: the VRF instance name. Default value: "default".

Response

Response Body (JSON)	
----------------------	--

Delete DNS Domain Name

Removes a configured DNS domain name.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/dns/domain/<domain_name>/<vrf>

where:

Parameter	Description
<i>domain_name</i>	The name of the default DNS domain (string).
<i>vrf</i>	The VRF instance for the name server (string). Valid values: the VRF instance name. Default value: "default".

Response

Response Body (JSON)	
----------------------	--

Configure DNS Hostname to IP Address Mapping

Configures a DNS server hostname to IP address mapping.

Request

Method Type	POST
Request URI	/nos/api/cfg/dns/nametoip
Request Body (JSON)	<pre>{ "hostname": <hostname>, "ip_addr1": <address1>, "ip_addr2": <address2>, "vrf": <vrf_name> }</pre>

where:

Parameter	Description
hostname	The hostname of the DNS server (string).
ip_addr1	The first IP address of the DNS server (string).
ip_addr2	The second IP address of the DNS server (string).
vrf	The VRF instance for the name server (string). Valid values: the VRF instance name. Default value: "default".

Response

Response Body (JSON)	
----------------------	--

Delete DNS Hostname to IP Address Mapping

Removes a configured DNS server hostname to IP address mapping.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/dns/nametoip/<hostname>/<addr>/<vrf>

where:

Parameter	Description
<i>hostname</i>	The hostname of the DNS server (string).
<i>addr</i>	The IP address of the DNS server (string).
<i>vrf</i>	(Optional) The VRF instance for the name server (string). Valid values: the VRF instance name. Default value: "default".

Response

Response Body (JSON)	
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802.1X

The following 802.1X URIs are available:

- /nos/api/cfg/dot1x GET, POST, DELETE
- /nos/api/cfg/dot1x/mac-move POST, DELETE
- /nos/api/cfg/dot1x/pass-through POST, DELETE
- /nos/api/cfg/dot1x/interface GET, POST, DELETE
- /nos/api/cfg/aaa/authentication/dot1x/group PUT, DELETE, GET
- /nos/api/cfg/aaa/accounting/dot1x/group GET, PUT, DELETE
- /nos/api/cfg/dot1x/diagnostics GET, DELETE
- /nos/api/cfg/dot1x/statistics GET, DELETE
- /nos/api/cfg/dot1x/session-statistics GET
- /nos/api/cfg/dot1x/detail GET

The following 802.1X commands are available:

- [Enable 802.1X Globally](#)
- [Disable 802.1X Globally](#)
- [Configure 802.1X Mac Move](#)
- [Disable 802.1X Mac Move](#)
- [Configure 802.1X Pass Through](#)
- [Disable 802.1X Pass Through](#)
- [Configure 802.1X Port Mode](#)
- [Disable 802.1X Port Mode](#)
- [Configure 802.1X VLAN Type](#)
- [Disable 802.1X VLAN Type](#)
- [Configure 802.1X Time-out](#)
- [Disable 802.1X Time-out](#)
- [Configure 802.1X Reauthentication](#)
- [Disable 802.1X Reauthentication](#)
- [Configure 802.1X MAC Authentication Bypass](#)
- [Disable 802.1X MAC Authentication Bypass](#)
- [Configure 802.1X MAC Reintialization](#)
- [Configure 802.1X Host Mode](#)
- [Disable 802.1X Host Mode](#)
- [Configure 802.1X Accounting](#)
- [Disable 802.1X Accounting](#)

- [Configure 802.1X Max-requests](#)
- [Disable 802.1X Max-requests](#)
- [Configure 802.1X Dynamic ACL](#)
- [Disable 802.1X Dynamic ACL](#)
- [Configure 802.1X No MAC Table Binding](#)
- [Disable 802.1X No MAC Table Binding](#)
- [Configure 802.1X Authentication Groups](#)
- [Delete 802.1X Authentication Groups](#)
- [Get 802.1X Authentication Groups](#)
- [Get 802.1X Accounting Groups](#)
- [Set 802.1X Accounting Groups](#)
- [Delete 802.1X Accounting Groups](#)
- [Get 802.1X Diagnostics](#)
- [Delete 802.1X Diagnostics](#)
- [Get 802.1X Statistics](#)
- [Delete 802.1X Statistics](#)
- [Get 802.1X Session Statistics](#)
- [Get 802.1X Summarized Information](#)
- [Get 802.1X Detailed Information](#)
- [Get 802.1X Interface Statistics](#)
- [Get 802.1X Interface Session Statistics](#)
- [Get 802.1X Interface Detailed Information](#)

Enable 802.1X Globally

Enables 802.1X globally.

Request

Method Type	POST
Request URI	nos/api/cfg/dot1x
Request Body (JSON)	

Response

Response Body (JSON)	
-------------------------	--

Disable 802.1X Globally

Disables 802.1x globally.

Request

Method Type	DELETE
Request URI	nos/api/cfg/dot1x
Request Body (JSON)	

Response

Response Body (JSON)	
-------------------------	--

Configure 802.1X Mac Move

Enables 802.1X MAC move.

Request

Method Type	POST
Request URI	nos/api/cfg/dot1x/mac-move
Request Body (JSON)	

Response

Response Body (JSON)	
-------------------------	--

Disable 802.1X Mac Move

Disables 802.1X MAC move.

Request

Method Type	DELETE
Request URI	nos/api/cfg/dot1x/mac-move
Request Body (JSON)	

Response

Response Body (JSON)	
-------------------------	--

Configure 802.1X Pass Through

Enables 802.1X pass through.

Request

Method Type	POST
Request URI	nos/api/cfg/dot1x/pass-through
Request Body (JSON)	

Response

Response Body (JSON)	
-------------------------	--

Disable 802.1X Pass Through

Disables 802.1X pass through.

Request

Method Type	DELETE
Request URI	nos/api/cfg/dot1x/pass-through
Request Body (JSON)	

Response

Response Body (JSON)	
-------------------------	--

Configure 802.1X Port Mode

Configures the 802.1X MAC port mode on an interface.

Request

Method Type	POST
Request URI	/nos/api/cfg/dot1x/interface/<if_type>/<chassis_number>/<if_number>/<if_sub_number>/port-control/<mode>
Request Body (JSON)	

where:

Parameter	Description
<i>if_type</i>	The interface type (string). Valid values: "ethernet".
<i>chassis_number</i>	The chassis number (integer). Valid values: 1.
<i>if_number</i>	The interface number. A positive integer. Valid values: 1 - to the maximum number of switch interfaces.
<i>if_sub_number</i>	(Optional) The interface sub-number. An integer from 1-4.
<i>mode</i>	The mode (string). Valid values: "auto", "force-authorized", "force-unauthorized".

Response

Response Body (JSON)	
-------------------------	--

Disable 802.1X Port Mode

Disables the 802.1X MAC port mode on an interface.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/dot1x/interface/<if_type>/<chassis_number>/<if_number>/<if_sub_number>/port-control/
Request Body (JSON)	

where:

Parameter	Description
<i>if_type</i>	The interface type (string). Valid value: "ethernet".
<i>chassis_number</i>	The chassis number (integer). Valid values: 1.
<i>if_number</i>	The interface number. A positive integer. Valid values: 1 - to the maximum number of switch interfaces.
<i>if_sub_number</i>	(Optional) The interface sub-number. An integer from 1-4.

Response

Response Body (JSON)	
-------------------------	--

Configure 802.1X VLAN Type

Configures the 802.1X VLAN type on an interface.

Request

Method Type	POST
Request URI	/nos/api/cfg/dot1x/interface/<if_type>/<chassis_number>/<if_number>/<if_sub_number>/vlan/<type>/<id>
Request Body (JSON)	

where:

Parameter	Description
<i>if_type</i>	The interface type (string). Valid values: "ethernet".
<i>chassis_number</i>	The chassis number (integer). Valid values: 1.
<i>if_number</i>	The interface number. A positive integer. Valid values: 1 - to the maximum number of switch interfaces.
<i>if_sub_number</i>	(Optional) The interface sub-number. An integer from 1-4.
<i>type</i>	The type mode (string). Valid values: "guest", "unauthorized", "fallback".
<i>id</i>	Note: The VLAN ID (string). An integer from 1-4094.

Response

Response Body (JSON)	
-------------------------	--

Disable 802.1X VLAN Type

Disables the 802.1X VLAN type on an interface.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/dot1x/interface/<if_type>/<chassis_number>/<if_number>/<if_sub_number>/vlan/<type>/
Request Body (JSON)	

where:

Parameter	Description
<i>if_type</i>	The interface type (string). Valid values: "ethernet".
<i>chassis_number</i>	The chassis number (integer). Valid values: 1.
<i>if_number</i>	The interface number. A positive integer. Valid values: 1 - to the maximum number of switch interfaces.
<i>if_sub_number</i>	(Optional) The interface sub-number. An integer from 1-4.
<i>type</i>	The type mode (string). Valid values: "guest", "unauthorized", "fallback".

Response

Response Body (JSON)	
-------------------------	--

Configure 802.1X Time-out

Configures the 802.1X time-out.

Request

Method Type	POST
Request URI	/nos/api/cfg/dot1x/interface/<if_type>/<chassis_number>/<if_number>/<if_sub_number>/timeout/<type>/<value>
Request Body (JSON)	

where:

Parameter	Description
<i>if_type</i>	The interface type (string). Valid values: "ethernet".
<i>chassis_number</i>	The chassis number (integer). Valid values: 1.
<i>if_number</i>	The interface number. A positive integer. Valid values: 1 - to the maximum number of switch interfaces.
<i>if_sub_number</i>	(Optional) The interface sub-number. An integer from 1-4.
<i>type</i>	The type mode (string). Valid values: "quiet-period", "reauth-period", "supp-timeout", "tx-period.
<i>value</i>	The time-out value. An integer from 1-65535.

Response

Response Body (JSON)	
-------------------------	--

Disable 802.1X Time-out

Disables the 802.1X time-out.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/dot1x/interface/<if_type>/<chassis_number>/<if_number>/<if_sub_number>/timeout/<type>/<value>
Request Body (JSON)	

where:

Parameter	Description
<i>if_type</i>	The interface type (string). Valid values: "ethernet".
<i>chassis_number</i>	The chassis number (integer). Valid values: 1.
<i>if_number</i>	The interface number. A positive integer. Valid values: 1 - to the maximum number of switch interfaces.
<i>if_sub_number</i>	(Optional) The interface sub-number. An integer from 1-4.
<i>type</i>	The type mode (string). Valid values: "quiet-period", "reauth-period", "supp-timeout", "tx-period.

Response

Response Body (JSON)	
-------------------------	--

Configure 802.1X Reauthentication

Configures the 802.1X reauthentication.

Request

Method Type	POST
Request URI	/nos/api/cfg/dot1x/interface/<if_type>/<chassis_number>/<if_number>/<if_sub_number>/reauthentication
Request Body (JSON)	

where:

Parameter	Description
<i>if_type</i>	The interface type (string). Valid values: "ethernet".
<i>chassis_number</i>	The chassis number (integer). Valid values: 1.
<i>if_number</i>	The interface number. A positive integer. Valid values: 1 - to the maximum number of switch interfaces.
<i>if_sub_number</i>	(Optional) The interface sub-number. An integer from 1-4.

Response

Response Body (JSON)	
-------------------------	--

Disable 802.1X Reauthentication

Disables the 802.1X reauthentication.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/dot1x/interface/<if_type>/<chassis_number>/<if_number>/<if_sub_number>/reauthentication
Request Body (JSON)	

where:

Parameter	Description
<i>if_type</i>	The interface type (string). Valid values: "ethernet".
<i>chassis_number</i>	The chassis number (integer). Valid values: 1.
<i>if_number</i>	The interface number. A positive integer. Valid values: 1 - to the maximum number of switch interfaces.
<i>if_sub_number</i>	(Optional) The interface sub-number. An integer from 1-4.

Response

Response Body (JSON)	
-------------------------	--

Configure 802.1X MAC Authentication Bypass

Configures the 802.1X MAC authentication bypass.

Request

Method Type	POST
Request URI	/nos/api/cfg/dot1x/interface/<if_type>/<chassis_number>/<if_number>/<if_sub_number>/mac-authentication-bypass
Request Body (JSON)	

where:

Parameter	Description
<i>if_type</i>	The interface type (string). Valid values: "ethernet".
<i>chassis_number</i>	The chassis number (integer). Valid values: 1.
<i>if_number</i>	The interface number. A positive integer. Valid values: 1 - to the maximum number of switch interfaces.
<i>if_sub_number</i>	(Optional) The interface sub-number. An integer from 1-4.

Response

Response Body (JSON)	
-------------------------	--

Disable 802.1X MAC Authentication Bypass

Disables the 802.1x MAC authentication bypass.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/dot1x/interface/<if_type>/<chassis_number>/<if_number>/<if_sub_number>/mac-authentication-bypass
Request Body (JSON)	

where:

Parameter	Description
<i>if_type</i>	The interface type (string). Valid values: "ethernet".
<i>chassis_number</i>	The chassis number (integer). Valid values: 1.
<i>if_number</i>	The interface number. A positive integer. Valid values: 1 - to the maximum number of switch interfaces.
<i>if_sub_number</i>	(Optional) The interface sub-number. An integer from 1-4.

Response

Response Body (JSON)	
-------------------------	--

Configure 802.1X MAC Reintialization

Executes an 802.1X reinitialize process.

Request

Method Type	POST
Request URI	/nos/api/cfg/dot1x/interface/<if_type>/<chassis_number>/<if_number>/<if_sub_number>/reinitialize
Request Body (JSON)	

where:

Parameter	Description
<i>if_type</i>	The interface type (string). Valid values: "ethernet".
<i>chassis_number</i>	The chassis number (integer). Valid values: 1.
<i>if_number</i>	The interface number. A positive integer. Valid values: 1 - to the maximum number of switch interfaces.
<i>if_sub_number</i>	(Optional) The interface sub-number. An integer from 1-4.

Response

Response Body (JSON)	
-------------------------	--

Configure 802.1X Host Mode

Configures the 802.1X host mode.

Request

Method Type	POST
Request URI	/nos/api/cfg/dot1x/interface/<if_type>/<chassis_number>/<if_number>/<if_sub_number>/host-mode/<type>
Request Body (JSON)	

where:

Parameter	Description
<i>if_type</i>	The interface type (string). Valid values: "ethernet".
<i>chassis_number</i>	The chassis number (integer). Valid values: 1.
<i>if_number</i>	The interface number. A positive integer. Valid values: 1 - to the maximum number of switch interfaces.
<i>if_sub_number</i>	(Optional) The interface sub-number. An integer from 1-4.
<i>type</i>	The type mode (string). Valid values: "single-host", "multi-host", "multi-auth".

Response

Response Body (JSON)	
-------------------------	--

Disable 802.1X Host Mode

Disables the 802.1X host mode.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/dot1x/interface/<if_type>/<chassis_number>/<if_number>/<if_sub_number>/host-mode/
Request Body (JSON)	

where:

Parameter	Description
<i>if_type</i>	The interface type (string). Valid values: "ethernet".
<i>chassis_number</i>	The chassis number (integer). Valid values: 1.
<i>if_number</i>	The interface number. A positive integer. Valid values: 1 - to the maximum number of switch interfaces.
<i>if_sub_number</i>	(Optional) The interface sub-number. An integer from 1-4.

Response

Response Body (JSON)	
-------------------------	--

Configure 802.1X Accounting

Configures the 802.1X accounting.

Request

Method Type	POST
Request URI	/nos/api/cfg/dot1x/interface/<if_type>/<chassis_number>/<if_number>/<if_sub_number>/accounting
Request Body (JSON)	

where:

Parameter	Description
<i>if_type</i>	The interface type (string). Valid values: "ethernet".
<i>chassis_number</i>	The chassis number (integer). Valid values: 1.
<i>if_number</i>	The interface number. A positive integer. Valid values: 1 - to the maximum number of switch interfaces.
<i>if_sub_number</i>	(Optional) The interface sub-number. An integer from 1-4.

Response

Response Body (JSON)	
-------------------------	--

Disable 802.1X Accounting

Disables the 802.1X accounting.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/dot1x/interface/<if_type>/<chassis_number>/<if_number>/<if_sub_number>/accounting
Request Body (JSON)	

where:

Parameter	Description
<i>if_type</i>	The interface type (string). Valid values: "ethernet".
<i>chassis_number</i>	The chassis number (integer). Valid values: 1.
<i>if_number</i>	The interface number. A positive integer. Valid values: 1 - to the maximum number of switch interfaces.
<i>if_sub_number</i>	(Optional) The interface sub-number. An integer from 1-4.

Response

Response Body (JSON)	
-------------------------	--

Configure 802.1X Max-requests

Configures the 802.1X max-requests.

Request

Method Type	POST
Request URI	/nos/api/cfg/dot1x/interface/<if_type>/<chassis_number>/<if_number>/<if_sub_number>/max-requests/<max-requests-value>
Request Body (JSON)	

where:

Parameter	Description
<i>if_type</i>	The interface type (string). Valid values: "ethernet".
<i>chassis_number</i>	The chassis number (integer). Valid values: 1.
<i>if_number</i>	The interface number. A positive integer. Valid values: 1 - to the maximum number of switch interfaces.
<i>if_sub_number</i>	(Optional) The interface sub-number. An integer from 1-4.
<i>max-requests-value</i>	The maximum requests value. An integer from 1-10.

Response

Response Body (JSON)	
-------------------------	--

Disable 802.1X Max-requests

Disables the 802.1X max-requests.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/dot1x/interface/<if_type>/<chassis_number>/<if_number>/<if_sub_number>/max-requests/
Request Body (JSON)	

where:

Parameter	Description
<i>if_type</i>	The interface type (string). Valid values: "ethernet".
<i>chassis_number</i>	The chassis number (integer). Valid values: 1.
<i>if_number</i>	The interface number. A positive integer. Valid values: 1 - to the maximum number of switch interfaces.
<i>if_sub_number</i>	(Optional) The interface sub-number. An integer from 1-4.

Response

Response Body (JSON)	
-------------------------	--

Configure 802.1X Dynamic ACL

Configures the 802.1X dynamic ACL.

Request

Method Type	POST
Request URI	/nos/api/cfg/dot1x/interface/<if_type>/<chassis_number>/<if_number>/<if_sub_number>/acl/dynamic
Request Body (JSON)	

where:

Parameter	Description
<i>if_type</i>	The interface type (string). Valid values: "ethernet".
<i>chassis_number</i>	The chassis number (integer). Valid values: 1.
<i>if_number</i>	The interface number. A positive integer. Valid values: 1 - to the maximum number of switch interfaces.
<i>if_sub_number</i>	(Optional) The interface sub-number. An integer from 1-4.

Response

Response Body (JSON)	
-------------------------	--

Disable 802.1X Dynamic ACL

Disables the 802.1X dynamic ACL.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/dot1x/interface/<if_type>/<chassis_number>/<if_number>/<if_sub_number>/acl/dynamic
Request Body (JSON)	

where:

Parameter	Description
<i>if_type</i>	The interface type (string). Valid values: "ethernet".
<i>chassis_number</i>	The chassis number (integer). Valid values: 1.
<i>if_number</i>	The interface number. A positive integer. Valid values: 1 - to the maximum number of switch interfaces.
<i>if_sub_number</i>	(Optional) The interface sub-number. An integer from 1-4.

Response

Response Body (JSON)	
-------------------------	--

Configure 802.1X No MAC Table Binding

Configures the 802.1X no-mac-table-binding.

Request

Method Type	POST
Request URI	/nos/api/cfg/dot1x/interface/<if_type>/<chassis_number>/<if_number>/<if_sub_number>/no-mac-table-binding
Request Body (JSON)	

where:

Parameter	Description
<i>if_type</i>	The interface type (string). Valid values: "ethernet".
<i>chassis_number</i>	The chassis number (integer). Valid values: 1.
<i>if_number</i>	The interface number. A positive integer. Valid values: 1 - to the maximum number of switch interfaces.
<i>if_sub_number</i>	(Optional) The interface sub-number. An integer from 1-4.

Response

Response Body (JSON)	
-------------------------	--

Disable 802.1X No MAC Table Binding

Disables the 802.1X no-mac-table-binding.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/dot1x/interface/<if_type>/<chassis_number>/<if_number>/<if_sub_number>/no-mac-table-binding
Request Body (JSON)	

where:

Parameter	Description
<i>if_type</i>	The interface type (string). Valid values: "ethernet".
<i>chassis_number</i>	The chassis number (integer). Valid values: 1.
<i>if_number</i>	The interface number. A positive integer. Valid values: 1 - to the maximum number of switch interfaces.
<i>if_sub_number</i>	(Optional) The interface sub-number. An integer from 1-4.

Response

Response Body (JSON)	
-------------------------	--

Configure 802.1X Authentication Groups

Configures the 802.1X authentication groups.

Request

Method Type	PUT
Request URI	/nos/api/cfg/aaa/authentication/dot1x/group
Request Body (JSON)	{"groups":["group1", "group2"]}

where:

Parameter	Description
groups	A list of RADIUS groups.

Response

Response Body (JSON)	
-------------------------	--

Delete 802.1X Authentication Groups

Deletes the 802.1X authentication groups.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/aaa/authentication/dot1x/group/<group_name>
Request Body (JSON)	

where:

Parameter	Description
<i>group_name</i>	A RADIUS group name (string).

Response

Response Body (JSON)	
-------------------------	--

Get 802.1X Authentication Groups

Gets the 802.1X authentication groups.

Request

Method Type	GET
Request URI	/nos/api/cfg/aaa/authentication/dot1x/group
Request Body (JSON)	

Response

Response Body (JSON)	{"methods": "group <group1> <group2>"}
-------------------------	--

where:

Parameter	Description
methods	A list of RADIUS groups.

Get 802.1X Accounting Groups

Gets the 802.1X accounting groups.

Request

Method Type	GET
Request URI	/nos/api/cfg/aaa/accounting/dot1x/group
Request Body (JSON)	

Response

Response Body (JSON)	{"methods": "group <group1> <group2>"}
-------------------------	--

where:

Parameter	Description
methods	A list of RADIUS groups.

Set 802.1X Accounting Groups

Sets the current 802.1X accounting settings.

Request

Method Type	PUT
Request URI	/nos/api/cfg/aaa/accounting/dot1x/group
Request Body (JSON)	{ "groups": "[<group_name>+]" }

where:

Parameter	Description
groups	A list of RADIUS groups (string).

Response

Response Body (JSON)	
-------------------------	--

Delete 802.1X Accounting Groups

Deletes 802.1X accounting group.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/aaa/accounting/dot1x/group/<group_name>
Request Body (JSON)	{ "groups": "[<group_name>+]" }

where:

Parameter	Description
<i>group_name</i>	The group name (string).

Response

Response Body (JSON)	
-------------------------	--

Get 802.1X Diagnostics

Gets the 802.1X diagnostics for all interfaces.

Request

Method Type	GET
Request URI	/nos/api/cfg/dot1x/diagnostics
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "authAuthEapLogoffWhileAuthenticating": <authAuthEapLogoffWhileAuthenticating>, "authAuthEapStartsWhileAuthenticating": <authAuthEapStartsWhileAuthenticating>, "authAuthFailWhileAuthenticating": <authAuthFailWhileAuthenticating>, "authAuthSuccessesWhileAuthenticating": <authAuthSuccessesWhileAuthenticating>, "authEntersAuthenticating": <authEntersAuthenticating>, "authAuthTimeoutsWhileAuthenticating": <authAuthTimeoutsWhileAuthenticating>, "authAuthEapStartsWhileAuthenticated": <authAuthEapStartsWhileAuthenticated>, "interface": "<interface>", "authAuthEapLogoffWhileAuthenticated": <authAuthEapLogoffWhileAuthenticated>, "authAuthReauthsWhileAuthenticated": <authAuthReauthsWhileAuthenticated> }]</pre>
-------------------------	---

where:

Parameter	Description
authAuthEapLogoffWhileAuthenticating	The number of times eapEapLogoff is asserted while in AUTHENTICATING state (integer).
authAuthEapStartsWhileAuthenticating	The number of times eapStart is asserted while in AUTHENTICATING state (integer).
authAuthFailWhileAuthenticating	The number of times eapFail is asserted while in AUTHENTICATING state (integer).
authAuthSuccessesWhileAuthenticating	The number of times eapSuccess is asserted while in AUTHENTICATING state (integer).
authEntersAuthenticating	The transitions from AUTHENTICATING to UNAUTHENTICATED state (integer).

Parameter	Description
authAuthTimeoutswhile Authenticating	The number of times eapTimeout is asserted while in AUTHENTICATING state (integer)
authAuthEapStartswhile Authenticated	The number of times rxEapolStart is asserted in AUTHENTICATED state (integer).
interface	The interface name (string).
authAuthEapLogoffwhile Authenticated	The number of times rxEapLogoff is asserted while in AUTHENTICATED state (integer).
authAuthReauthswhile Authenticated	The number of times the re-authentication timer expires in the AUTHENTICATED state, triggering another authentication process (integer).

Delete 802.1X Diagnostics

Clears 802.1X diagnostics on all the interfaces.

Request

Method Type	DELETE
Request URI	nos/api/cfg/dot1x/diagnostics
Request Body (JSON)	

Response

Response Body (JSON)	
-------------------------	--

Get 802.1X Statistics

Gets the 802.1X statistics for all interfaces.

Request

Method Type	GET
Request URI	nos/api/cfg/dot1x/statistics
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "eapolPortUnavailable": <eapolPortUnavailable>, "lastEapolFrameSource": "<lastEapolFrameSource>", "eapolLogoffFramesRx": <eapolLogoffFramesRx>, "eapLengthErrorFramesRx": <eapLengthErrorFramesRx>, "eapolAuthEapFramesTx": <eapolAuthEapFramesTx>, "invalidFramesEapolRx": <invalidFramesEapolRx>, "lastEapolFrameVersion": <lastEapolFrameVersion>, "eapolStartFramesRx": <eapolStartFramesRx>, "interface": "<interface>", "eapolEapFramesRx": <eapolEapFramesRx> }]</pre>
-------------------------	---

where:

Parameter	Description
eapolPortUnavailable	Holds the number of times a virtual port could not be created (integer).
lastEapolFrameSource	Holds the last source MAC address which sent an EAPoL frame (string). A MAC address in the following format: "XXXX.XXXX.XXXX".
eapolLogoffFramesRx	The number of EAPoL logoff frames (integer).
eapLengthErrorFramesRx	The number of EAP frames with an length error (integer).
eapolAuthEapFramesTx	The transmitted EAP packets (integer).
invalidFramesEapolRx	The number of EAPoL invalid frames (integer).
lastEapolFrameVersion	The last version of EAPoL frames (integer).
interface	The interface name (string).

Parameter	Description
eapolStartFramesRx	The number of EAPoL Start frames (integer).
eapolEapFramesRx	The number of EAP frames (integer).

Delete 802.1X Statistics

Deletes 802.1X statistics on all the interfaces.

Request

Method Type	DELETE
Request URI	nos/api/cfg/dot1x/statistics
Request Body (JSON)	

Response

Response Body (JSON)	
-------------------------	--

Get 802.1X Session Statistics

Gets the 802.1X session statistics for all interfaces.

Request

Method Type	GET
Request URI	nos/api/cfg/dot1x/session-statistics
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "username": "<username>", "inPackets": <integer>, "outOctets": <integer>, "inOctets": <integer>, "sessionId": "<session_id_string>", "outPackets": <integer>, "time": <integer>, "interface": "<interface_name>", "terminateCause": "<terminate_cause_string>" }]</pre>
-------------------------	---

where:

Parameter	Description
username	The connected supplicant username (string).
inPackets	The number of packets received by the supplicant (integer).
inOctets	The number of octets received by the supplicant (integer).
outPackets	The number of packets sent by the supplicant (integer).
outOctets	The number of octets received by the supplicant (integer).
time	The supplicant session uptime (integer).
interface	The interface where the supplicant is connected (string).
terminateCause	The supplicant session terminate cause (string).

Get 802.1X Summarized Information

Gets the 802.1X summarized information for all interfaces.

Request

Method Type	GET
Request URI	nos/api/cfg/dot1x
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "interface": "Ethernet1/26", "connectedSuplicants": 1, "sessions": [{ "username": "<username>", "macAddress": "<mac_address>", "vlan": <vlan_id_integer>, "paeState": "<pae_state_string>" }] }]</pre>
-------------------------	--

where:

Parameter	Description
username	The supplicant username (string).
macAddress	The supplicant MAC address (string).
vlan	The supplicant VLAN (integer).
paeState	The supplicant 802.1X PAE FSM state (string).

Get 802.1X Detailed Information

Gets the 802.1X detailed information for all interfaces.

Request

Method Type	GET
Request URI	/nos/api/cfg/dot1x/detail
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "interface": "<interface_name>", "maxRequests": <integer>, "guestVlan": <boolean>, "macAuthenticationBypass": <boolean>, "unauthorizedVlan": <boolean>, "hostMode": "<host_mode_string>", "fallbackVlan": <boolean>, "dynamicACL": <boolean>, "accounting": <boolean>, "quietPeriod": <integer>, "reauthPeriod": <integer>, "pae": "authenticator", "dynamicVlan": <boolean>, "reauthentication": <boolean>, , "connectedSupplicants": <integer>, "authenticatedSupplicants": <integer>, "txPeriod": <integer>, "suppTimeout": integer, "portControl": "<port_control_string>", "sessions": [{ "username": "<username>", "macAddress": "<mas_address>", "vlan": <vlan_id_integer>, "dynamicAclName": "<filter_name>", "paeState": "<pae_state_string>", "dot1xVlanType": "<dot1x_vlan_type_string>", "operationalStateIsAuth": <boolean> }] }]</pre>
-------------------------	--

where:

Parameter	Description
interface	The interface where the supplicant is connected (string).
maxRequests	The configured 802.1X request retry count (integer).

Parameter	Description
guestVLAN	Indicates if the GUEST VLAN is enabled (boolean).
macAuthenticationBypass	Indicates if MAB is enabled (boolean).
unauthorizedVlan	Indicates if the unauthorized Vlan is enabled (boolean).
hostMode	Indicates the configured 802.1X host-mode (string).
fallbackVlan	Indicates if the fallback VLAN is enabled (boolean).
dynamicACL	Indicates if the dynamic ACL is enabled (boolean).
accounting	Indicates if the accounting is enabled (boolean).
quietPeriod	The configured 802.1X quiet period (integer).
reauthPeriod	The configured 802.1X reauthentication period (integer).
pae	Indicates the NAS PAE role (string). Valid value: "authenticator".
dynamicVlan	Indicates if the dynamic VLAN is enabled (boolean).
reauthentication	Indicates if the reauthentication is enabled (boolean).
connectedSupplicants	Indicates the number of connected supplicants (integer).
authenticatedSupplicants	Indicates the number of authenticated supplicants (integer).
txPeriod	The configured 802.1X tx-period (integer).
suppTimeout	The configured 802.1X supplicant timeout period (integer).
portControl	The configured 802.1X port control mode (string).
username	The connected supplicant username (string).
macAddress	The connected supplicant MAC address (string).
vlan	The connected supplicant vlan (integer).

Parameter	Description
dynamicAclName	The installed dynamic ACL name. A string or N/A if no dynamic ACL is installed.
paeState	Indicates the 802.1X PAE FSM state (string).
dot1xVlanType	Indicates the operational 802.1X VLAN type (string). Valid values: "guest", "fallback", "unauthorized", "dynamic".
operationalStateIsAuth	Indicates if the supplicant is authorized or not (boolean).

Get 802.1X Interface Diagnostics

Gets the 802.1X diagnostics for specified interfaces.

Request

Method Type	GET
Request URI	nos/api/cfg/dot1x/<if_type>/<chassis_number>/<if_number>/<if_sub_number>/diagnostics
Request Body (JSON)	

where:

Parameter	Description
<i>if_type</i>	The interface type (string). Valid values: "ethernet".
<i>chassis_number</i>	The chassis number (integer). Valid values: 1.
<i>if_number</i>	The interface number. A positive integer. Valid values: 1 - to the maximum number of switch interfaces.
<i>if_sub_number</i>	(Optional) The interface sub-number. An integer from 1-4.

Response

Response Body (JSON)	<pre>[{ "authAuthEapLogoffWhileAuthenticating": <authAuthEapLogoffWhileAuthenticating>, "authAuthEapStartsWhileAuthenticating": <authAuthEapStartsWhileAuthenticating>, "authAuthFailWhileAuthenticating": <authAuthFailWhileAuthenticating>, "authAuthSuccessesWhileAuthenticating": <authAuthSuccessesWhileAuthenticating>, "authEntersAuthenticating": <authEntersAuthenticating>, "authAuthTimeoutsWhileAuthenticating": <authAuthTimeoutsWhileAuthenticating>, "authAuthEapStartsWhileAuthenticated": <authAuthEapStartsWhileAuthenticated>, "interface": "<interface>", "authAuthEapLogoffWhileAuthenticated": <authAuthEapLogoffWhileAuthenticated>, "authAuthReauthsWhileAuthenticated": <authAuthReauthsWhileAuthenticated> }]</pre>
-------------------------	---

where:

Parameter	Description
authAuthEapLogoffWhileAuthenticating	The number of times eapEapLogoff is asserted while in AUTHENTICATING state (integer).
authAuthEapStartsWhileAuthenticating	The number of times eapStart is asserted while in AUTHENTICATING state (integer).
authAuthFailWhileAuthenticating	The number of times eapFail is asserted while in AUTHENTICATING state (integer).
authAuthSuccessesWhileAuthenticating	The number of times eapSuccess is asserted while in AUTHENTICATING state (integer).
authEntersAuthenticating	Transitions to AUTHENTICATING from UNAUTHENTICATED (integer).
authAuthTimeoutsWhileAuthenticating	The number of times eapTimeout is asserted while in AUTHENTICATING state (integer)
authAuthEapStartsWhileAuthenticated	The number of times rxEapStart is asserted in AUTHENTICATED state (integer).
interface	The interface name (string).
authAuthEapLogoffWhileAuthenticated	The number of times rxEapLogoff is asserted while in AUTHENTICATED state (integer).
authAuthReauthsWhileAuthenticated	The number of times the re-authentication timer expires in the AUTHENTICATED state, triggering another authentication process (integer).

Get 802.1X Interface Statistics

Gets the 802.1X statistics for a specified interface.

Request

Method Type	GET
Request URI	nos/api/cfg/dot1x/<if_type>/<chassis_number>/<if_number>/<if_sub_number>/statistics
Request Body (JSON)	

where:

Parameter	Description
<i>if_type</i>	The interface type (string). Valid values: "ethernet", "vlan".
<i>chassis_number</i>	The chassis number (integer). Valid value: 1.
<i>if_number</i>	The interface number. A positive integer. Valid values: 1 - to the maximum number of switch interfaces.
<i>if_sub_number</i>	(Optional) The interface sub-number. An integer from 1-4.

Response

Response Body (JSON)	[[{ "eapolPortUnavailable": <eapolPortUnavailable>, "lastEapolFrameSource": "<lastEapolFrameSource>",&br/> "eapolLogoffFramesRx": <eapolLogoffFramesRx>, "eapolLengthErrorFramesRx": <eapolLengthErrorFramesRx>, "eapolAuthEapFramesTx": <eapolAuthEapFramesTx>, "invalidFramesEapolRx": <invalidFramesEapolRx>, "lastEapolFrameVersion": <lastEapolFrameVersion>, "eapolStartFramesRx": <eapolStartFramesRx>, "interface": "<interface>",&br/> "eapolEapFramesRx": <eapolEapFramesRx> }]]
-------------------------	---

where:

Parameter	Description
eapolPortUnavailable	Holds the number of times a virtual port could not be created (integer).
lastEapolFrameSource	Holds the last source MAC address which sent an EAPoL frame (string). A MAC address in the following format: "XXXX.XXXX.XXXX".

Parameter	Description
eapolLogoffFramesRx	The number of EAPoL Logoff frames (integer).
eapLengthErrorFramesRx	The number of EAP frames with an length error (integer).
eapolAuthEapFramesTx	The transmitted EAP packets (integer).
invalidFramesEapolRx	The number of EAPoL invalid frames (integer).
lastEapolFrameVersion	The last version of EAPoL frames (integer).
interface	The interface name (string).
eapolStartFramesRx	The number of EAPoL Start frames (integer).
eapolEapFramesRx	The number of EAP frames (integer).

Get 802.1X Interface Session Statistics

Gets the 802.1X session statistics for a specified interface.

Request

Method Type	GET
Request URI	nos/api/cfg/dot1x/<if_type>/<chassis_number>/<if_number>/<if_sub_number>/session-statistics
Request Body (JSON)	

where:

Parameter	Description
<i>if_type</i>	The interface type (string). Valid values: "ethernet".
<i>chassis_number</i>	The chassis number (integer). Valid values: 1.
<i>if_number</i>	The interface number. A positive integer. Valid values: 1 - to the maximum number of switch interfaces.
<i>if_sub_number</i>	(Optional) The interface sub-number. An integer from 1-4.

Response

Response Body (JSON)	<pre>[{ "username": "<username>", "inPackets": <integer>, "outOctets": <integer>, "inOctets": <integer>, "sessionId": "<session_id_string>", "outPackets": <integer>, "time": <integer>, "interface": "<interface_name>", "terminateCause": "<terminate_cause_string>" }]</pre>
-------------------------	---

where:

Parameter	Description
username	The connected supplicant username (string).
inPackets	The number of packets received by the supplicant (integer).
inOctets	The number of octets received by the supplicant (integer).

Parameter	Description
outPackets	The number of packets sent by the supplicant (integer).
outOctets	The number of octets received by the supplicant (integer).
time	The supplicant session uptime (integer).
interface	The interface where the supplicant is connected (string).
terminateCause	The supplicant session terminate cause (string).

Get 802.1X Interface Detailed Information

Gets the 802.1X detailed information for a specified interface.

Request

Method Type	GET
Request URI	nos/api/cfg/dot1x/<if_type>/<chassis_number>/<if_number>/<if_sub_number>/detail
Request Body (JSON)	

where:

Parameter	Description
<i>if_type</i>	The interface type (string). Valid values: "ethernet".
<i>chassis_number</i>	The chassis number (integer). Valid value: 1.
<i>if_number</i>	The interface number. A positive integer. Valid values: 1 - to the maximum number of switch interfaces.
<i>if_sub_number</i>	(Optional) The interface sub-number. An integer from 1-4.

Response

Response Body (JSON)	<pre>[{ "interface": "<interface_name>", "maxRequests": <integer>, "guestVlan": <boolean>, "macAuthenticationBypass": <boolean>, "unauthorizedVlan": <boolean>, "hostMode": "<host_mode_string>", "fallbackVlan": <boolean>, "dynamicACL": <boolean>, "accounting": <boolean>, "quietPeriod": <integer>, "reauthPeriod": <integer>, "pae": "authenticator", "dynamicVlan": <boolean>, "reauthentication": <boolean>, "connectedSupplicants": <integer>, "authenticatedSupplicants": <integer>, "txPeriod": <integer>, "suppTimeout": integer, "portControl": "<port_control_string>", "sessions": [{ "username": "<username>", "macAddress": "<mac_address>", "vlan": <vlan_id_integer>, "dynamicAclName": "<filter_name>", "paeState": "<pae_state_string>", "dot1xVlanType": "<dot1x_vlan_type_string>", "operationalStateIsAuth": <boolean> }] }]</pre>
-------------------------	--

where:

Parameter	Description
interface	The interface where the supplicant is connected (string).
maxRequests	The configured 802.1X request retry count (integer).
guestVLAN	Indicates if the GUEST VLAN is enabled (boolean).
macAuthenticationBypass	Indicates if MAB is enabled (boolean).
unauthorizedVlan	Indicates if the unauthorized Vlan is enabled (boolean).
hostMode	Indicates the configured 802.1X host-mode (string).
fallbackVlan	Indicates if the fallback VLAN is enabled (boolean).
dynamicACL	Indicates if the dynamic ACL is enabled (boolean).

Parameter	Description
accounting	Indicates if the accounting is enabled (boolean).
quietPeriod	The configured 802.1X quiet period (integer).
reauthPeriod	The configured 802.1X reauthentication period (integer).
paе	Indicates the NAS PAE role (string). Valid value: "authenticator".
dynamicVlan	Indicates if the dynamic VLAN is enabled (boolean).
reauthentication	Indicates if the reauthentication is enabled (boolean).
connectedSupplicants	Indicates the number of connected supplicants (integer).
authenticatedSupplicants	Indicates the number of authenticated supplicants (integer).
txPeriod	The configured 802.1X tx-period (integer).
suppTimeout	The configured 802.1X supplicant timeout period (integer).
portControl	The configured 802.1X port control mode (string).
username	The connected supplicant username (string).
macAddress	The connected supplicant MAC address (string).
vlan	The connected supplicant vlan (integer).
dynamicAcIName	The installed dynamic ACL name. A string or N/A if no dynamic ACL is installed.
paеState	Indicates the 802.1X PAE FSM state (string).
dot1xVlanType	Indicates the operational 802.1X VLAN type (string). Valid values: "guest", "fallback", "unauthorized", "dynamic".
operationalStateIsAuth	Indicates if the supplicant is authorized or not (boolean).

ECMP

The following Equal Cost Multiple Paths (ECMP) URIs are available:

- /nos/api/cfg/ip/ecmp/weight GET, PUT
- /nos/api/info/ip/ecmp/weight/ipv4/<ipv4_address> GET
- /nos/api/info/ip/ecmp/weight/ipv6/<ipv6_address> GET
- /nos/api/info/ip/ecmp/weight/interface/<interface_name> GET
- /nos/api/cfg/ip/ecmp/weight/ipv4 POST
- /nos/api/cfg/ip/ecmp/weight/ipv6 POST
- /nos/api/cfg/ip/ecmp/weight/interface POST
- /nos/api/cfg/ecmp GET, POST

The following ECMP commands are available:

- [Get Weighted ECMP Status](#)
- [Update Weighted ECMP Status](#)
- [Get IPv4 Next-hop ECMP Weight](#)
- [Configure IPv4 Next-hop ECMP Weight](#)
- [Get IPv6 Next-hop ECMP Weight](#)
- [Configure IPv6 Next-hop ECMP Weight](#)
- [Get Interface ECMP Weight](#)
- [Configure Interface ECMP Weight](#)
- [Get ECMP Hashing Configuration](#)
- [Set ECMP Hashing Configuration](#)

Get Weighted ECMP Status

Gets the status of weighted ECMP on the switch.

Request

Method Type	GET
Request URI	nos/api/cfg/ip/ecmp/weight
Request Body (JSON)	

Response

Response Body (JSON)	{ "weighted_ecmp_state": <weighted_ecmp_state> }
----------------------	--

where:

Parameter	Description
weighted_ ecmp_state	The status of weighted ECMP (string). Valid values: "enable", "disable".

Update Weighted ECMP Status

Updates the status of weighted ECMP on the switch.

Request

Method Type	PUT
Request URI	/nos/api/cfg/ip/ecmp/weight
Request Body (JSON)	{ "weighted_ecmp_state": <weighted_ecmp_state> }

where:

Parameter	Description
weighted_ ecmp_state	The status of weighted ECMP (string). Valid values: "enable", "disable".

Response

Response Body (JSON)	{ "weighted_ecmp_state": <weighted_ecmp_state> }
----------------------	--

where:

Parameter	Description
weighted_ ecmp_state	The status of weighted ECMP (string). Valid values: "enable", "disable".

Get IPv4 Next-hop ECMP Weight

Gets the ECMP weight of a specified IPv4 next-hop.

Request

Method Type	GET
Request URI	nos/api/info/ip/ecmp/weight/ipv4/<ipv4_address>
Request Body (JSON)	

where:

Parameter	Description
<i>ipv4_address</i>	The IPv4 address (string).

Response

Response Body (JSON)	{ "ipv4_nexthop_address": <IPv4_address>, "ipv4_nexthop_weight": <weight> }
----------------------	--

where:

Parameter	Description
<i>ipv4_nexthop_address</i>	The IPv4 address of the next-hop (string).
<i>ipv4_nexthop_weight</i>	The ECMP weight of the specified next-hop. An integer from 1-4.

Configure IPv4 Next-hop ECMP Weight

Configures the ECMP weight of a specific IPv4 next-hop.

Request

Method Type	POST
Request URI	/nos/api/cfg/ip/ecmp/weight/ipv4
Request Body (JSON)	{ "ipv4nexthop_address":<IPv4 address>, "ipv4nexthop_weight":<weight> }

where:

Parameter	Description
ipv4nexthop_address	The IPv4 address of the next-hop (string).
ipv4nexthop_weight	The ECMP weight of the specified next-hop. An integer from 1-4.

Response

Response Body (JSON)	{ "ipv4nexthop_address":<IPv4 address>, "ipv4nexthop_weight":<weight> }
----------------------	--

where:

Parameter	Description
ipv4nexthop_address	The IPv4 address of the next-hop (string).
ipv4nexthop_weight	The ECMP weight of the specified next-hop. An integer from 1-4.

Get IPv6 Next-hop ECMP Weight

Gets the ECMP weight of a specified IPv6 next-hop.

Request

Method Type	GET
Request URI	/nos/api/info/ip/ecmp/weight/ipv6/<ipv6_address>
Request Body (JSON)	

where:

Parameter	Description
<i>ipv6_address</i>	The IPv6 address (string).

Response

Response Body (JSON)	{ "ipv6_nexthop_address":<IPv6 address>, "ipv6_nexthop_weight":<weight> }
----------------------	--

where:

Parameter	Description
<i>ipv6_nexthop_address</i>	The IPv6 address of the next-hop (string).
<i>ipv6_nexthop_weight</i>	The ECMP weight of the specified next-hop. An integer from 1-4.

Configure IPv6 Next-hop ECMP Weight

Configures the ECMP weight of a specific IPv6 next-hop.

Request

Method Type	POST
Request URI	/nos/api/cfg/ip/ecmp/weight/ipv6
Request Body (JSON)	{ "ipv6nexthop_address":<IPv6 address>, "ipv6nexthop_weight":<weight> }

where:

Parameter	Description
ipv6nexthop_address	The IPv6 address of the next-hop (string).
ipv6nexthop_weight	The ECMP weight of the specified next-hop. An integer from 1-4.

Response

Response Body (JSON)	{ "ipv6nexthop_address":<IPv6 address>, "ipv6nexthop_weight":<weight> }
----------------------	--

where:

Parameter	Description
ipv6nexthop_address	The IPv6 address of the next-hop (string).
ipv6nexthop_weight	The ECMP weight of the specified next-hop. An integer from 1-4.

Get Interface ECMP Weight

Gets the ECMP weight of a specific switch interface.

Request

Method Type	GET
Request URI	/nos/api/info/ip/ecmp/weight/interface/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The interface name (string). For example: "Ethernet1%2F1".

Response

Response Body (JSON)	{ "interface_name":<if_name>, "interface_weight":<weight> }
----------------------	--

where:

Parameter	Description
<i>if_name</i>	The name of the switch interface (string).
<i>interface_weight</i>	The ECMP weight of the specified switch interface. An integer from 1-4.

Configure Interface ECMP Weight

Configures the ECMP weight of a specific switch interface.

Request

Method Type	POST
Request URI	/nos/api/cfg/ip/ecmp/weight/interface
Request Body (JSON)	{ "interface_name":<if_name>, "interface_weight":<weight> }

where:

Parameter	Description
if_name	The name of the switch interface (string).
interface_weight	The ECMP weight of the specified switch interface. An integer from 1-4.

Response

Response Body (JSON)	{ "interface_name":<if_name>, "interface_weight":<weight> }
----------------------	--

where:

Parameter	Description
if_name	The name of the switch interface (string).
interface_weight	The ECMP weight of the specified switch interface. An integer from 1-4.

Get ECMP Hashing Configuration

Gets the ECMP hash load-sharing configuration.

Request

Method Type	GET
Request URI	/nos/api/cfg/ecmp
Request Body (JSON)	

Response

Response Body (JSON)	{ "ecmp_ip_hash":<ip_hash>, "ecmp_port_hash":<port_hash> }
-------------------------	---

where:

Parameter	Description
ecmp_ip_hash	ECMP IP load-share hashing parameters (string). Valid values: "source-ip", "dest-ip", "source-dest-ip".
ecmp_port_hash	ECMP port load-share hashing parameters (string). Valid values: "source-port", "dest-port", "source-dest-port".

Set ECMP Hashing Configuration

Sets the ECMP hash load-sharing configuration.

Request

Method Type	POST
Request URI	/nos/api/cfg/ecmp
Request Body (JSON)	{ "ecmp_ip_hash":<ip_hash>, "ecmp_port_hash":<port_hash> }

where:

Parameter	Description
ecmp_ip_hash	ECMP IP load-share hashing parameters (string). Valid values: "source-ip", "dest-ip", "source-dest-ip".
ecmp_port_hash	ECMP port load-share hashing parameters (string). Valid values: "source-port", "dest-port", "source-dest-port".

Response

True if the operation succeeded; otherwise False.

FDB

The following Forwarding Database (FDB) URIs are available:

- /nos/api/info/fdb/list POST
- /nos/api/info/fdb/count POST
- /nos/api/info/fdb/global GET
- /nos/api/info/fdb/interface/<if_name> GET
- /nos/api/cfg/fdb GET, POST, PUT
- /nos/api/cfg/fdb/global GET, PUT
- /nos/api/cfg/fdb/interface/<if_name> GET, PUT

The following FDB commands are available:

- [Get List of MAC Addresses](#)
- [Get Number of MAC Addresses](#)
- [Get Global FDB Runtime Settings](#)
- [Get Global FDB Configured Settings](#)
- [Update Global FDB Settings](#)
- [Get MAC Address Learning Interface Runtime Setting](#)
- [Get MAC Address Learning Interface Configured Setting](#)
- [Update Interface MAC Address Learning Setting](#)
- [Get Static MAC Addresses](#)
- [Create Static MAC Address](#)
- [Delete MAC Address or Interface for Multicast MAC Address](#)

Get List of MAC Addresses

Gets all MAC addresses that match the search criteria.

Request

Method Type	POST
Request URI	/nos/api/info/fdb/list
Request Body (JSON)	<pre>{ "fdb_type": "{static multicast dynamic}", "mac_address": "{mac_address}", "interfaces": ["{if_name}"], "vlan_id": "{vlan_id}" }</pre>

where:

Parameter	Description
fdb_type	The type of MAC address to filter on (string). Valid values: <ul style="list-style-type: none">• "static"• "dynamic"• "multicast"
mac_address	The MAC address matching the criteria (string).
interfaces	The list of the switch interface name to filter on. For example: ["Ethernet1/12"].
vlan_id	The VLAN number to filter on. An integer from 1-4094.

Response

Response Body (JSON)	<pre>{ "address_table": [{ "vlan_id": "{vlan_id}", "mac_address": "{mac_address}", "is_static": "{true false}", "if_name": "{if_name}" }] }</pre>
----------------------	---

where:

Parameter	Description
address_table	The MAC table entries.
vlan_id	The VLAN number for the MAC table entry. An integer from 1-4094.
mac_address	The MAC address matching the search criteria (string).
is_static	Whether the MAC address is statically configured (boolean). Valid values: True, False.
if_name	The name of the switch interface to filter on (string).

Get Number of MAC Addresses

Gets the total number of MAC addresses matching the search criteria.

Request

Method Type	POST
Request URI	/nos/api/info/fdb/count
Request Body (JSON)	<pre>{ "fdb_type": "{static multicast dynamic}", "mac_address": "{mac_address}", "interfaces": ["{if_name}"], "vlan_id": "{vlan_id}" }</pre>

where:

Parameter	Description
fdb_type	The type of MAC address to filter on (string). Valid values: <ul style="list-style-type: none">• "static"• "dynamic"• "multicast"
mac_address	The MAC address matching the criteria (string).
interfaces	The list of the switch interface name to filter on. For example ["Ethernet1/12"].
vlan_id	The VLAN number to filter on. An integer from 1-4094.

Response

Response Body (JSON)	<pre>{ "dynamic_add_cnt": "{dynamic_add_cnt}", "static_add_cnt": "{static_add_cnt}", "multicast_add_cnt": "{multicast_add_cnt}", "total_in_use_cnt": "{total_in_use_cnt}" }</pre>
----------------------	---

where:

Parameter	Description
dynamic_add_cnt	The number of dynamically learnt MAC addresses (integer).
static_add_cnt	The number of statically configured MAC addresses (integer).

Parameter	Description
multicast_ add_cnt	The number of multicast MAC addresses (integer).
total_in_ use_cnt	The total number of MAC addresses (integer).

Get Global FDB Runtime Settings

Gets the global FDB runtime settings.

Request

Method Type	GET
Request URI	/nos/api/info/fdb/global
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "global_learning_status": "{enabled disabled}", "aging_time": "{aging_time}" }</pre>
----------------------	---

where:

Parameter	Description
global_learning_status	The status of global MAC address learning (string). Valid values: "enabled", "disabled".
aging_time	The MAC address aging time, in seconds. An integer from 0-1000000.

Get Global FDB Configured Settings

Gets the global FDB configured settings.

Request

Method Type	GET
Request URI	/nos/api/cfg/fdb/global
Request Body (JSON)	

Response

Response Body (JSON)	{ "global_learning_status": "{enabled disabled}", "aging_time": "{aging_time}" }
----------------------	---

where:

Parameter	Description
global_learning_status	The status of global MAC address learning (string). Valid values: "enabled", "disabled".
aging_time	The MAC address aging time, in seconds. An integer from 0-1000000.

Update Global FDB Settings

Updates the global FDB settings.

Request

Method Type	PUT
Request URI	/nos/api/cfg/fdb/global
Request Body (JSON)	{ "global_learning_status": "{enabled disabled}", "aging_time": "{aging_time}" }

where:

Parameter	Description
global_learning_status	The status of global MAC address learning (string). Valid values: "enabled", "disabled".
aging_time	The MAC address aging time, in seconds. An integer from 0-1000000. Note: Setting aging_time to 0 disables MAC address aging.

Response

Response Body (JSON)	{ "global_learning_status": "{enabled disabled}", "aging_time": "{aging_time}" }
----------------------	---

where:

Parameter	Description
global_learning_status	The status of global MAC address learning (string). Valid values: "enabled", "disabled".
aging_time	The MAC address aging time, in seconds. An integer from 0-1000000.

Get MAC Address Learning Interface Runtime Setting

Gets the runtime setting of MAC learning for a specific switch interface.

Request

Method Type	GET
Request URI	/nos/api/info/fdb/interface/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The name of the switch interface (string). For example: "Ethernet1%2F1".

Response

Response Body (JSON)	{ "learning_status": "{learning_status}" }
----------------------	--

where:

Parameter	Description
learning_status	The status of MAC address learning for the specified interface (string). Valid values: "enabled", "disabled".

Get MAC Address Learning Interface Configured Setting

Gets the configured setting of MAC learning for a specific switch interface.

Request

Method Type	GET
Request URI	/nos/api/cfg/fdb/interface/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The name of the switch interface (string). For example: "Ethernet1%2F1".

Response

Response Body (JSON)	{ "learning_status": "{learning_status}" }
----------------------	--

where:

Parameter	Description
learning_status	The status of MAC address learning for the specified interface (string). Valid values: "enabled", "disabled".

Update Interface MAC Address Learning Setting

Gets the status of MAC learning for a specific switch interface.

Request

Method Type	PUT
Request URI	/nos/api/cfg/fdb/interface/<if_name>
Request Body (JSON)	{ "learning_status": "{learning_status}" }

where:

Parameter	Description
<i>if_name</i>	The name of the switch interface (string). For example: "Ethernet1%2F1".
<i>learning_status</i>	The status of MAC address learning for the specified interface (string). Valid values: "enabled", "disabled".

Response

Response Body (JSON)	{ "learning_status": "{learning_status}" }
----------------------	--

where:

Parameter	Description
<i>learning_status</i>	The status of MAC address learning for the specified interface (string). Valid values: "enabled", "disabled".

Get Static MAC Addresses

Gets all statically configured MAC addresses.

Request

Method Type	GET
Request URI	/nos/api/cfg/fdb
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "address_table": [{ "vlan_id": "{vlan_id}", "mac_address": "{mac_address}", "is_static": "{is_static}", "if_name": "{if_name}" }] }</pre>
----------------------	--

where:

Parameter	Description
address_table	The MAC table entries.
vlan_id	The VLAN number for the MAC table entry. An integer from 1-4094.
mac_address	The MAC address (string).
is_static	Whether the MAC address is statically configured (boolean). Valid values: True, False.
if_name	The name of the switch interface (string). For example: "Ethernet1/12".

Create Static MAC Address

Adds a new statically configured MAC address.

Request

Method Type	POST
Request URI	/nos/api/cfg/fdb
Request Body (JSON)	<pre>{ "mac_address": "{mac_address}", "vlan_id": "{vlan_id}", "interfaces": ["{if_name}"] }</pre>

where:

Parameter	Description
mac_address	The MAC address (string).
vlan_id	The VLAN number. An integer from 1-4094.
interfaces	The list of the switch interface name to filter on. For example: ["Ethernet1/12"].

Response

Response Body (JSON)	<pre>{ "mac_address": "{mac_address}", "vlan_id": "{vlan_id}", "is_static": "{is_static}", "if_name": "{if_name}" }</pre>
----------------------	---

where:

Parameter	Description
mac_address	The MAC address (string).
vlan_id	The VLAN number. An integer from 1-4094.
is_static	Whether the MAC address is statically configured (boolean). Valid values: True, False.
if_name	The name of the switch interface (string). For example: "Ethernet1/12".

Delete MAC Address or Interface for Multicast MAC Address

Removes a MAC address matching the search criteria, or removes a switch interface from a multicast MAC address.

Request

Method Type	PUT
Request URI	/nos/api/cfg/fdb
Request Body (JSON)	<pre>{ "fdb_type": "{fdb_type}", "mac_address": "{mac_address}", "interfaces": ["{if_name}"], "vlan_id": "{vlan_id}", "vxlan": "{vxlan}" }</pre>

where:

Parameter	Description
fdb_type	The type of MAC address to delete (string). Valid values: "static", "dynamic".
mac_address	The MAC address matching the criteria (string)
vlan_id	The VLAN number to filter on. An integer from 1-4094.
interfaces	The list of the switch interface name to filter on. For example ["Ethernet1/12"].
vxlan	(Optional) VXLAN MAC of Overlay Network (integer). Valid values: 0 - Not a VXLAN MAC, 1 - VXLAN MAC.

Response

Response Body (JSON)	
----------------------	--

FIPS

The following FCoE Initialization Protocol Snooping (FIPS) URIs are available:

- /nos/api/cfg/fcoe/fips GET, PUT
- /nos/api/info/fcoe/fips/counters GET
- /nos/api/info/fcoe/fips/database GET
- /nos/api/info/fcoe/fips/database/vlan GET
- /nos/api/info/fcoe/fips/fcf GET
- /nos/api/info/fcoe/fips/fcf/vlan GET
- /nos/api/cfg/fcoe/fips/interface GET, PUT
- /nos/api/cfg/fcoe/fips/server_port_trunk GET, PUT
- /nos/api/cfg/fcoe/fips/vlan GET, POST, PUT, DELETE

The following FIPS commands are available:

- [Get FIPS Mode](#)
- [Set FIPS Mode](#)
- [Get FIP Snooping Counters](#)
- [Get Logged FCOE Enodes](#)
- [Get Logged FCOE Enodes Filtered by VLAN](#)
- [Get All FCOE Forwarders](#)
- [Get FCOE Forwarders Filtered by VLAN](#)
- [Get FIPS Interface Configuration](#)
- [Set FIPS Interface Configuration](#)
- [Set FIPS Server-Port-Trunk](#)
- [Get FIPS Server-Port-Trunk Configuration](#)
- [Get FIPS VLAN Configuration](#)
- [Set FIPS VLAN Configuration](#)
- [Modify FIPS VLAN Configuration](#)
- [Delete FIPS VLAN Configuration](#)

Get FIPS Mode

Gets FIP Snooping (FIPS) mode and status.

Request

Method Type	GET
Request URI	nos/api/cfg/fcoe/fips
Request Body (JSON)	

Response

Response Body (JSON)	{ "fips_state": <fips state>, "fips_mode": <fips mode> }
-------------------------	---

where:

Parameter	Description
fips state	The FIPS feature state (string). Valid values: "enable", "disable". Default value: "disable".
fips mode	The FIPS feature mode (string). Valid values: "global", "per-vlan".

Set FIPS Mode

Sets FCoE FIPS mode and status. FIPS feature can be enabled in either global or per-VLAN mode. This API enables FIPS in global mode.

Request

Method Type	PUT
Request URI	/nos/api/cfg/fcoe/fips
Request Body (JSON)	{ "fips_state": <fips state>, }

where:

Parameter	Description
fips state	The FIPS feature state (string). Valid values: "enable", "disable". Default value: "disable".

Response

Response Body (JSON)	{ "fips_state": <fips state>, "fips_mode": <fips mode> }
-------------------------	---

where:

Parameter	Description
fips state	The FIPS feature state (string). Valid values: "enable", "disable". Default value: "disable".
fips mode	The FIPS feature mode (string). Valid values: "global", "per-vlan".

Get FIP Snooping Counters

Gets FIP Snooping Control packets counters and FCoE FIPS ACL counters in a dictionary format.

Request

Method Type	GET
Request URI	nos/api/info/fcoe/fips/counters
Request Body (JSON)	

Response

Response Body (JSON)	<pre> { "FIP Snooping Control packets counters": { "FCF Added": <Total Number of times new FCFs discovered>, "FCF Removed": <Total number of times FCFs removed>, "FCoE Added": <Total Number of times FCoE devices logged-in>, "FCoE Removed": <Total Number of times FCoE devices logged-out>, "Total FIP Packets received": <Total number of FIP packets received on CPU>, "Total FIP Packets sent": <Total number of FIP packets sent out from CPU>, "Vlan Requests received": <Number of vlan requests received>, "Discovery Adv received": <Total number of Discovery Advertisements received>, "Discovery Solicitations rcvd": <Total number of Discovery Solicitations received>, "FLOGI Ack received": <Total number of FLOGI Accepts received>, "FLOGO Ack received": <Total number of FLOGO Accepts received>, "CVL received": <Total number of CVL packets received>, "Enode FKA received": <Total number of FIP Keep-alive packets from Enodes received>, "VN-Port FKA received": <Total number of FIP Keep-alive packets from VN-Port received>, "Forward Unicast FIP packets": <Total number of Unicast FIP packets forwarded from CPU>, "Forward ALL_FCF_MAC packets": <Total number of FIP ALL_FCF_MAC packets forwarded>, "Forward ALL_ENODE_MAC packets": <Total number of FIP ALL_ENODE_MAC packets forwarded>, "FIP decode errors": <Total number of mal-formatted FIP packets received> }, "FCoE FIPS ACL Statistics": { "Number of FCFs detected": <Number of online FCFs>, "Number of ACLs installed": <Number of FIP ACLs installed> }, "FCoE FIPS ACLs": { <dynamically created ACLs description>: <number of hits for ACL>, } } </pre>
-------------------------	---

where:

Parameter	Description
ifname	The interface name (string).
vlan	The VLAN number. An integer from 1-4093.
vn_port mac	The VN_Port MAC address - Fabric assigned MAC (FPMA). A string.

Parameter	Description
fcf mac	The FCF MAC address (string).
enode mac	The Enode MAC address (string).

Get Logged FCOE Enodes

Gets the list of logged-in FCoE Enodes across all vlans on all FCFs, or `False` if FIPS is not enabled.

Request

Method Type	GET
Request URI	<code>nos/api/info/fcoe/fips/database</code>
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "ifname": <ifname>, "vlan": <vlan>, "vn_port mac": <vn_port mac> "fcf_mac": <fcf_mac> "enode mac": <enode mac> }]</pre>
-------------------------	---

where:

Parameter	Description
<code>ifname</code>	The interface name (string).
<code>vlan</code>	The VLAN number. An integer from 1-4093.
<code>vn_port mac</code>	The VN_Port MAC address - Fabric assigned MAC (FPMA). A string.
<code>fcf mac</code>	The FCF MAC address (string).
<code>enode mac</code>	The Enode MAC address (string).

Get Logged FCOE Enodes Filtered by VLAN

Gets the list of logged-in FCoE Enodes on a specified VLAN, or `False` if FIPS is not enabled.

Request

Method Type	GET
Request URI	<code>nos/api/info/fcoe/fips/database/vlan/<vlan></code>
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "ifname": <ifname>, "vlan": <vlan>, "vn_port mac": <vn_port mac> "fcf_mac": <fcf_mac> "enode mac": <enode mac> }]</pre>
-------------------------	---

where:

Parameter	Description
<code>ifname</code>	The interface name (string).
<code>vlan</code>	The VLAN number. An integer from 1-4093.
<code>vn_port mac</code>	The VN_Port MAC address - Fabric assigned MAC (FPMA). A string.
<code>fcf mac</code>	The FCF MAC address (string).
<code>enode mac</code>	The Enode MAC address (string).

Get All FCOE Forwarders

Gets a list of FCoE Forwarders (FCF) discovered on all VLANs.

Request

Method Type	GET
Request URI	nos/api/info/fcoe/fips/fcf
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "ifname": <ifname>, "vlan": <vlan>, "fcf_mac": <fcf_mac> }]</pre>
-------------------------	---

where:

Parameter	Description
ifname	The interface name (string).
vlan	The VLAN number. An integer from 1-4093.
fcf mac	The FCF MAC address (string).

Get FCOE Forwarders Filtered by VLAN

Gets a list of FCoE Forwarders (FCF) discovered on a specified VLAN or Error if FIPS is not enabled.

Request

Method Type	GET
Request URI	nos/api/info/fcoe/fips/fcf/vlan/<vlan>
Request Body (JSON)	

where:

Parameter	Description
<i>vlan</i>	The VLAN number. An integer from 1-4093.

Response

Response Body (JSON)	[[{"ifname": <ifname>, "vlan": <vlan>, "fcf_mac": <fcf_mac> }]]
-------------------------	--

where:

Parameter	Description
<i>ifname</i>	The interface name (string).
<i>vlan</i>	The VLAN number. An integer from 1-4093.
<i>fcf mac</i>	The FCF MAC address (string).

Get FIPS Interface Configuration

Gets the FIPS interface configuration. It includes interface state and FCF mode.

Notes:

- To disable FCF learning on any interface when it is connected to Enode, FCF mode must be OFF.
- To avoid unwanted logins on an interface connected to the uplink FCF, FCF mode must be ON.

Request

Method Type	GET
Request URI	nos/api/cfg/fcoe/fips/interface/<ifname>
Request Body (JSON)	

where:

Parameter	Description
<i>ifname</i>	The interface name (string).

Response

Response Body (JSON)	<pre>{ "ifname": <ifname>, "fips_state": <fips state>, "fcf_mode": <fcf mode> }</pre>
-------------------------	---

where:

Parameter	Description
<i>ifname</i>	The interface name (string).
<i>fips state</i>	FIPS feature state (string). Valid values: "enable", "disable". Default value: "enable".
<i>fcf mode</i>	The FCF mode (string). Valid values: "Auto", "On", "Off". Default value: "Auto".

Set FIPS Interface Configuration

Sets the FIPS interface configuration. It includes interface state and FCF mode.

Notes:

- To disable FCF learning on any interface when it is connected to Enode, FCF mode must be OFF.
- To avoid unwanted logins on an interface connected to the uplink FCF, FCF mode must be ON.

Request

Method Type	PUT
Request URI	nos/api/cfg/fcoe/fips/interface/<ifname>
Request Body (JSON)	{ "ifname": <ifname>, "fips_state": <fips state>, "fcf_mode": <fcf mode> }

where:

Parameter	Description
ifname	The interface name (string).
fips state	FIPS feature state (string). Valid values: "enable", "disable". Default value: "enable".
fcf mode	The FCF mode (string). Valid values: "Auto", "On", "Off". Default value: "Auto".

Response

Response Body (JSON)	{ "ifname": <ifname>, "fips_state": <fips state>, "fcf_mode": <fcf mode> }
-------------------------	--

where:

Parameter	Description
ifname	The interface name (string).
fips state	FIPS feature state (string). Valid values: "enable", "disable". Default value: "enable".
fcf mode	The FCF mode (string). Valid values: "Auto", "On", "Off". Default value: "Auto".

Set FIPS Server-Port-Trunk

Sets FIPS server-port-trunk on a given LAG. This configuration is required only if the LAG is between switch and server, and the server ports are FCoE capable.

Request

Method Type	PUT
Request URI	nos/api/cfg/fcoe/fips/server_port_trunk/<port-channel>
Request Body (JSON)	{ "port-channel": <port-channel>, "server-port-trunk status": <server-port-trunk status>, }

where:

Parameter	Description
port-channel	The LAG name (string).
server-port-trunk status	FIPS state of the server_port_trunk (string). Valid values: "enable", "disable". Default value: "disable".

Response

Response Body (JSON)	{ "port-channel": <port-channel>, "server-port-trunk status": <server-port-trunk status>, }
-------------------------	--

where:

Parameter	Description
port-channel	The LAG name (string).
server-port-trunk status	FIPS state of the server_port_trunk (string). Valid values: "enable", "disable". Default value: "disable".

Get FIPS Server-Port-Trunk Configuration

Gets FIPS server-port-trunk configuration on a given LAG. This configuration is required only if the LAG is between switch and server, and the server ports are FCoE capable.

Request

Method Type	GET
Request URI	nos/api/cfg/fcoe/fips/server_port_trunk/<port-channel>
Request Body (JSON)	

where:

Parameter	Description
<i>port-channel</i>	The LAG name (string).

Response

Response Body (JSON)	{ "port-channel": <port-channel>, "server-port-trunk status": <server-port-trunk status>, }
-------------------------	--

where:

Parameter	Description
port-channel	The LAG name (string).
server-port-trunk status	FIPS state of the server_port_trunk (string). Valid values: "enable", "disable". Default value: "disable".

Get FIPS VLAN Configuration

Gets the FIPS VLAN configuration if the VLAN is provided in the URI. Otherwise, the API returns the list of FIPS enabled VLANs along with the configured FCMAP.

Note: This API is valid only for per-vlan FIPS mode. When FIPS mode is Global, the list is empty.

Request

Method Type	GET
Request URI	nos/api/cfg/fcoe/fips/vlan/<vlan>
Request Body (JSON)	

where:

Parameter	Description
<i>vlan</i>	The VLAN number. An integer from 1-4093.

Response

Response Body (JSON)	[{ "vlan": <vlan>, "fcmap": <fcmap> }]
-------------------------	---

where:

Parameter	Description
<i>vlan</i>	The VLAN number. An integer from 1-4093.
<i>fcmap</i>	The FCMAP configured for a specified VLAN. A string in hexadecimal format. Valid values: 0x000000 - 0xffffffff. Default value: "0x0efc00".

Set FIPS VLAN Configuration

Sets the FIPS VLAN configuration. Per-VLAN FIPS must be enabled on a given VLAN.

Note: This API is valid only for per-vlan FIPS mode. The API returns an error message if FIPS is enabled on the VLAN.

Request

Method Type	POST
Request URI	nos/api/cfg/fcoe/fips/vlan/<vlan>
Request Body (JSON)	{ "vlan": <vlan>, "fcmap": <fcmap> }

where:

Parameter	Description
vlan	The VLAN number. An integer from 1-4093.
fcmap	The FCMAP configured for a specified VLAN. A string in hexadecimal format. Valid values: 0x000000 - 0xffffffff. Default value: "0x0efc00".

Response

Response Body (JSON)	[{ "vlan": <vlan>, "fcmap": <fcmap> }]
-------------------------	---

where:

Parameter	Description
vlan	The VLAN number. An integer from 1-4093.
fcmap	The FCMAP configured for a specified VLAN. A string in hexadecimal format. Valid values: 0x000000 - 0xffffffff. Default value: "0x0efc00".

Modify FIPS VLAN Configuration

Modify the FIPS VLAN configuration for a specified VLAN.

Note: This API is valid only for per-vlan FIPS mode. The API returns an error message if FIPS is enabled on the VLAN.

Request

Method Type	PUT
Request URI	nos/api/cfg/fcoe/fips/vlan/<vlan>
Request Body (JSON)	{ "vlan": <vlan>, "fcmmap": <fcmmap> }

where:

Parameter	Description
vlan	The VLAN number. An integer from 1-4093.
fcmmap	The FCMAP configured for a specified VLAN. A string in hexadecimal format. Valid values: 0x000000 - 0xffffffff. Default value: "0x0efc00".

Response

Response Body (JSON)	[{ "vlan": <vlan>, "fcmmap": <fcmmap> }]
-------------------------	---

where:

Parameter	Description
vlan	The VLAN number. An integer from 1-4093.
fcmmap	The FCMAP configured for a specified VLAN. A string in hexadecimal format. Valid values: 0x000000 - 0xffffffff. Default value: "0x0efc00".

Delete FIPS VLAN Configuration

Deletes FIPS on a specified VLAN.

Note: This API is valid only for per-vlan FIPS mode. The API returns an error message if FIPS is enabled on the VLAN.

Request

Method Type	DELETE
Request URI	nos/api/cfg/fcoe/fips/vlan/<vlan>
Request Body (JSON)	

where:

Parameter	Description
<i>vlan</i>	The VLAN number. An integer from 1-4093.

Response

Response Body (JSON)	[{ "vlan": <vlan>, "fcmap": <fcmap> }]
-------------------------	---

where:

Parameter	Description
<i>vlan</i>	The VLAN number. An integer from 1-4093.
<i>fcmap</i>	The FCMAP configured for a specified VLAN. A string in hexadecimal format. Valid values: 0x000000 - 0xffffffff. Default value: "0x0efc00".

HSC

The following Hardware Switch Controller (HSC) related URIs are available:

- /nos/api/cfg/hsc/mode POST, PUT, GET
- /nos/api/cfg/hsc/devicename POST, PUT, GET
- /nos/api/cfg/hsc/ha POST, PUT, GET
- /nos/api/cfg/hsc/controller POST, PUT, GET
- /nos/api/cfg/hsc/tunnel POST, PUT, GET
- /nos/api/cfg/hsc/vtep POST, PUT, DELETE
- /nos/api/cfg/hsc/vtep/ip POST, PUT
- /nos/api/cfg/hsc/vtep-port POST, PUT
- /nos/api/info/hsc/controller-connection GET
- /nos/api/info/hsc/restc-connection GET
- /nos/api/info/hsc/vtep GET
- /nos/api/info/hsc/mac-address GET
- /nos/api/info/hsc/tunnel GET
- /nos/api/info/hsc/virtual-net GET
- /nos/api/info/hsc/virtual-port GET

The following HSC commands are available:

- [Configure HSC Mode](#)
- [Update HSC Mode](#)
- [Configure Device Name](#)
- [Update Device Name](#)
- [Configure HSC HA Mode](#)
- [Update HSC HA Mode](#)
- [Configure HSC Controller](#)
- [Update HSC Controller](#)
- [Configure HSC Tunnel](#)
- [Update HSC Tunnel](#)
- [Configure HSC VTEP](#)
- [Update HSC VTEP](#)
- [Delete HSC VTEP Instance Configuration](#)
- [Configure HSC VTEP Port](#)
- [Update HSC VTEP Port](#)

- Configure HSC VTEP IP
- Update HSC VTEP IP
- Get HSC Mode
- Get Device Name
- Get HSC HA Mode
- Get HSC Controller
- Get HSC Tunnel
- Get HSC Controller-Connection Information
- Get HSC RESTC-Connection Information
- Get HSC VTEP Basic Information
- Get HSC VTEP MAC-Address Information
- Get HSC VTEP Tunnel Information
- Get HSC VTEP Virtual-Network Information
- Get HSC VTEP Virtual-Port Information

Configure HSC Mode

Enables or disables HSC mode.

Request

Method Type	POST
Request URI	nos/api/cfg/hsc/mode
Request Body (JSON)	{ "mode": <mode> }

where:

Parameter	Description
mode	The HSC mode (string). Valid values: <ul style="list-style-type: none">● "vtep" sets the HSC mode to VTEP● "none" disables HSC mode

Response

Response Body (JSON)	{ "mode": <mode> }
-------------------------	--------------------------

where:

Parameter	Description
mode	The HSC mode (string). Valid values: <ul style="list-style-type: none">● "vtep" sets the HSC mode to VTEP● "none" disables HSC mode

Update HSC Mode

Updates HSC mode.

Request

Method Type	PUT
Request URI	nos/api/cfg/hsc/mode
Request Body (JSON)	{ "mode": <mode> }

where:

Parameter	Description
mode	The HSC mode (string). Valid values: <ul style="list-style-type: none">• "vtep" sets the HSC mode to VTEP• "none" disables HSC mode

Response

Response Body (JSON)	{ "mode": <mode> }
-------------------------	--------------------------

where:

Parameter	Description
mode	The HSC mode (string). Valid values: <ul style="list-style-type: none">• "vtep" sets the HSC mode to VTEP• "none" disables HSC mode

Configure Device Name

Configures the HSC device name.

Request

Method Type	POST
Request URI	nos/api/cfg/hsc/devicename
Request Body (JSON)	{ "device-name": "<device-name>" }

where:

Parameter	Description
device-name	Set the device name using <device-name> (string). A null string ("") deletes the device name.

Response

Response Body (JSON)	{ "device-name": "<device-name>" }
-------------------------	--

where:

Parameter	Description
device-name	Set the device name using <device-name> (string). A null string ("") deletes the device name.

Update Device Name

Updates the HSC device name.

Request

Method Type	PUT
Request URI	nos/api/cfg/hsc/devicename
Request Body (JSON)	{ "device-name": "<device-name>" }

where:

Parameter	Description
device-name	Set the device name using <device-name> (string). A null string ("") deletes the device name.

Response

Response Body (JSON)	{ "device-name": "<device-name>" }
-------------------------	--

where:

Parameter	Description
device-name	Set the device name using <device-name> (string). A null string ("") deletes the device name.

Configure HSC HA Mode

Configures the HSC HA mode.

Request

Method Type	POST
Request URI	nos/api/cfg/hsc/ha
Request Body (JSON)	{ "ha-mode": <ha-mode> }

where:

Parameter	Description
ha-mode	The HA mode (string). Valid values: <ul style="list-style-type: none">• "vlag" sets the HSC mode to VLAG• "none" disables HA mode

Response

Response Body (JSON)	{ "ha-mode": <ha-mode> }
-------------------------	--------------------------------

where:

Parameter	Description
ha-mode	The HA mode (string). Valid values: <ul style="list-style-type: none">• "vlag" sets the HSC mode to VLAG• "none" disables HA mode

Update HSC HA Mode

Updates the HSC HA mode.

Request

Method Type	PUT
Request URI	nos/api/cfg/hsc/ha
Request Body (JSON)	{ "ha-mode": <ha-mode> }

where:

Parameter	Description
ha-mode	The HA mode (string). Valid values: <ul style="list-style-type: none">• "vlag" sets the HSC mode to VLAG• "none" disables HA mode

Response

Response Body (JSON)	{ "ha-mode": <ha-mode> }
-------------------------	--------------------------------

where:

Parameter	Description
ha-mode	The HA mode (string). Valid values: <ul style="list-style-type: none">• "vlag" sets the HSC mode to VLAG• "none" disables HA mode

Configure HSC Controller

Configures the HSC controller.

Request

Method Type	POST
Request URI	nos/api/cfg/hsc/controller
Request Body (JSON)	<pre>{ "provider" : <provider>, "IP" : <ip>, "port" : <port>, "vrf" : <vrf>, "backoff": <backoff>, "inactivity-probe": <inactivity-probe> }</pre>

where:

Parameter	Description
provider	A specified string value which sets the controller provider: <ul style="list-style-type: none">• "nsx" sets the provider to VMware NSX Controller• "none" remove all the controller configuration
IP	The Controller IP address (string). Valid value: "a . b . c . d".
port	The port number. An integer from 1-65535. Default value: 6640.
vrf	A specified string value which determines the VRF used to connect to the controller (string). Valid values: <ul style="list-style-type: none">• "management" to use management VRF• "default" to use default VRF Default value: "management".
backoff	The controller backoff timer for re-connecting, in milliseconds. An integer from 1000-60000 or 0. Default value: 8000.
inactivity-probe	The inactivity-probe timer for keeping alive, in milliseconds. An integer from 10000-3600000 or 0. Default value: 120000.

Response

Response Body (JSON)	<pre>{ "provider" : <provider>, "IP" : <ip>, "port" : <port>, "vrf" : <vrf>, "backoff": <backoff>, "inactivity-probe": <inactivity-probe> }</pre>
-------------------------	---

where:

Parameter	Description
provider	A specified string value which sets the controller provider: <ul style="list-style-type: none">• "nsx" sets the provider to VMware NSX Controller• "none" remove all the controller configuration Default value: "nsx".
IP	The Controller IP address (string). Valid value: "a . b . c . d".
port	The port number. An integer from 1-65535. Default value: 6640.
vrf	A specified string value which determines the VRF used to connect to the controller (string). Valid values: <ul style="list-style-type: none">• "management" to use management VRF• "default" to use default VRF Default value: "management".
backoff	The controller backoff timer for re-connecting, in milliseconds. An integer from 1000-60000 or 0. Default value: 8000.
inactivity-probe	The inactivity-probe timer for keeping alive, in milliseconds. An integer from 10000-3600000 or 0. Default value: 120000.

Update HSC Controller

Updates the HSC controller.

Request

Method Type	PUT
Request URI	nos/api/cfg/hsc/controller
Request Body (JSON)	<pre>{ "provider" : <provider>, "IP" : <ip>, "port" : <port>, "vrf" : <vrf>, "backoff": <backoff>, "inactivity-probe": <inactivity-probe> }</pre>

where:

Parameter	Description
provider	A specified string value which sets the controller provider: <ul style="list-style-type: none">● "nsx" sets the provider to VMware NSX Controller● "none" remove all the controller configuration Default value: "nsx".
IP	The Controller IP address (string). Valid value: "a.b.c.d".
port	The port number. An integer from 1-65535. Default value: 6640.
vrf	A specified string value which determines the VRF used to connect to the controller (string). Valid values: <ul style="list-style-type: none">● "management" to use management VRF● "default" to use default VRF Default value: "management".
backoff	The controller backoff timer for re-connecting, in milliseconds. An integer from 1000-60000 or 0. Default value: 8000.
inactivity-probe	The inactivity-probe timer for keeping alive, in milliseconds. An integer from 10000-3600000 or 0. Default value: 120000.

Response

Response Body (JSON)	<pre>{ "provider" : <provider>, "IP" : <ip>, "port" : <port>, "vrf" : <vrf>, "backoff": <backoff>, "inactivity-probe": <inactivity-probe> }</pre>
-------------------------	---

where:

Parameter	Description
provider	A specified string value which sets the controller provider: <ul style="list-style-type: none">• "nsx" sets the provider to VMware NSX Controller• "none" remove all the controller configuration
IP	The Controller IP address (string). Valid value: "a . b . c . d".
port	The port number. An integer from 1-65535. Default value: 6640.
vrf	A specified string value which determines the VRF used to connect to the controller (string). Valid values: <ul style="list-style-type: none">• "management" to use management VRF• "default" to use default VRF Default value: "management".
backoff	The controller backoff timer for re-connecting, in milliseconds. An integer from 1000-60000 or 0. Default value: 8000.
inactivity-probe	The inactivity-probe timer for keeping alive, in milliseconds. An integer from 10000-3600000 or 0. Default value: 120000.

Configure HSC Tunnel

Configures the HSC tunnel.

Request

Method Type	POST
Request URI	nos/api/cfg/hsc/tunnel
Request Body (JSON)	{ "tunnel-IP" : <tunnel_ip> }

where:

Parameter	Description
tunnel-ip	The IP address to be used as tunnel IP (string). "A . B . C . D" sets the tunnel IP to a valid IPv4 address. A null string ("") deletes the configured tunnel IP.

Response

Response Body (JSON)	{ "tunnel-IP" : <tunnel_ip> }
-------------------------	-------------------------------------

where:

Parameter	Description
tunnel-IP	The IP address to be used as tunnel IP (string). "A . B . C . D" sets the tunnel IP to a valid IPv4 address. A null string ("") deletes the configured tunnel IP.

Update HSC Tunnel

Updates the HSC tunnel.

Request

Method Type	PUT
Request URI	/nos/api/cfg/hsc/tunnel
Request Body (JSON)	{ "tunnel-IP" : <tunnel_ip> }

where:

Parameter	Description
tunnel-IP	The IP address to be used as tunnel IP (string). "A.B.C.D" sets the tunnel IP to a valid IPv4 address. A null string ("") deletes the configured tunnel IP.

Response

Response Body (JSON)	{ "tunnel-IP" : <tunnel_ip> }
-------------------------	-------------------------------------

where:

Parameter	Description
tunnel-IP	The IP address to be used as tunnel IP (string). "A.B.C.D" sets the tunnel IP to a valid IPv4 address. A null string ("") deletes the configured tunnel IP.

Configure HSC VTEP

Configures the HSC VTEP.

Request

Method Type	POST
Request URI	nos/api/cfg/hsc/vtep
Request Body (JSON)	<pre>{ "vtep-id" : <id>, "IP" : <vtep_ip>, "port": <port>, "vrf" : <vrf>, "username" : <username>, "password" : <password> }</pre>

where:

Parameter	Description
vtep-id	The VTEP ID (integer). Valid values: 1-2.
IP	The local VTEP IP address used to connect with HSC (string). Entering no IP address deletes the specified tunnel IP.
port	The port number. An integer from 1-65535. Default value: 443.
vrf	A specified string value which determines the VRF used for the HSC - local VTEP connection (string). Valid values: <ul style="list-style-type: none">• "management" to use management VRF• "default" to use default VRF Default value: "management".
username	The username (string). Default value: admin.
password	The password (string). Default value: admin.

Response

True if the operation succeeded; otherwise False.

Update HSC VTEP

Updates the HSC VTEP.

Request

Method Type	PUT
Request URI	nos/api/cfg/hsc/vtep
Request Body (JSON)	<pre>{ "vtep-id" : <id>, "IP" : <vtep_ip>, "port" : <port>, "vrf" : <vrf>, "username" : <username>, "password" : <password> }</pre>

where:

Parameter	Description
vtep-id	The VTEP ID (integer). Valid values: 1-2.
IP	The local VTEP IP address used to connect with HSC (string). Entering no IP address deletes the specified tunnel IP.
port	The port number. An integer from 1-65535. Default value: 443.
vrf	A specified string value which determines the VRF used for the HSC - local VTEP connection (string). Valid values: <ul style="list-style-type: none">• "management" to use management VRF• "default" to use default VRF Default value: "management".
username	The username (string). Default value: admin.
password	The password (string). Default value: admin.

Response

True if the operation succeeded; otherwise False.

Delete HSC VTEP Instance Configuration

Deletes the specified VTEP instance configuration.

Request

Method Type	DELETE
Request URI	nos/api/cfg/hsc/vtep/<id>
Request Body (JSON)	

where:

Parameter	Description
<i>id</i>	The VTEP ID (integer). Valid values: 1-2.

Response

Boolean (True if the operation succeeded, otherwise False).

Configure HSC VTEP IP

Resets the HSC VTEP IP address.

Request

Method Type	POST
Request URI	nos/api/cfg/hsc/vtep/ip
Request Body (JSON)	{ "vtep-id" : <id>, "IP" : "vtep_ip" }

where:

Parameter	Description
vtep-id	The VTEP ID (integer). Valid values: 1-2.
IP	The local VTEP IP address used to connect with HSC (string). Entering no IP address deletes the specified tunnel IP.

Response

True if the operation succeeded; otherwise False.

Update HSC VTEP IP

Updates the HSC VTEP IP address.

Request

Method Type	PUT
Request URI	nos/api/cfg/hsc/vtep/ip
Request Body (JSON)	{ "vtep-id" : <id>, "IP" : "vtep_ip" }

where:

Parameter	Description
vtep-id	The VTEP ID (integer). Valid values: 1-2.
IP	The local VTEP IP address used to connect with HSC (string). Entering no IP address deletes the specified tunnel IP.

Response

True if the operation succeeded; otherwise False.

Configure HSC VTEP Port

Configures the HSC VTEP port.

Request

Method Type	POST
Request URI	nos/api/cfg/hsc/vtep-port
Request Body (JSON)	<pre>{ "vtep-id" : <id>, "vxlan-port": { "eth": {"action": <action>, port-list : <eth_port_list> }, "aggregation": {"action": <action>, "port-list": <aggregation_port_list> }, "vlag-instance": {"action": <action>, "port-list": <vlag_instance_list>} } }</pre>

where:

Parameter	Description
vtep-id	The VTEP ID (integer). Valid values: 1-2.
action	The configuration type (string). Valid values: <ul style="list-style-type: none">• "add" to add a new port.• "remove" to remove a port from the current configuration.• "set" to set the current configuration with port-list; this overwrites the current VXLAN port.
vxlan-port	Configure the VXLAN enabled interfaces: <ul style="list-style-type: none">• eth enables VXLAN on an ethernet interface• aggregation enables VXLAN on an aggregation interface• vlag-instance enables VXLAN on a VLAG instance

Response

True if the operation succeeded; otherwise False.

Update HSC VTEP Port

Updates the HSC VTEP port.

Request

Method Type	PUT
Request URI	nos/api/cfg/hsc/vtep-port
Request Body (JSON)	<pre>{ "vtep-id" : <id>, "vxlan-port": { "eth": {"action": <action>, port-list : <eth_port_list> }, "aggregation": {"action": <action>, "port-list": <aggregation_port_list> }, "vlag-instance": {"action": <action>, "port-list": <vlag_instance_list>} } }</pre>

where:

Parameter	Description
vtep-id	The VTEP ID (integer). Valid values: 1-2.
action	The configuration type (string). Valid values: <ul style="list-style-type: none">● "add" to add a new port.● "remove" to remove a port from the current configuration.● "set" to set the current configuration with port-list; this overwrites the current VXLAN port.
vxlan-port	Configure the VXLAN enabled interfaces: <ul style="list-style-type: none">● eth enables VXLAN on an ethernet interface● aggregation enables VXLAN on an aggregation interface● vlag-instance enables VXLAN on a VLAG instance

Response

True if the operation succeeded; otherwise False.

Get HSC Mode

Returns the HSC mode.

Request

Method Type	GET
Request URI	nos/api/cfg/hsc/mode
Request Body (JSON)	

Response

Response Body (JSON)	{ "mode": <mode> }
-------------------------	--------------------------

where:

Parameter	Description
mode	The HSC mode (string). Valid values: <ul style="list-style-type: none">● "vtep": HSC mode is VTEP● "none": HSC mode is disabled

Get Device Name

Returns the HSC device name.

Request

Method Type	GET
Request URI	nos/api/cfg/hsc/devicename
Request Body (JSON)	

Response

Response Body (JSON)	{ "device-name": "<device-name>" }
-------------------------	--

where:

Parameter	Description
device-name	The device name is set to <device-name> (string). A null string ("") means the device name is set to default.

Get HSC HA Mode

Returns the HSC HA mode.

Request

Method Type	GET
Request URI	nos/api/cfg/hsc/ha
Request Body (JSON)	

Response

Response Body (JSON)	{ "ha-mode": <ha_mode> }
-------------------------	--------------------------------

where:

Parameter	Description
ha-mode	The HSC mode (string). Valid values: <ul style="list-style-type: none">● "vtep": HSC mode is VTEP● "none": HSC mode is disabled

Get HSC Controller

Returns the HSC controller.

Request

Method Type	GET
Request URI	nos/api/cfg/hsc/controller
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "provider" : <provider>, "IP" : <ip>, "port" : <port>, "vrf" : <vrf>, "backoff": <backoff>, "inactivity-probe": <inactivity-probe> }</pre>
-------------------------	---

where:

Parameter	Description
provider	A specified string value which sets the controller provider: <ul style="list-style-type: none">● "nsx" sets the provider to VMware NSX Controller● "none" remove all the controller configuration
IP	The Controller IP address (string).
port	The port number. An integer from 1-65535. Default value: 6640.
vrf	A specified string value which determines the VRF used to connect to the controller (string). Valid values: <ul style="list-style-type: none">● "management" to use management VRF● "default" to use default VRF Default value: "management".
backoff	The controller backoff timer for re-connecting, in milliseconds. An integer from 1000-60000 or 0. Default value: 8000.
inactivity-probe	The inactivity-probe timer for keeping alive, in milliseconds. An integer from 10000-3600000 or 0. Default value: 120000.

Get HSC Tunnel

Returns the HSC controller.

Request

Method Type	GET
Request URI	nos/api/cfg/hsc/tunnel
Request Body (JSON)	

Response

Response Body (JSON)	{ "tunnel-IP": <tunnel_ip> }
-------------------------	------------------------------------

where:

Parameter	Description
tunnel-ip	The IP address to be used as tunnel IP (string). "A.B.C.D" sets the tunnel IP to a valid IPv4 address. A null string ("") deletes the configured tunnel IP.

Get HSC Controller-Connection Information

Returns the HSC OVSDB-connection information.

Request

Method Type	GET
Request URI	nos/api/info/hsc/controller-connection
Request Body (JSON)	

Response

Response Body (JSON)	[{"type":"SSL (NSX Controller)", "peer":"<A.B.C.D:port>", "inact":<int>, "backoff":<int>}, {"type":"SSL (NSX Controller)", "peer":"<A.B.C.D:port>", "inact":<int>, "backoff":<int>}, ...]
-------------------------	---

where:

Parameter	Description
type	String value for Connection Type (string). For example: "SSL" (NSX Controller).
inact	The inactive probe time in milliseconds (integer). If the value displayed is -1, the inactive probe time is invalid.
backoff	The maximum backoff time in milliseconds (integer). -1 means invalid.

Get HSC RESTC-Connection Information

Returns the API RESTC-connection information.

Request

Method Type	GET
Request URI	nos/api/info/hsc/restc-connection
Request Body (JSON)	

Response

Response Body (JSON)	[{"owner": "vtep1", "peer": "<{https http}://A.B.C.D:port>", "vrf": "<vrf-name>", "state": "ready unready"}, {"owner": "vtep2", "peer": "<{https http}://A.B.C.D:port>", "vrf": "<vrf-name>", "state": "ready unready"}]
-------------------------	---

where:

Parameter	Description
owner	The owner (string). Valid values: "vtep1", "vtep2".
peer	The peer address. A string in the following format: " <code>{https http}://a.b.c.d:port</code> ".
vrf	A specified string value which determines the VRF used for the HSC - local VTEP connection (string). Valid values: <ul style="list-style-type: none">"management" to use management VRF"default" to use default VRF
state	The state (string). Valid values: <ul style="list-style-type: none">"init" HSCD is in initiate state"logging" connecting to NWVD, HSDC rest client is in logging state"running" connection to NWVD has been created, HSDC rest client is running state"unready" NWVD is not ready, HSDC is in checking state

Get HSC VTEP Basic Information

Returns the HSC VTEP information.

Request

Method Type	GET
Request URI	nos/api/info/hsc/vtep
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "status" : <status>, "ha-mode": <mode>, "device-name" : <name>, "tunnel-ip": <tunnel>, "bfd-status": <bfd>, "physical-port-count": <port_counts>, "total-mapping-count": <mapping_counts> }</pre>
-------------------------	--

where:

Parameter	Description
status	The status (string). Valid values: "enabled", "disabled".
ha-mode	The HA- mode (string). Valid values: "vlag", "none".
device-name	The HSC device name (string).
tunnel-IP	The local tunnel IP address for NSXGW (string).
bfd-status	The BFD status value (string). Valid values: "enabled", "disabled".
physical-port	The physical port count (integer).
total-mapping-count	The total mappings count (integer).

Get HSC VTEP MAC-Address Information

Returns the HSC VTEP MAC-address information.

Request

Method Type	GET
Request URI	nos/api/info/hsc/mac-address
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "local": { "count":<count>, "mac-table": [{"vni":<vni>, "mac": "<mac-address>", "tunnel": "A.B.C.D"}, {"vni":<vni>, "mac": "<mac-address>", "tunnel": "A.B.C.D"}, ...] }, "remote": { "count":<count>, "mac-table": [{"vni":<vni>, "mac": "<mac-address>", "tunnel": "A.B.C.D"}, {"vni":<vni>, "mac": "<mac-address>", "tunnel": "A.B.C.D"}, ...] }, "local-mcast": { "count":<count>, "mac-table": [{"vni":<vni>, "mac": "<mac-address>", "tunnel": "A.B.C.D"}, {"vni":<vni>, "mac": "<mac-address>", "tunnel": "A.B.C.D"}, ...] }, "remote-mcast": { "count":<count>, "mac-table": [{"vni":<vni>, "mac": "<mac-address>", "tunnel": "A.B.C.D"}, {"vni":<vni>, "mac": "<mac-address>", "tunnel": "A.B.C.D"}, ...] } }</pre>
-------------------------	---

where:

Parameter	Description
local	The unicast MAC address table information of local sites.
remote	The unicast MAC address table information of remote sites.
local-mcast	The multicast MAC table information of local sites.
remote-mcast	The multicast MAC table information of remote sites.
count	The number of the listed MAC-table items.
vni	The VXLAN Network Identifier. An integer from 1-16777214.
mac	The MAC address value string.
tunnel	The tunnel IP address string.

Get HSC VTEP Tunnel Information

Returns the VTEP tunnel information.

Request

Method Type	GET
Request URI	nos/api/info/hsc/tunnel
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "local-ip":<local_ip>, "remote-ip":<remote_ip>, "rmt-bfd-enabled":<bfd_enables> }, { "local-ip":<local_ip>, "remote-ip":<remote_ip>, "rmt-bfd-enabled":<bfd_enables> }, ...]</pre>
-------------------------	--

where:

Parameter	Description
local-ip	IP address of local switch (string). This can be the management IP address of the local switch.
remote-ip	The remote IP address of the tunnel (string).
rmt-bfd-enabled	The remote BFD status (string). Valid values: "true", "false".

Get HSC VTEP Virtual-Network Information

Returns the VTEP Virtual-Network information.

Request

Method Type	GET
Request URI	nos/api/info/hsc/virtual-net
Request Body (JSON)	

Response

Response Body (JSON)	[{"vni":<vni>, "name": "<name>"}, {"vni":<vni>, "name": "<name>"}, ...]
-------------------------	---

where:

Parameter	Description
vni	The VXLAN Network Identifier. An integer from 1-16777214.
name	The unique string value name of the virtual network (string).

Get HSC VTEP Virtual-Port Information

Returns the VTEP virtual-port information.

Request

Method Type	GET
Request URI	nos/api/info/hsc/virtual-port
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "name": <port_name>, "vlan": <vlanid>, "vnid": <vnid> }, { "name": <port_name>, "vlan": <vlanid>, "vnid": <vnid> }, ...]</pre>
-------------------------	--

where:

Parameter	Description
name	The virtual port name (string).
vlan	The Vlan ID (string).
vnid	The VXLAN Network Identifier. An integer from 1-16777214.

HwProfile

The following hardware breakout URI is available:

- /nos/api/cfg/hwprofile/breakout GET, PUT

The following hardware breakout commands are available:

- [Get Breakout Profile Information](#)
- [Set Breakout Profile Information](#)

Get Breakout Profile Information

Gets hardware breakout profile information.

Request

Method Type	GET
Request URI	/nos/api/cfg/hwprofile/breakout/<default>
Request Body (JSON)	

where:

Parameter	Description
<i>default</i>	(Optional) The default hardware breakout profile (string). Valid value: "default".

Response

Response Body (JSON)	<pre>[{ if_name: "<if_name>", breakout: "<breakout>" }]</pre>
-------------------------	---

where:

Parameter	Description
<i>if_name</i>	The interface name (string).
<i>breakout</i>	The hardware breakout mode of the interface (string).

Set Breakout Profile Information

Sets hardware breakout profile of an interface.

Request

Method Type	PUT
Request URI	/nos/api/cfg/hwprofile/breakout/<if_name>
Request Body (JSON)	{ breakout: "<breakout>" }

where:

Parameter	Description
<i>if_name</i>	The interface name (string). For example: "Ethernet1%2F1".
breakout	The hardware breakout mode of the interface (string). For example: "10G-4x", "25G-4x", "50G-2x", "default".

Response

Response Body (JSON)	{ status: "<status>" }
-------------------------	------------------------------

where:

Parameter	Description
status	The operation status (boolean). Valid values: True, False.

IGMP Snooping

The following Internet Group Management Protocol (IGMP) Snooping URIs are available:

- /nos/api/cfg/igmp_snooping GET, POST, DELETE
- /nos/api/cfg/igmp_snooping/querier GET, PUT, DELETE
- nos/api/cfg/igmp_snooping/group GET
- /nos/api/cfg/igmp_snooping/mrouter GET, PUT, DELETE
- /nos/api/cfg/igmp_snooping/vlan GET, POST

The following IGMP Snooping commands are available:

- [Get IGMP Snooping Status](#)
- [Enable IGMP Snooping Globally](#)
- [Disable IGMP Snooping Globally](#)
- [Get IGMP Snooping Groups](#)
- [Get Multicast Router Entries](#)
- [Add Multicast Router Entry](#)
- [Delete Multicast Router Entry](#)
- [Get IGMP Snooping Querier Information](#)
- [Enable IGMP Snooping Querier Information](#)
- [Disable IGMP Snooping Querier Information](#)
- [Get IGMP Snooping Status](#)
- [Set IGMP Snooping Status](#)

Get IGMP Snooping Status

Gets the global IGMP Snooping status.

Request

Method Type	GET
Request URI	/nos/api/cfg/igmp_snooping
Request Body (JSON)	

Response

Response Body (JSON)	{ "status": "<status>" }
-------------------------	--------------------------------

where:

Parameter	Description
status	The global IGMP Snooping status (string). Valid values: "enable", "disable". Default value: "enable".

Enable IGMP Snooping Globally

Enables IGMP Snooping globally.

Request

Method Type	POST
Request URI	/nos/api/cfg/igmp_snooping
Request Body (JSON)	

Response

Response Body (JSON)	
-------------------------	--

Disable IGMP Snooping Globally

Disables IGMP Snooping globally.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/igmp_snooping
Request Body (JSON)	

Response

Response Body (JSON)	
-------------------------	--

Get IGMP Snooping Groups

Gets the IGMP Snooping groups from the specified VLAN and interface.

Request

Method Type	GET
Request URI	/nos/api/cfg/igmp_snooping/group/<vlan>/<if_type>/<chassis>/<if>/<sub_if>
Request Body (JSON)	

where:

Parameter	Description
<i>vlan</i>	(Optional) The VLAN ID. All VLANs are considered if a VLAN is not specified. An integer from 1-4093.
<i>if_type</i>	(Optional) The interface type (string). Valid values: "ethernet", "po".
<i>chassis</i>	(Optional) The chassis number (integer). Valid value: 1.
<i>if</i>	(Optional) The interface number (integer).
<i>sub_if</i>	(Optional) The sub-interface number (integer).

Response

Response Body (JSON)	<pre>[{ "vlan": "<vlan>", "interface": "<interface>", "group": "<group>", "flags": "<flags>", "expire": "<expire>", "version": "<version>", "filter_mode": "<filter_mode>", "source_list": { "include_src_list": [{ "source": "<source>", "uptime": "<uptime>", "expire": "<expire>", "forward": "<forward>", "flags": "<flags>" }], "exclude_src_list": [{ "source": "<source>", "uptime": "<uptime>", "expire": "<expire>", "forward": "<forward>", "flags": "<flags>" }] } }]</pre>
-------------------------	--

where:

Parameter	Description
vlan	The VLAN ID. An integer from 1-4093.
interface	The interface name (string).
group	The multicast group IP address (string). A valid IPv4 address.
flags	The group type (string). Valid values: "S" for static, "D" for dynamic, "SD" for both.
expire	The expiry time interval. A string in the following format: "HH:MM:SS", or "stopped".
version	The IGMP Snooping group version (string). Valid values: "V1", "V2", "V3".
filter_mode	The filter mode for IGMPv3 groups (string). Valid values: "include", "exclude".
source	The source IP address (string). A valid IPv4 address.

Parameter	Description
uptime	The source uptime. A string in the following format: "HH:MM:SS".
expire	The source expiry time interval. A string in the following format: "HH:MM:SS", or "stopped".
forward	The forwarding state (string). Valid values: "yes", "no".
flags	The source type (string). Valid values: "S" for static, "D" for dynamic, "SD" for both.

Get Multicast Router Entries

Gets the multicast router entries from the specified VLAN and interface.

Request

Method Type	GET
Request URI	/nos/api/cfg/igmp_snooping/mrouter/<vlan>/<if_type>/<chassis>/<if>/<sub_if>
Request Body (JSON)	

where:

Parameter	Description
<i>vlan</i>	(Optional) The VLAN ID. All VLANs are considered if a VLAN is not specified. An integer from 1-4093.
<i>if_type</i>	(Optional) The interface type (string). Valid values: "ethernet", "po".
<i>chassis</i>	(Optional) The chassis number (integer). Valid value: 1.
<i>if</i>	(Optional) The interface number (integer).
<i>sub_if</i>	(Optional) The sub-interface number (integer).

Response

Response Body (JSON)	[{ "vlan": "<vlan>", "interface": "<interface>", "mrouter_ip": "<mrouter_ip>", "mrouter_type": "<mrouter_type>", "expire": "<expire>" }]
-------------------------	--

where:

Parameter	Description
<i>vlan</i>	The VLAN ID. An integer from 1-4093.
<i>interface</i>	The interface name (string).
<i>mrouter_ip</i>	The mrouter IP address (string). A valid IPv4 address.

Parameter	Description
mrouter_type	The mrouter type (string). Valid values: "static", "dynamic", "PIM hello".
expire	The expiry time interval. A string in the following format: "HH:MM:SS", or "stopped".

Add Multicast Router Entry

Adds a static multicast router entry on the specified VLAN and interface.

Request

Method Type	PUT
Request URI	/nos/api/cfg/igmp_snooping/mrouter/<vlan>/<if_type>/<chassis>/<if>/<sub_if>
Request Body (JSON)	

where:

Parameter	Description
<i>vlan</i>	The VLAN ID. An integer from 1-4093.
<i>if_type</i>	The interface type (string). Valid values: "ethernet", "po".
<i>chassis</i>	The chassis number (integer). Valid value: 1.
<i>if</i>	(Optional) The interface number (integer).
<i>sub_if</i>	(Optional) The sub-interface number (integer).

Response

Response Body (JSON)	
-------------------------	--

Delete Multicast Router Entry

Deletes a static multicast router entry from the specified VLAN and interface.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/igmp_snooping/mrouter/<vlan>/<if_type>/<chassis>/<if>/<sub_if>
Request Body (JSON)	

where:

Parameter	Description
<i>vlan</i>	The VLAN ID. An integer from 1-4093.
<i>if_type</i>	The interface type (string). Valid values: "ethernet", "po".
<i>chassis</i>	The chassis number (integer). Valid value: 1.
<i>if</i>	(Optional) The interface number (integer).
<i>sub_if</i>	(Optional) The sub-interface number (integer).

Response

Response Body (JSON)	
-------------------------	--

Get IGMP Snooping Querier Information

Gets IGMP Snooping Querier information for the specified VLAN.

Request

Method Type	GET
Request URI	/nos/api/cfg/igmp_snooping/querier/<vlan>
Request Body (JSON)	

where:

Parameter	Description
<i>vlan</i>	(Optional) The VLAN ID. All VLANs are considered if a VLAN is not specified. An integer from 1-4093.

Response

Response Body (JSON)	<pre>[{ "vlan": "<vlan>", "querier_ip": "<querier_ip>", "querier_state": "<querier_state>", "version": "<version>", "expire": "<expire>", }]</pre>
-------------------------	--

where:

Parameter	Description
<i>vlan</i>	The VLAN ID. An integer from 1-4093.
<i>querier_ip</i>	The IGMP Snooping Querier IP address (string). A valid IPv4 address.
<i>querier_state</i>	The querier election state (string). Valid values: "Querier", "Non-Querier".
<i>version</i>	The IGMP Snooping version (string). Valid values: 2-3.
<i>expire</i>	The expiry time interval. A string in the following format: "HH:MM:SS", or "stopped".

Enable IGMP Snooping Querier Information

Enables IGMP Snooping Querier information on the specified VLAN.

Request

Method Type	PUT
Request URI	/nos/api/cfg/igmp_snooping/querier/<vlan>/<address>
Request Body (JSON)	

where:

Parameter	Description
<i>vlan</i>	The VLAN ID. An integer from 1-4093.
<i>address</i>	The IP address to be used by IGMP Snooping Querier on this VLAN (string). A valid IPv4 address.

Response

Response Body (JSON)	
-------------------------	--

Disable IGMP Snooping Querier Information

Disables IGMP Snooping Querier on the specified VLAN.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/igmp_snooping/querier/<vlan>/<address>
Request Body (JSON)	

where:

Parameter	Description
<i>vlan</i>	The VLAN ID. An integer from 1-4093.
<i>address</i>	The IP address to be used by IGMP Snooping Querier on this VLAN (string). A valid IPv4 address.

Response

Response Body (JSON)	
-------------------------	--

Get IGMP Snooping Status

Gets the IGMP Snooping status for the specified VLAN(s).

Request

Method Type	GET
Request URI	/nos/api/cfg/igmp_snooping/vlan/<vlan>
Request Body (JSON)	

where:

Parameter	Description
<i>vlan</i>	(Optional) The VLAN ID. All VLANs are considered if a VLAN is not specified. An integer from 1-4093.

Response

Response Body (JSON)	<pre>[{ "vlan": "<vlan>", "status": "<status>", "fast_leave": "<fast_leave>", "query_interval": "<query_interval>", "version": "<version>" }]</pre>
-------------------------	---

where:

Parameter	Description
<i>vlan</i>	The VLAN ID. An integer from 1-4093.
<i>status</i>	The IGMP Snooping status on this VLAN (string). Valid values: "enable", "disable". Default value: "enable".
<i>fast_leave</i>	The IGMP Snooping fast leave status on this VLAN (string). Valid values: "enable", "disable". Default value: "disable".
<i>query_interval</i>	The query interval on this VLAN, in seconds. An integer from 1-18000. Default value: 125.
<i>version</i>	The IGMP version (string). Valid values: 2-3. Default value: 3.

Set IGMP Snooping Status

Sets the IGMP Snooping status for the specified VLAN(s).

Request

Method Type	POST
Request URI	/nos/api/cfg/igmp_snooping/vlan/<vlan>
Request Body (JSON)	[{ "status": "<status>", "fast_leave": "<fast_leave>", "query_interval": "<query_interval>", "version": "<version>" }]

where:

Parameter	Description
<i>vlan</i>	The VLAN ID. An integer from 1-4093.
status	The IGMP Snooping status on this VLAN (string). Valid values: "enable","disable". Default value: "enable".
fast_leave	The IGMP Snooping fast leave status on this VLAN (string). Valid values: "enable","disable". Default value: "disable".
query_interval	The query interval on this VLAN, in seconds. An integer from 1-18000. Default value: 125.
version	The IGMP version (string). Valid values: 2-3. Default value: 3.

Response

Response Body (JSON)	
-------------------------	--

Interface

The following interface URIs are available:

- /nos/api/cfg/interface GET
- /nos/api/cfg/interface/<if_name> GET, PUT, POST
- /nos/api/cfg/interface/transceiver GET
- /nos/api/info/interface GET
- /nos/api/info/statistics/interface GET
- /nos/api/cfg/statistics/clear/interface DELETE

The following interface commands are available:

- [Get All Interfaces](#)
- [Get Interface](#)
- [Update Interface](#)
- [Set Interface Properties](#)
- [Get Transceiver Information](#)
- [Get VXLAN Interface Configuration](#)
- [Get Interface Statistics](#)
- [Clear Interface Statistics](#)

Get All Interfaces

Gets properties of all interfaces, including Ethernet, LAG, VLAN, loopback, management.

Request

Method Type	GET
Request URI	/nos/api/cfg/interface
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "err_disable_lfd": "false", "duplex": "full", "if_name": "Ethernet1/1", "mtu": 1500, "admin_state": "down", "mac_addr": "a897.dc1b.8602", "ifindex": 410001, "oper_state": "down", "speed": "40000" }]</pre>
-------------------------	--

where:

Parameter	Description
err_disable_lfd	The err-disable state of the interface due to LFD reason (boolean). Valid values: True, False.
if_name	The interface name (string). Note: The interface must exist.
duplex	The communication method of the interface (string). Valid values: "auto", "full", "half".
speed	The communication speed of the interface. Valid values: <ul style="list-style-type: none">● auto (auto negotiate)● 10 (10Mb/s)● 100 (100Mb/s)● 1000 (1Gb/s)● 10000 (10Gb/s)● 25000 (10Gb/s)● 40000 (40Gb/s).

Parameter	Description
mtu	The maximum transmission unit, in bytes. A positive integer from 64-9216.
mac_addr	The MAC address. A string in the following format: "xxxx.xxxx.xxxx".
admin_state	The admin status (string). Valid values: "up", "down".
oper_state	The operation state (string). Valid values: "up", "down".

Get Interface

Gets properties of one interface.

Request

Method Type	GET
Request URI	/nos/api/cfg/interface/<if_name_or_range>/<param1>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name_or_range</i>	The interfaces range (string). Note: The interface must exist.
<i>param1</i>	(Optional) The VXLAN state on the interface (string). Valid values: "vxlan", or an empty string "". Note: Applicable only for a single interface, and not for a range of interfaces.

Response

Response Body (JSON)	<pre>[{ "duplex": "<duplex>", "if_name": "<if_name>", "mtu": <mtu>, "admin_state": "<admin_state>", "mac_addr": "<mac_addr>", "ifindex": <ifindex>, "oper_state": "<oper_state>", "speed": "<speed>", "err_disable_lfd": "<err_disable_lfd>" }] or { "duplex": "<duplex>", "if_name": "<if_name>", "mtu": <mtu>, "admin_state": "<admin_state>", "mac_addr": "<mac_addr>", "ifindex": <ifindex>, "oper_state": "<oper_state>", "speed": "<speed>", "err_disable_lfd": "<err_disable_lfd>" } or { "vxlan": "<vxlan>" }</pre>
-------------------------	---

where:

Parameter	Description
duplex	The communication method of the interface (string). Valid values: "auto", "full", "half".
if_name	The interface name (string). Note: The interface must exist.
mtu	The maximum transmission unit configured on an interface. An integer from 64-9216.
admin_state	The administrative status of the interface (string). Valid values: "up", "down".
mac_addr	The MAC address of the interface. A string in the following format: "xxxx.xxxx.xxxx".
ifindex	The interface index (integer).
oper_state	The operation state of the interface (string). Valid values: "up", "down".

Parameter	Description
speed	<p>The communication speed of the interface (string). Valid values:</p> <ul style="list-style-type: none"> ● "auto " - auto negotiate ● "10" - 10Mb/s ● "100" - 100Mb/s ● "1000" - 1Gb/s ● "10000" - 10Gb/s ● "25000" - 10Gb/s ● "40000" - 40Gb/s <p>Note: Values can vary based on system configuration.</p>
err_disable_lfd	<p>The err-disable state of the interface due to LFD reason (boolean). Valid values: True, False.</p>
vxlan	<p>The VXLAN state of the interface (string). Valid values: "enabled", "disabled".</p>

Update Interface

Updates properties of one interface or a range of interfaces.

Request

Method Type	PUT
Request URI	/nos/api/cfg/interface/<if_name_or_range>/<arg1>
Request Body (JSON)	<pre>{ "mtu": <mtu>, "if_name": "<if_name>" "speed": "<speed>", "admin_state": "<admin_state>" }</pre> <p>or</p> <pre>{ "vxlan": "<vxlan>" }</pre>

where

Parameter	Description
<i>if_name_or_range</i>	The interface name or range (string). Note: The interface must exist.
<i>arg1</i>	(Optional) Set the VXLAN state on the interface (string). Valid values: "vxlan", or an empty string "". Note: Applicable only for a single interface, and not for a range of interfaces.
<i>mtu</i>	The maximum transmission unit configured on an interface. An integer from 64-9216.
<i>if_name</i>	The interface name (string). For example: "Ethernet 1/1-x".
<i>speed</i>	The communication speed of the interface (string). Valid values: <ul style="list-style-type: none"> ● "auto " - auto negotiate ● "10" - 10Mb/s ● "100" - 100Mb/s ● "1000" - 1Gb/s ● "10000" - 10Gb/s ● "25000" - 10Gb/s ● "40000" - 40Gb/s Note: Values can vary based on system configuration.

Parameter	Description
vxlan	Configure only the VXLAN properties on the specified interface (string). Valid values: "enable", "enabled", "disable", "disabled".
admin_state	(Optional) The administrative status of the interface (string). Valid values: "up", "down".

Note: If an element is not specified in a PUT request, no update for that element will be performed.

Response

Response Body (JSON)	<pre>[{ "duplex": "<duplex>", "if_name": "<if_name>", "mtu": <mtu>, "admin_state": "<admin_state>", "mac_addr": "<mac_addr>", "ifindex": <ifindex>, "oper_state": "<oper_state>", "speed": "<speed>", }] or { "duplex": "<duplex>", "if_name": "<if_name>", "mtu": <mtu>, "admin_state": "<admin_state>", "mac_addr": "<mac_addr>", "ifindex": <ifindex>, "oper_state": "<oper_state>", "speed": "<speed>", } or { "vxlan": "<vxlan>" }</pre>
----------------------	---

where:

Parameter	Description
duplex	The communication method of the interface (string). Valid values: "auto", "full", "half".
if_name	The interface name (string). Note: The interface must exist.
mtu	The maximum transmission unit configured on an interface. An integer from 64-9216.

Parameter	Description
admin_state	The administrative status of the interface (string). Valid values: "up", "down".
mac_addr	The MAC address of the interface. A string in the following format: "xxxx.xxxx.xxxx".
ifindex	The interface index (integer).
oper_state	The operation state of the interface (string). Valid values: "up", "down".
speed	The communication speed of the interface (string). Valid values: <ul style="list-style-type: none"> ● "auto " - auto negotiate ● "10" - 10Mb/s ● "100" - 100Mb/s ● "1000" - 1Gb/s ● "10000" - 10Gb/s ● "25000" - 10Gb/s ● "40000" - 40Gb/s Note: Values can vary based on system configuration.
vxlان	The VXLAN state of the interface (string). Valid values: "enabled", "disabled".

Example

Method Type	PUT
Request URI	/nos/api/cfg/interface/Ethernet1%2F5
Request Body (JSON)	{ <pre> "if_name": "Ethernet1/5", "speed": "auto", "mtu": 9216, "admin_state": "up" </pre> }

Set Interface Properties

Sets the properties of an interface.

Note: Currently supports only VXLAN setup. For other interface configurations use the PUT request.

Request

Method Type	POST
Request URI	/nos/api/cfg/interface/<if_name>/<arg1>
Request Body (JSON)	{ "vxlan": "<vxlan>" }

where:

Parameter	Description
<i>if_name</i>	The interface name (string). For example: "Ethernet1%2F1". Note: The interface must exist.
<i>arg1</i>	(Optional) Set the VXLAN state on the interface (string). Valid values: "vxlan", or an empty string "". Applicable only for a single interface, and not for a range of interfaces.
vxlan	Configure only the VXLAN properties on the specified interface (string). Valid values: "enable", "enabled", "disable", "disabled".

Response

Response Body (JSON)	{ "vxlan": "<vxlan>" }
-------------------------	------------------------------

where:

Parameter	Description
vxlan	The VXLAN state of the interface (string). Valid values: "enabled", "disabled".

Get Transceiver Information

Gets the transceiver information for a specified interface or for all interfaces.

Request

Method Type	GET
Request URI	/nos/api/cfg/interface/transceiver/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	(Optional) The IP interface name (string). For example: "Ethernet1%2F1". Note: The interface must exist.

Response

Response Body (JSON)	<pre> { "if_name": "", "installed": "Not Present" } or, if a transceiver is present: { "part number": "74752-1101", "vendor": "Molex Inc.", "temperature": "-N/A-", "volts": "-N/A-", "rev": "N/A", "serial number": "825630063", "if_name": "Ethernet1/25", "installed": "Present", "state": "Enabled", "link": "Up", "TX Enable": "Enabled", "approval": "Accepted", "type": "10Gb Passive DAC 1m" } </pre>
----------------------	---

where:

Parameter	Description
if_name	The IP interface name (string). Note: The interface must exist.
installed	Whether the transceiver is present (string). Valid values: "Present", "Not Present".
status	Interface status (string). Valid values: "Enabled", "Disabled".
type	Type of transceiver (string).
vendor	Vendor of transceiver (string).
part_number	Part number of transceiver (string).
revision	Revision of transceiver. A string or N/A.
serial number	Serial number of transceiver (string).
volts	Volts of transceiver. A string or N/A.
temperature	Temperature of transceiver. A string or N/A.
approved	Approval status of the transceiver (string). Valid values: "Approved", "Accepted", "Unapproved", "Unsuport", "Restrict", "No Device".

Get VXLAN Interface Configuration

Gets the VXLAN configuration of an interface.

Request

Method Type	GET
Request URI	nos/api/info/interface/<if_name>/<param1>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The interface name (string). For example: "Ethernet1%2F1". Note: The interface must exist.
<i>param1</i>	The VXLAN state on the interface (string). Valid values: "vxlan", or an empty string "". Note: If <i>param1</i> is not "vxlan", the request returns None.

Response

Response Body (JSON)	{ "vxlan": "<vxlan>" }
-------------------------	------------------------------

where:

Parameter	Description
vxlan	The VXLAN state of the interface (string). Valid values: "enabled", "disabled".

Get Interface Statistics

Gets statistics for a specific switch interface.

Request

Method Type	GET
Request URI	/nos/api/info/statistics/interface/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The name of the switch interface (string). For example: "Ethernet1%2F1".

Response

Following is a command response example:

Response Body (JSON)	<pre>{ "tx_pkts_65_to_127_bytes": "0", "rx_mcast_pkts": "0", "rx_pkts": "0", "tx_dropped": "0", "if_name": "Ethernet1/1", "rx_pkts_65_to_127_bytes": "0", "rx_rate": "0", "tx_oversize_pkts": "0", "tx_pkts_512_to_1023_bytes": "0", "rx_pkts_256_to_511_bytes": "0", "if_down_drops": "0", "rx_pkts_1519_to_1548_bytesg": "0", "tx_bytes": "0", "rx_ucast_pkts": "0", "rx_crc_errors": "0", "tx_mcast_pkts": "0", "tx_rate": "0", "tx_ucast_pkts": "0", "rx_pkts_1024_to_1518_bytes": "0", "tx_pkts_128_to_255_bytes": "0", "rx_pkts_1519_to_1548_bytes": "0", "rx_pkts_0_to_64_bytes": "0", "rx_bcast_pkts": "0", "rx_bytes": "0", "tx_errors": "0", "tx_pkts_0_to_64_bytes": "0", "tx_bcast_pkts": "0", "rx_bytes": "0", "tx_errors": "0", "tx_pkts_0_to_64_bytes": "0", "tx_bcast_pkts": "0", "rx_pause": "0", "tx_pkts_1024_to_1518_bytes": "0", "rx_undersize_pkts": "0", "tx_pkts_256_to_511_bytes": "0", "rx_input_discards": "0", "tx_pause": "0", "rx_pkts_128_to_255_bytes": "0", "rx_errors": "0", "tx_pkts": "0", "rx_pkts_512_to_1023_bytes": "0", "tx_bit_rate": "0", "rx_bit_rate": "0", "tx_pkts_1519_to_1548_bytes": "0", "rx_oversize_pkts": "0" }</pre>
-------------------------	---

where:

Parameter	Description
rx	String that contains a counter for the received (RX) or sent (TX) packets.
tx	

Clear Interface Statistics

Resets the statistics for a specific switch interface.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/statistics/clear/interface/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The name of the switch interface (string). For example: "Ethernet1%2F1".

Response

Response Body (JSON)	
----------------------	--

IP Interface

The following IP interface URIs are available:

- /nos/api/cfg/ip_interface GET
- /nos/api/cfg/ip_interface/<if_name> GET, PUT, POST
- /nos/api/cfg/ip_interface/<loopback-name> POST, DELETE

The following IP interface commands are available:

- [Get IP Properties of All Interfaces](#)
- [Get IP Interface Properties](#)
- [Update IP Interface Properties](#)
- [Create Loopback Interface](#)
- [Delete Loopback Interface](#)

Get IP Properties of All Interfaces

Gets IP properties of all interfaces.

Request

Method Type	GET
Request URI	/nos/api/cfg/ip_interface
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "ipv6_prefix_len": <ipv6_prefix_len>, "ipv6_addr": <ipv6_addr>, "ip_addr": <ip_addr>, "bridge_port": <bridge_port>, "if_name": <if_name>, "mtu": <mtu>, "vrf_name": <vrf_name>, "ipv6_linklocal": <ipv6_linklocal>, "admin_state": <admin_state>, "ip_prefix_len": <ip_prefix_len> }]</pre>
-------------------------	---

where:

Parameter	Description
ipv6_prefix_len	The IPv6 network prefix (integer).
ipv6_addr	The IPv6 address (string).
ip_addr	IP address for the interface (string).
bridge_port	Whether or not the port is a bridge port (string). Valid values: "yes", "no". Default value: "yes".
if_name	IP interface name (string). Note: The interface must exist.
mtu	The maximum transmission unit, in bytes. An integer from 64-9216. Default value: 1500.
ip_prefix_len	IP address mask. A positive integer from 0-128.

Parameter	Description
vrf_name	The name of the VRF to which the interface belongs (string). Note: The named VRF must exist.
admin_state	The admin status (string). Valid values: "up", "down".

Get IP Interface Properties

Gets IP properties of one interface.

Request

Method Type	GET
Request URI	/nos/api/cfg/ip_interface/<ip_if_name>
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "ipv6_prefix_len": <ipv6_prefix_len>, "ipv6_addr": <ipv6_addr>, "ip_addr": <ip_addr>, "bridge_port": <bridge_port>, "if_name": <if_name>, "mtu": <mtu>, "vrf_name": <vrf_name>, "ipv6_linklocal": <ipv6_linklocal>, "admin_state": <admin_state>, "ip_prefix_len": <ip_prefix_len> }]</pre>
-------------------------	---

where:

Parameter	Description
ipv6_prefix_len	The IPv6 network prefix (integer).
ipv6_addr	The IPv6 address (string).
ip_addr	IP address for the interface (string).
bridge_port	Whether or not the port is a bridge port (string). Valid values: "yes", "no". Default value: "yes".
if_name	IP interface name (string). Note: The interface must exist.
mtu	The maximum transmission unit, in bytes. An integer from 64-9216. Default value: 1500.
ip_prefix_len	IP address mask. A positive integer from 0-128.

Parameter	Description
vrf_name	The name of the VRF to which the interface belongs (string). Note: The named VRF must exist.
admin_state	The admin status (string). Valid values: "up", "down".

Update IP Interface Properties

Updates the IP properties of one interface.

Note: If an element is not specified in a PUT request, no update for that element will be performed.

Request

Method Type	PUT
Request URI	/nos/api/cfg/ip_interface/<ip_if_name>
Request Body (JSON)	<pre>[{ "ipv6_prefix_len": <ipv6_prefix_len>, "ipv6_addr": <ipv6_addr>, "ip_addr": <ip_addr>, "bridge_port": <bridge_port>, "if_name": <if_name>, "mtu": <mtu>, "vrf_name": <vrf_name>, "admin_state": <admin_state>, "ip_prefix_len": <ip_prefix_len> }]</pre>

where:

Parameter	Description
ipv6_prefix_len	The IPv6 network prefix (integer).
ipv6_addr	The IPv6 address (string).
ip_addr	IP address for the interface (string).
bridge_port	Whether or not the port is a bridge port (string). Valid values: "yes", "no". Default value: "yes".
if_name	IP interface name (string). Note: The interface must exist.
mtu	The maximum transmission unit, in bytes. An integer from 64-9216. Default value: 1500.
ip_prefix_len	IP address mask. A positive integer from 0-128.
vrf_name	The name of the VRF to which the interface belongs (string). Note: The named VRF must exist.
admin_state	The admin status (string). Valid values: "up", "down".

Response

Response Body (JSON)	<pre>[{ "ipv6_prefix_len": <ipv6_prefix_len>, "ipv6_addr": <ipv6_addr>, "ip_addr": <ip_addr>, "bridge_port": <bridge_port>, "if_name": <if_name>, "mtu": <mtu>, "vrf_name": <vrf_name>, "ipv6_linklocal": <ipv6_linklocal>, "admin_state": <admin_state>, "ip_prefix_len": <ip_prefix_len> }]</pre>
-------------------------	---

where:

Parameter	Description
ipv6_prefix_len	The IPv6 network prefix (integer).
ipv6_addr	The IPv6 address (string).
ip_addr	IP address for the interface (string).
bridge_port	Whether or not the port is a bridge port (string). Valid values: "yes", "no". Default value: "yes".
if_name	IP interface name (string). Note: The interface must exist.
mtu	The maximum transmission unit, in bytes. An integer from 64-9216. Default value: 1500.
ip_prefix_len	IP address mask. A positive integer from 0-128.
vrf_name	The name of the VRF to which the interface belongs (string). Note: The named VRF must exist.
admin_state	The admin status (string). Valid values: "up", "down".

Create Loopback Interface

Creates a new loopback interface.

Note: SDN creates only loopback interface from 1 to 7.

Request

Method Type	POST
Request URI	/nos/api/cfg/ip_interface/<loopback-name>
Request Body (JSON)	<pre>[{ "ipv6_prefix_len": <ipv6_prefix_len>, "ipv6_addr": <ipv6_addr>, "ip_addr": <ip_addr>, "description": <description>, "admin_state": <admin_state>, "ip_prefix_len": <ip_prefix_len> }]</pre>

where:

Parameter	Description
<i>loopback-name</i>	Name of the new loopback interface (string). Valid values: "loopback<1-7>".
<i>ipv6_prefix_len</i>	The IPv6 network prefix (integer).
<i>ipv6_addr</i>	The IPv6 address (string).
<i>ip_addr</i>	IP address for the interface (string).
<i>description</i>	Desired rate at which BFD will be able to send packets to the BFD neighbors. A string up to 80 characters long.
<i>admin_state</i>	The admin status (string). Valid values: "up", "down".
<i>ip_prefix_len</i>	IP address mask. A positive integer from 0-128.

Response

Response Body (JSON)	
-------------------------	--

Delete Loopback Interface

Delete a loopback interface.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/ip_interface/<loopback-name>
Request Body (JSON)	

where:

Parameter	Description
<i>loopback-name</i>	Name of the loopback interface (string). Valid values: "loopback<1-7>".

Response

Response Body (JSON)	
-------------------------	--

L2F

The following Layer 2 Failover (L2F) URIs are available:

- `/nos/api/info/l2f/<profile_id>` GET
- `/nos/api/cfg/l2f/<profile_id>` GET, PUT, POST, DELETE
- `/nos/api/cfg/l2f/interface` PUT

The following L2F commands are available:

- [Get L2F Profile Information](#)
- [Get L2F Profile Configuration](#)
- [Update L2F Configuration](#)
- [Configure L2F Profile Monitor Ports Limit](#)
- [Update L2F Profile MMON Monitor and Control Ports](#)
- [Delete L2F Profile](#)

Get L2F Profile Information

Gets information about all L2F profiles or a specified profile.

Request

Method Type	GET
Request URI	/nos/api/info/l2f/<profile_id>
Request Body (JSON)	

where:

Parameter	Description
<i>profile_id</i>	The profile number. An integer from 1-200. Note: If <i>profile_id</i> is not specified, the information for all profiles is displayed.

Response

Response Body (JSON)	<pre> { "global_status": "{global_status}", "disabled_profile": "{disabled_profile}", "profile_table": [{ "profile_id": "{profile_id}", "profile_status": "{profile_status}", "limit_port_num": "{limit_port_num}", "monitor_forward_num": "{monitor_forward_num}", "monitor_interfaces": [{ "if_name": "{if_name}", "if_status": "{if_status}" }] }] or { "if_name": "{if_name}", "agg_mem_table": [{ "mem_if_name": "{mem_if_name}", "mem_if_status": "{mem_if_status}" }] }], "control_state": "{control_state}", "control_interfaces": [{ "if_name": "{if_name}", "if_status": "{if_status}" }] or { "if_name": "{if_name}", "agg_mem_table": [{ "mem_if_name": "{mem_if_name}", "mem_if_status": "{mem_if_status}" }] }] }] } </pre>
----------------------	---

where:

Parameter	Description
global_status	The global status of L2F profiles (string). Valid values: "enabled", "disabled". Note: This parameter is not available when a <i>profile_id</i> is specified.
disabled_profile	The profile ID range string with manual state is disabled (string). Note: This parameter is not available when a <i>profile_id</i> is specified.

Parameter	Description
profile_table	The L2F profile entry table (list). Note: This parameter is not available when a <i>profile_id</i> is specified.
profile_id	The L2F profile ID. An integer from 1-200.
profile_status	The status of the specified L2F profile. (string). Valid values: "enabled", "disabled".
limit_port_num	The limit of monitor ports for the specified L2F profile. An integer from 1-1024.
monitor_forward_num	The number of active monitor port. An integer from 0 to the total number of ports and member ports configured.
monitor_interfaces	The list of monitor ports list configured for the specified L2F profile.
control_state	The state of control port (string). Valid values: "triggered", "default".
control_interfaces	The list of control ports configured for the specified L2F profile.
if_name	The name of the ethernet or port-aggregation interface (string).
if_status	The status of Ethernet interface (string). Valid values: "err-dis", "admin-down", "forward", "non-forward".
agg_mem_table	The member interface list of port-aggregation.
mem_if_name	The name of the switch port-aggregation interface (string).
mem_if_status	The status of the member interface of port-aggregation. (string). Valid values: "err-dis", "admin-down", "forward", "non-forward".

Get L2F Profile Configuration

Gets the current configuration for all L2F profiles or a specified profile.

Request

Method Type	GET
Request URI	/nos/api/cfg/l2f/<profile_id>
Request Body (JSON)	

where:

Parameter	Description
<i>profile_id</i>	The profile number. An integer from 1-200. Note: If <i>profile_id</i> is not specified, the information for all profiles is displayed.

Response

Response Body (JSON)	<pre>{ "global_status": "{global_status}", "default_setting_profile": "{default_setting_profile}", "profile_table": or, when a profile is specified: [{ "profile_id": "{profile_id}", "profile_status": "{profile_status}", "limit_port_num": "{limit_port_num}", "monitor_interfaces": "{if_name}", "control_interfaces": "{if_name}" }] }</pre>
----------------------	---

where:

Parameter	Description
global_status	The global status of L2F profiles (string). Valid values: "enabled", "disabled". Note: This parameter is not available when a <i>profile_id</i> is specified.
default_setting_profile	The profile ID range string with default setting (string).
profile_table	The L2F profile entry table (list). Note: This parameter is not available when a <i>profile_id</i> is specified.
profile_id	The L2F profile ID. An integer from 1-200.
profile_status	The status of the specified L2F profile. (string). Valid values: "enabled", "disabled".
limit_port_num	The limit of monitor ports for the specified L2F profile. An integer from 1-1024.
monitor_interfaces	The list of monitor ports list configured for the specified L2F profile.
control_interfaces	The list of control ports configured for the specified L2F profile.
if_name	The name of the ethernet or port-aggregation interface (string).

Update L2F Configuration

Sets the configuration for all L2F profiles or a specified profile.

Request

Method Type	PUT
Request URI	/nos/api/cfg/l2f/<profile_id>
Request Body (JSON)	<pre>{ "global_status": "{global_status}" }</pre> <p>or, when a profile_id is specified:</p> <pre>{ "profile_status": "{profile_status}" }</pre>

where:

Parameter	Description
<i>profile_id</i>	The L2F profile ID. An integer from 1-200.
<i>global_status</i>	The global status of teaming profile (string). Valid values: "enabled", "disabled". Note: This parameter is required when the <i>profile_id</i> is not specified.
<i>profile_status</i>	The status of the specified L2F profile. (string). Valid values: "enabled", "disabled". Note: This parameter is required when the <i>profile_id</i> is specified.

Response

Response Body (JSON)	<pre>{ "global_status": "{global_status}" } or, when a profile_id is specified: { "profile_status": "{profile_status}" }</pre>
----------------------	--

where:

Parameter	Description
global_status	The global status of teaming profile (string). Valid values: "enabled", "disabled". Note: This parameter is not available when a <i>profile_id</i> is specified.
profile_status	The status of the specified L2F profile. (string). Valid values: "enabled", "disabled". Note: This parameter is not available when a <i>profile_id</i> is not specified.

Configure L2F Profile Monitor Ports Limit

Sets the monitor ports limit for a specified L2F profile.

Request

Method Type	POST
Request URI	/nos/api/cfg/l2f/<profile_id>
Request Body (JSON)	{ "limit_port_num": "{limit_port_num}" }

where:

Parameter	Description
<i>profile_id</i>	The L2F profile ID. An integer from 1-200.
<i>limit_port_num</i>	The limit of monitor ports for the specified L2F profile. An integer from 1-1024.

Response

Response Body (JSON)	{ "limit_port_num": "{limit_port_num}" }
----------------------	--

where:

Parameter	Description
<i>limit_port_num</i>	The limit of monitor ports for the specified L2F profile. An integer from 1-1024.

Update L2F Profile MMON Monitor and Control Ports

Adds or removes MMON monitor and control ports for a specified L2F profile.

Request

Method Type	PUT
Request URI	/nos/api/cfg/l2f/interface
Request Body (JSON)	<pre>{ "operate_type": "{operate_type}", "profile_id": "{profile_id}", "port_type": "{port_type}", "interfaces": ["{if_name}"] }</pre>

where:

Parameter	Description
operate_type	Whether to add or remove a monitor or control port (string). Valid values: "add", "del".
profile_id	The L2F profile ID. An integer from 1-200.
port_type	Whether the port is configured as a monitor or a control port (string). Valid values: "monitor", "control".
interfaces	The list of switch interfaces to add or remove as monitor or control ports (string).

Response

Response Body (JSON)	
----------------------	--

Delete L2F Profile

Deletes a specified L2F profile.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/l2f/<profile_id>
Request Body (JSON)	

where:

Parameter	Description
<i>profile_id</i>	The L2F profile ID. An integer from 1-200.

Response

Response Body (JSON)	
----------------------	--

LACP

The following LACP URI is available:

- [/nos/api/cfg/lacp](#) GET, PUT

The following LACP commands are available:

- [Get LACP System Properties](#)
- [Update LACP System Properties](#)

Get LACP System Properties

Gets the LACP properties of the system.

Request

Method Type	GET
Request URI	/nos/api/cfg/lacp
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "sys_prio": <sys_prio>, "max_bundle": <max_bundle>, "interfaces": [{ "if_name": "<if_name>", "lag_mode": "<lag_mode>", "lacp_prio": <lacp_prio>, "lacp_timeout": "<lacp_timeout>" }] }</pre>
-------------------------	---

where:

Parameter	Description
sys_prio	LACP system priority. A positive integer from 1-65535. Default value: 32768.
max_bundle	The supported maximum number of links per LAG. A positive integer.
if_name	Ethernet interface name (string). Note: The interface must exist.
lag_mode	LAG mode (string). Valid values: "lacp_active", "lacp_passive", "no_lacp".
lacp_prio	LACP priority for the physical port. A positive integer from 1-65535. Default value: 32768.
lacp_timeout	LACP timeout for the physical port (string). Valid values: "short", "long". Default value: "long".

Update LACP System Properties

Updates the LACP properties of the system.

Request

Method Type	PUT
Request URI	/nos/api/cfg/lacp
Request Body (JSON)	{ "sys_prio": <sys_prio>, }

where:

Parameter	Description
sys_prio	LACP system priority. A positive integer from 1-65535. Default value: 32768.

Response

Response Body (JSON)	{ "sys_prio": <sys_prio>, }
-------------------------	-----------------------------------

where:

Parameter	Description
sys_prio	LACP system priority. A positive integer from 1-65535. Default value: 32768.

LAG

The following LAG-related URIs are available:

- `/nos/api/cfg/lag` GET, POST
- `/nos/api/cfg/lag/<lag_id>` GET, PUT, DELETE
- `/nos/api/cfg/lag/load_balance>` GET, PUT

The following LAG commands are available:

- [Get All LAGs](#)
- [Create LAG](#)
- [Get LAG Properties](#)
- [Update LAG](#)
- [Get LAG Load Balance Settings](#)
- [Update LAG Load Balance Settings](#)
- [Delete LAG](#)

Get All LAGs

Gets properties of all LAGs.

Request

Method Type	GET
Request URI	/nos/api/cfg/lag
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "lag_name": "<lag_name>", "lag_id": <lag_id>, "interfaces": [{ "if_name": "<if_name>", "lag_mode": "<lag_mode>", "lACP_prio": <lACP_prio>, "lACP_timeout": "<lACP_timeout>" }], "suspend_individual": "<status>", "min_links": <min_links>, }]</pre>
-------------------------	--

where:

Parameter	Description
lag_name	The name of the LAG (string).
lag_id	LAG identifier. An integer from 1-65535.
interfaces	Physical interface members of the LAG.
if_name	Ethernet interface name (string). Note: The interface must exist.
lag_mode	LAG mode (string). Valid values: "lACP_active", "lACP_passive", "no_lACP".
lACP_prio	LACP priority for the physical port. An integer from 1-65535. Default value: 32768.
lACP_timeout	LACP timeout for the physical port (string). Valid values: "short", "long". Default value: "long".

Parameter	Description
suspend_individual	<p>If the LAG does not get the LACP BPUD from peer ports the port aggregation. One of the following strings:</p> <ul style="list-style-type: none"> ● "Suspended": LACP on the ports is suspended rather than put into individual state ● "Individual": LAG on the ports is put into individual state <p>Default value: "Suspended".</p>
min_links	<p>LACP minimum links number. An integer from 1-32. Default value: 1.</p>

Create LAG

Creates a LAG.

Request

Method Type	POST
Request URI	/nos/api/cfg/lag
Request Body (JSON)	<pre>{ "lag_id": <lag_id>, "interfaces": [{ "if_name": "<if_name>", "lag_mode": "<lag_mode>", "lacp_prio": <lacp_prio>, "lacp_timeout": "<lacp_timeout>" }] }</pre>

where:

Parameter	Description
lag_id	LAG identifier. A positive integer from 1-65535.
interfaces	Physical interface members of the LAG. Up to 32 interfaces can be added.
if_name	Ethernet interface name (string). Note: The interface must exist.
lag_mode	LAG mode (string). Valid values: "lacp_active", "lacp_passive", "no_lacp".
lacp_prio	LACP priority for the physical port. An integer from 1-65535. Default value: 32768.
lacp_timeout	LACP timeout for the physical port (string). Valid values: "short", "long". Default value: "long".

Response

Response Body (JSON)	<pre>{ "lag_id": <lag_id>, "lag_name": "<lag_name>", "interfaces": [{ "if_name": "<if_name>", "lag_mode": "<lag_mode>", "lACP_prio": <lACP_prio>, "lACP_timeout": "<lACP_timeout>" }] }</pre>
----------------------	---

where:

Parameter	Description
lag_id	LAG identifier. A positive integer from 1-65535.
lag_name	The name of the LAG (string).
interfaces	Physical interface members of the LAG. Up to 32 interfaces can be added.
if_name	Ethernet interface name (string). Note: The interface must exist.
lag_mode	LAG mode (string). Valid values: "lACP_active", "lACP_passive", "no_lACP".
lACP_prio	LACP priority for the physical port. An integer from 1-65535. Default value: 32768.
lACP_timeout	LACP timeout for the physical port (string). Valid values: "short", "long". Default value: "long".
lag_id	LAG identifier. A positive integer from 1-65535.

Get LAG Properties

Gets properties of the specified LAG.

Request

Method Type	GET
Request URI	/nos/api/cfg/lag/<lag_id>
Request Body (JSON)	

where:

Parameter	Description
lag_id	LAG identifier. An integer from 1-65535.

Response

Response Body (JSON)	<pre>{ "lag_name": "<lag_name>", "lag_id": <lag_id>, "interfaces": [{ "if_name": "<if_name>", "lag_mode": "<lag_mode>", "lACP_prio": <lACP_prio>, "lACP_timeout": "<lACP_timeout>" }], "suspend_individual": "<status>", "min_links": <min_links>, }</pre>
-------------------------	--

where:

Parameter	Description
lag_name	The name of the LAG (string).
lag_id	LAG identifier. An integer from 1-65535.
interfaces	Physical interface members of the LAG.
if_name	Ethernet interface name (string). Note: The interface must exist.
lag_mode	LAG mode (string). Valid values: "lACP_active", "lACP_passive", "no_lACP".
lACP_prio	LACP priority for the physical port. An integer from 1-65535. Default value: 32768.

Parameter	Description
lacp_timeout	LACP timeout for the physical port (string). Valid values: "short", "long". Default value: "long".
suspend_individual	If the LAG does not get the LACP BPUD from peer ports the port aggregation. One of the following strings: <ul style="list-style-type: none"> ● "Suspended": LACP on the ports is suspended rather than put into individual state ● "Individual": LAG on the ports is put into individual state Default value: "Suspended".
min_links	LACP minimum links number. An integer from 1-32. Default value: 1.

Update LAG

Note: If an element is not specified in a PUT request, no update for that element will be performed.

Request

Method Type	PUT
Request URI	/nos/api/cfg/lag/<lag_id>
Request Body (JSON)	<pre>{ "lag_id": <lag_id>, "interfaces": [{ "if_name": "<if_name>", "lag_mode": "<lag_mode>", "lACP_prio": <lACP_prio>, "lACP_timeout": "<lACP_timeout>" }], "suspend_individual": "<status>", "min_links": <min_links>, }</pre>

where:

Parameter	Description
lag_id	LAG identifier. An integer from 1-65535.
interfaces	Physical interface members of the LAG.
if_name	Ethernet interface name (string). Note: The interface must exist.
lag_mode	LAG mode (string). Valid values: "lACP_active", "lACP_passive", "no_lACP".
lACP_prio	LACP priority for the physical port. An integer from 1-65535. Default value: 32768.
lACP_timeout	LACP timeout for the physical port (string). Valid values: "short", "long". Default value: "long".
suspend_individual	If the LAG does not get the LACP BPUD from peer ports the port aggregation. One of the following strings: <ul style="list-style-type: none">"Suspended": LACP on the ports is suspended rather than put into individual state"Individual": LAG on the ports is put into individual state Default value: "Suspended".
min_links	LACP minimum links number. An integer from 1-32. Default value: 1.

Response

Response Body (JSON)	<pre>{ "lag_id": <lag_id>, "lag_name": "<lag_name>", "interfaces": [{ "if_name": "<if_name>", "lag_mode": "<lag_mode>", "lacp_prio": <lacp_prio>, "lacp_timeout": "<lacp_timeout>" }], "suspend_individual": "<status>", "min_links": <min_links>, }</pre>
-------------------------	--

where:

Parameter	Description
lag_id	LAG identifier. An integer from 1-65535.
lag_name	The name of the LAG (string).
interfaces	Physical interface members of the LAG.
if_name	Ethernet interface name (string). Note: The interface must exist.
lag_mode	LAG mode (string). Valid values: "lacp_active", "lacp_passive", "no_lacp".
lacp_prio	LACP priority for the physical port. An integer from 1-65535. Default value: 32768.
lacp_timeout	LACP timeout for the physical port (string). Valid values: "short", "long". Default value: "long".
suspend_individual	If the LAG does not get the LACP BPUD from peer ports the port aggregation. One of the following strings: <ul style="list-style-type: none"> "Suspended": LACP on the ports is suspended rather than put into individual state "Individual": LAG on the ports is put into individual state Default value: "Suspended".
min_links	LACP minimum links number. An integer from 1-32. Default value: 1.

Get LAG Load Balance Settings

Gets the load balance properties for port aggregations.

Request

Method Type	GET
Request URI	/nos/api/cfg/lag/load_balance
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "destination-ip" : "<destination-ip>", "destination-mac" : "<destination-mac>", "destination-port" : "<destination-port>", "source-dest-ip" : "<source-dest-ip>", "source-dest-mac" : "<source-dest-mac>", "source-dest-port" : "<source-dest-port>", "source-interface" : "<source-interface>", "source-ip" : "<source-ip>", "source-mac" : "<source-mac>", "source-port" : "<source-port>" }</pre>
-------------------------	---

where:

Parameter	Description
destination-ip	Load distribution on the destination IP address (string). Valid values: "yes", "no".
destination-mac	Load distribution on the destination MAC address (string). Valid values: "yes", "no".
destination-port	Load distribution on the destination TCP/UDP port (string). Valid values: "yes", "no".
source-dest-ip	Load distribution on the source and destination IP address (string). Valid values: "yes", "no".
source-dest-mac	Load distribution on the source and destination MAC address (string). Valid values: "yes", "no".
source-dest-port	Load distribution on the source and destination TCP/UDP port (string). Valid values: "yes", "no".
source-interface	Load distribution on the source ethernet interface (string). Valid values: "yes", "no".

Parameter	Description
source-ip	Load distribution on the source IP address (string). Valid values: "yes", "no".
source-mac	Load distribution on the source MAC address (string). Valid values: "yes", "no".
source-port	Load distribution on the source TCP/UDP port (string). Valid values: "yes", "no".

Update LAG Load Balance Settings

Updates the load balance properties for port aggregations.

Request

Method Type	PUT
Request URI	/nos/api/cfg/lag/load_balance
Request Body (JSON)	<pre>{ "destination-ip" : "<destination-ip>", "destination-mac" : "<destination-mac>", "destination-port" : "<destination-port>", "source-dest-ip" : "<source-dest-ip>", "source-dest-mac" : "<source-dest-mac>", "source-dest-port": "<source-dest-port>", "source-interface": "<source-interface>", "source-ip" : "<source-ip>", "source-mac" : "<source-mac>", "source-port" : "<source-port>" }</pre>

where:

Parameter	Description
destination-ip	Load distribution on the destination IP address (string). Valid values: "yes", "no".
destination-mac	Load distribution on the destination MAC address (string). Valid values: "yes", "no".
destination-port	Load distribution on the destination TCP/UDP port (string). Valid values: "yes", "no".
source-dest-ip	Load distribution on the source and destination IP address (string). Valid values: "yes", "no".
source-dest-mac	Load distribution on the source and destination MAC address (string). Valid values: "yes", "no".
source-dest-port	Load distribution on the source and destination TCP/UDP port (string). Valid values: "yes", "no".
source-interface	Load distribution on the source ethernet interface (string). Valid values: "yes", "no".
source-ip	Load distribution on the source IP address (string). Valid values: "yes", "no".
source-mac	Load distribution on the source MAC address (string). Valid values: "yes", "no".
source-port	Load distribution on the source TCP/UDP port (string). Valid values: "yes", "no".

Response

Response Body (JSON)	<pre>{ "destination-ip" : "<destination-ip>", "destination-mac" : "<destination-mac>", "destination-port" : "<destination-port>", "source-dest-ip" : "<source-dest-ip>", "source-dest-mac" : "<source-dest-mac>", "source-dest-port" : "<source-dest-port>", "source-interface" : "<source-interface>", "source-ip" : "<source-ip>", "source-mac" : "<source-mac>", "source-port" : "<source-port>" }</pre>
-------------------------	---

where:

Parameter	Description
destination-ip	Load distribution on the destination IP address (string). Valid values: "yes", "no".
destination-mac	Load distribution on the destination MAC address (string). Valid values: "yes", "no".
destination-port	Load distribution on the destination TCP/UDP port (string). Valid values: "yes", "no".
source-dest-ip	Load distribution on the source and destination IP address (string). Valid values: "yes", "no".
source-dest-mac	Load distribution on the source and destination MAC address (string). Valid values: "yes", "no".
source-dest-port	Load distribution on the source and destination TCP/UDP port (string). Valid values: "yes", "no".
source-interface	Load distribution on the source ethernet interface (string). Valid values: "yes", "no".
source-ip	Load distribution on the source IP address (string). Valid values: "yes", "no".
source-mac	Load distribution on the source MAC address (string). Valid values: "yes", "no".
source-port	Load distribution on the source TCP/UDP port (string). Valid values: "yes", "no".

Delete LAG

Deletes a LAG.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/lag/<lag_id>
Request Body (JSON)	

where:

Parameter	Description
<i>lag_id</i>	LAG identifier. A positive integer from 1-65535.

Note: If there is no *lag_id* (*lag_id*=None or specified *lag_id*=All), all user-created LAGs will be deleted.

Response

Response Body (JSON)	
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LDAP

The following Lightweight Directory Access Protocol (LDAP) URIs are available:

- /nos/api/cfg/ldap GET, PUT
- /nos/api/cfg/ldap/profiles GET, POST, DELETE
- /nos/api/cfg/ldap/groups GET, POST, DELETE

The following LDAP commands are available:

- [Get LDAP Configuration](#)
- [Update LDAP Configuration](#)
- [Get LDAP Profile Configuration](#)
- [Add LDAP Profile](#)
- [Delete LDAP Profile](#)
- [Get LDAP Server Group Information](#)
- [Add LDAP Server Group](#)
- [Delete LDAP Server Group](#)

Get LDAP Configuration

Gets the current LDAP configuration.

Request

Method Type	GET
Request URI	nos/api/cfg/ldap
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "status": "<status>", "global_pki": "<global_pki>", "global_authorization": "<authorization>", "global_retransmit": <retransmit>, "global_timeout": <timeout> }</pre>
----------------------	--

where:

Parameter	Description
status	The global status of the LDAP service on the switch (string). Valid values: "enable", "disable".
global_pki	The name of the PKI profile used by LDAP (string).
global_authorization	The global LDAP authentication method (string). Valid values: <ul style="list-style-type: none">• "bitmap" for 8-byte permission bitmaps• "rbac" for Role-Based Access Control (RBAC)
global_retransmit	The global LDAP server retransmit count. An integer from 1-5.
global_timeout	The global LDAP server timeout, in seconds. An integer from 1-60.

Update LDAP Configuration

Updates the LDAP configuration.

Request

Method Type	PUT
Request URI	/nos/api/cfg/ldap
Request Body (JSON)	<pre>{ "status": "<status>", "global_pki": "<global_pki>", "global_authorization": "<authorization>", "global_retransmit": <retransmit>, "global_timeout": <timeout> }</pre>

where:

Parameter	Description
status	The global status of the LDAP service on the switch (string). Valid values: "enable", "disable".
global_pki	The name of the PKI profile used by LDAP (string).
global_authorization	The global LDAP authentication method (string). Valid values: <ul style="list-style-type: none">• "bitmap" for 8-byte permission bitmaps• "rbac" for Role-Based Access Control (RBAC)
global_retransmit	The global LDAP server retransmit count. An integer from 1-5.
global_timeout	The global LDAP server timeout, in seconds. An integer from 1-60.

Response

Response Body (JSON)	<pre>{ "status": "<status>", "global_pki": "<global_pki>", "global_authorization": "<authorization>", "global_retransmit": <retransmit>, "global_timeout": <timeout> }</pre>
----------------------	--

where:

Parameter	Description
status	The global status of the LDAP service on the switch (string). Valid values: "enable", "disable".
global_pki	The name of the PKI profile used by LDAP (string).
global_authorization	The global LDAP authentication method (string). Valid values: <ul style="list-style-type: none">• "bitmap" for 8-byte permission bitmaps• "rbac" for Role-Based Access Control (RBAC)
global_retransmit	The global LDAP server retransmit count. An integer from 1-5.
global_timeout	The global LDAP server timeout, in seconds. An integer from 1-60.

Get LDAP Profile Configuration

Gets the configuration of a specific LDAP profile.

Request

Method Type	GET
Request URI	/nos/api/cfg/ldap/profiles/<profile_name>
Request Body (JSON)	

where:

Parameter	Description
<i>profile_name</i>	The name of the LDAP profile (string).

Response

Response Body (JSON)	<pre>[{ "profile_name":{profile_name}, "host":{ip_address}, "port":{port}, "base_dn":{base_dn}, "bind_mode":{prompted predefined}, "security":{ldaps (ignore) startTLS (ignore) clear}, "retransmit":{retransmit}, "timeout":{timeout}, "authorization":{bitmap rbac}, "attribute_group":{attribute_group}, "attribute_permission_name":{attribute_permission_name}, "attribute_permission_admin_bitmap": {attribute_permission_admin_bitmap}, "attribute_permission_oper_bitmap": {attribute_permission_oper_bitmap}, "attribute_permission_deny_bitmap": {attribute_permission_deny_bitmap}, "attribute_permission_admin_role": {attribute_permission_admin_role}, "attribute_permission_oper_role": {attribute_permission_oper_role}, "attribute_permission_deny_role": {attribute_permission_deny_role}, "attribute_username":{attribute_username}, "predefined_credential_dn":{predefined_credential_dn}, "predefined_credential_key":{predefined_credential_key}, "credential_key_form":{0 7}, "group_filter":{group_filter}, "pki_name":{pki_name} }]</pre>
----------------------	--

where:

Parameter	Description
profile_name	The name of the LDAP profile (string).
host	The IP address of the LDAP server (string).
port	The TCP port for sending messages to the LDAP server. An integer from 1-65535.
base_dn	The LDAP based Domain Name (DN). A string.
bind_mode	The LDAP binding method (string). Valid values: "prompted", "predefined".
security	The LDAP transmit mode and security option (string). Valid values: <ul style="list-style-type: none"> ● "ldaps" (ignore) ● "startTLS" (ignore) ● "clear"

Parameter	Description
retransmit	The LDAP retransmit count. An integer from 1-5.
timeout	The LDAP server connection timeout period, in seconds. An integer from 1-60.
authorization	The LDAP authorization method (string). Valid values: <ul style="list-style-type: none"> • "bitmap" for 8-byte permission bitmaps • "rbac" for Role-Based Access Control (RBAC)
attribute_group	The name of the custom LDAP attribute group (string).
attribute_permission_name	The custom LDAP attribute permission name (string).
attribute_permission_admin_bitmap	The custom LDAP attribute permission administrative bitmap (string).
predefined_credential_dn	The Domain Name for binding with the LDAP server (string).
attribute_permission_admin_role	The custom LDAP attribute permission administrator role (string).
attribute_permission_oper_bitmap	The custom LDAP attribute permission operative bitmap (string).
attribute_permission_deny_bitmap	The custom LDAP attribute permission denial bitmap (string).
credential_key_form	The LDAP authentication key encryption method (integer). Valid values: <ul style="list-style-type: none"> • 0 - clear text • 7 - encrypted
predefined_credential_key	The password for the Domain Name (string).
attribute_username	The custom LDAP attribute username (string).
attribute_permission_oper_role	The custom LDAP attribute permission operator role (string).
attribute_permission_deny_role	The custom LDAP attribute deny operator role (string).
group_filter	The filter when performing group searches (string).
pki_name	The name of the PKI profile used by LDAP (string).

Add LDAP Profile

Configures a new LDAP profile.

Request

Method Type	POST
Request URI	nos/api/cfg/ldap/profiles
Request Body (JSON)	<pre>{ "profile_name": {profile_name}, "host": {ip_address}, "port": {port}, "base_dn": {base_dn}, "bind_mode": {prompted predefined}, "security": {ldaps (ignore) startTLS (ignore) clear}, "retransmit": {retransmit}, "timeout": {timeout}, "authorization": {bitmap rbac}, "attribute_group": {attribute_group}, "attribute_permission_name": {attribute_permission_name}, "attribute_permission_admin_bitmap": {attribute_permission_admin_bitmap}, "attribute_permission_oper_bitmap": {attribute_permission_oper_bitmap}, "attribute_permission_deny_bitmap": {attribute_permission_deny_bitmap}, "attribute_permission_admin_role": {attribute_permission_admin_role}, "attribute_permission_oper_role": {attribute_permission_oper_role}, "attribute_permission_deny_role": {attribute_permission_deny_role}, "attribute_username": {attribute_username}, "predefined_credential_dn": {predefined_credential_dn}, "predefined_credential_key": {predefined_credential_key}, "credential_key_form": {0 7}, "group_filter": {group_filter}, "pki_name": {pki_name} }</pre>

where:

Parameter	Description
profile_name	The name of the LDAP profile (string).
host	The IP address of the LDAP server (string).
port	The TCP port for sending messages to the LDAP server. A string from 1-65535.
base_dn	The LDAP based Domain Name (DN) (string).
bind_mode	The LDAP binding method (string). Valid values: "prompted", "predefined".

Parameter	Description
security	The LDAP transmit mode and security option (string). Valid values: <ul style="list-style-type: none"> ● "ldaps" (ignore) ● "startTLS" (ignore) ● "clear"
retransmit	The LDAP retransmit count. An integer from 1-5.
timeout	The LDAP server connection timeout period, in seconds. An integer from 1-60.
authorization	The LDAP authorization method (string). Valid values: <ul style="list-style-type: none"> ● "bitmap" for 8-byte permission bitmaps ● "rbac" for Role-Based Access Control (RBAC)
attribute_group	The name of the custom LDAP attribute group (string).
attribute_permission_name	The custom LDAP attribute permission name (string).
attribute_permission_admin_bitmap	The custom LDAP attribute permission administrative bitmap (string).
predefined_credential_dn	The Domain Name for binding with the LDAP server (string).
attribute_permission_admin_role	The custom LDAP attribute permission administrator role (string).
attribute_permission_oper_bitmap	The custom LDAP attribute permission operative bitmap (string).
attribute_permission_deny_bitmap	The custom LDAP attribute permission denial bitmap (string).
credential_key_form	The LDAP authentication key encryption method (integer). Valid values: <ul style="list-style-type: none"> ● 0 - clear text ● 7 - encrypted
predefined_credential_key	The password for the Domain Name (string).
attribute_username	The custom LDAP attribute username (string).
attribute_permission_oper_role	The custom LDAP attribute permission operator role (string).

Parameter	Description
attribute_permission_deny_role	The custom LDAP attribute deny operator role (string).
group_filter	The filter when performing group searches (string).
pki_name	The name of the PKI profile used by LDAP (string).

Response

Response Body (JSON)	<pre>{ "profile_name": {profile_name}, "host": {ip_address}, "port": {port}, "base_dn": {base_dn}, "bind_mode": {prompted predefined}, "security": {ldaps (ignore) startTLS (ignore) clear}, "retransmit": {retransmit}, "timeout": {timeout}, "authorization": {bitmap rbac}, "attribute_group": {attribute_group}, "attribute_permission_name": {attribute_permission_name}, "attribute_permission_admin_bitmap": {attribute_permission_admin_bitmap}, "attribute_permission_oper_bitmap": {attribute_permission_oper_bitmap}, "attribute_permission_deny_bitmap": {attribute_permission_deny_bitmap}, "attribute_permission_admin_role": {attribute_permission_admin_role}, "attribute_permission_oper_role": {attribute_permission_oper_role}, "attribute_permission_deny_role": {attribute_permission_deny_role}, "attribute_username": {attribute_username}, "predefined_credential_dn": {predefined_credential_dn}, "predefined_credential_key": {predefined_credential_key}, "credential_key_form": {0 7}, "group_filter": {group_filter}, "pki_name": {pki_name} }</pre>
----------------------	---

where:

Parameter	Description
profile_name	The name of the LDAP profile (string).
host	The IP address of the LDAP server.
port	The TCP port for sending messages to the LDAP server. An integer from 1-65535.
base_dn	The LDAP based Domain Name (DN) (string).

Parameter	Description
bind_mode	The LDAP binding method (string). Valid values: "prompted", "predefined".
security	The LDAP transmit mode and security option (string). Valid values: <ul style="list-style-type: none"> • "ldaps" (ignore) • "startTLS" (ignore) • "clear"
retransmit	The LDAP retransmit count. An integer from 1-5.
timeout	The LDAP server connection timeout period, in seconds. An integer from 1-60.
authorization	The LDAP authorization method (string). Valid values: <ul style="list-style-type: none"> • "bitmap" for 8-byte permission bitmaps • "rbac" for Role-Based Access Control (RBAC)
attribute_group	The name of the custom LDAP attribute group (string).
attribute_permission_name	The custom LDAP attribute permission name (string).
attribute_permission_admin_bitmap	The custom LDAP attribute permission administrative bitmap (string).
predefined_credential_dn	The Domain Name for binding with the LDAP server (string).
attribute_permission_admin_role	The custom LDAP attribute permission administrator role (string).
attribute_permission_oper_bitmap	The custom LDAP attribute permission operative bitmap (string).
attribute_permission_deny_bitmap	The custom LDAP attribute permission denial bitmap (string).
credential_key_form	The LDAP authentication key encryption method (integer). Valid values: <ul style="list-style-type: none"> • 0 - clear text • 7 - encrypted
predefined_credential_key	The password for the Domain Name (string).
attribute_username	The custom LDAP attribute username (string).
attribute_permission_oper_role	The custom LDAP attribute permission operator role (string).

Parameter	Description
attribute_ permission_deny_role	The custom LDAP attribute deny operator role (string).
group_filter	The filter when performing group searches (string).
pki_name	The name of the PKI profile used by LDAP (string).

Delete LDAP Profile

Deletes a configured LDAP profile.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/ldap/profiles/<profile_name>
Request Body (JSON)	

where:

Parameter	Description
<i>profile_name</i>	The name of the LDAP profile (string).

Response

Response Body (JSON)	
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Get LDAP Server Group Information

Gets LDAP group information.

Request

Method Type	GET
Request URI	/nos/api/cfg/ldap/groups/<group_name>
Request Body (JSON)	

where:

Parameter	Description
<i>group_name</i>	The name of the LDAP server group (string). Note: If this variable is not provided, then the command returns information about all configured LDAP server groups.

Response

Response Body (JSON)	<pre>[{ "group_name": "{group_name}", "vrf_name": "{vrf_name}", "profiles": [{ "profile_name": {profile_name}, "host": {ip_address}, "port": {port}, "base_dn": {base_dn}, "bind_mode": {prompted predefined}, "security": {ldaps (ignore) startTLS (ignore) clear}, "retransmit": {retransmit}, "timeout": {timeout}, "authorization": {bitmap rbac}, "attribute_group": {attribute_group}, "attribute_permission_name": {attribute_permission_name}, "attribute_permission_admin_bitmap": {attribute_permission_admin_bitmap}, "attribute_permission_oper_bitmap": {attribute_permission_oper_bitmap}, "attribute_permission_deny_bitmap": {attribute_permission_deny_bitmap}, "attribute_permission_admin_role": {attribute_permission_admin_role}, "attribute_permission_oper_role": {attribute_permission_oper_role}, "attribute_permission_deny_role": {attribute_permission_deny_role}, "attribute_username": {attribute_username}, "predefined_credential_dn": {predefined_credential_dn}, "predefined_credential_key": {predefined_credential_key}, "credential_key_form": {0 7}, "group_filter": {group_filter}, "pki_name": {pki_name} }] }]</pre>
----------------------	--

where:

Parameter	Description
group_name	The name of the LDAP server group (string).
vrf_name	The VRF instance for the LDAP server group.
profiles	The list of LDAP profiles.
profile_name	The name of the LDAP profile (string).
host	The IP address of the LDAP server (string).

Parameter	Description
port	The TCP port for sending messages to the LDAP server. An integer from 1-65535.
base_dn	The LDAP based Domain Name (DN) (string).
bind_mode	The LDAP binding method (string). Valid values: "prompted", "predefined".
security	The LDAP transmit mode and security option (string). Valid values: <ul style="list-style-type: none"> ● "ldaps" (ignore) ● "startTLS" (ignore) ● "clear"
retransmit	The LDAP retransmit count. An integer from 1-5.
timeout	The LDAP server connection timeout period, in seconds. An integer from 1-60.
authorization	The LDAP authorization method (string). Valid values: <ul style="list-style-type: none"> ● "bitmap" for 8-byte permission bitmaps ● "rbac" for Role-Based Access Control (RBAC)
attribute_group	The name of the custom LDAP attribute group (string).
attribute_permission_name	The custom LDAP attribute permission name (string).
attribute_permission_admin_bitmap	The custom LDAP attribute permission administrative bitmap (string).
predefined_credential_dn	The Domain Name for binding with the LDAP server (string).
attribute_permission_admin_role	The custom LDAP attribute permission administrator role (string).
attribute_permission_oper_bitmap	The custom LDAP attribute permission operative bitmap (string).
attribute_permission_deny_bitmap	The custom LDAP attribute permission denial bitmap (string).
credential_key_form	The LDAP authentication key encryption method (integer). Valid values: <ul style="list-style-type: none"> ● 0 - clear text ● 7 - encrypted

Parameter	Description
predefined_credentia_key	The password for the Domain Name (string).
attribute_username	The custom LDAP attribute username (string).
attribute_permission_oper_role	The custom LDAP attribute permission operator role (string).
attribute_permission_deny_role	The custom LDAP attribute deny operator role (string).
group_filter	The filter when performing group searches (string).
pki_name	The name of the PKI profile used by LDAP (string).

Add LDAP Server Group

Configures a new LDAP server group.

Request

Method Type	POST
Request URI	/nos/api/cfg/ldap/groups
Request Body (JSON)	<pre>{ "group_name": "<group_name>", "vrf_name": "<vrf_name>", "profile_name": ["<profile_name_list>"] }</pre>

where:

Parameter	Description
group_name	The name of the LDAP server group (string).
vrf_name	The VRF instance for the LDAP server group (string). Valid value: the VRF instance name.
profile_name_list	The list of LDAP profiles.

Response

Response Body (JSON)	<pre>[{ "group_name": "{group_name}", "vrf_name": "{vrf_name}", "profiles": [{ "profile_name": {profile_name}, "host": {ip_address}, "port": {port}, "base_dn": {base_dn}, "bind_mode": {prompted predefined}, "security": {ldaps (ignore) startTLS (ignore) clear}, "retransmit": {retransmit}, "timeout": {timeout}, "authorization": {bitmap rbac}, "attribute_group": {attribute_group}, "attribute_permission_name": {attribute_permission_name}, "attribute_permission_admin_bitmap": {attribute_permission_admin_bitmap}, "attribute_permission_oper_bitmap": {attribute_permission_oper_bitmap}, "attribute_permission_deny_bitmap": {attribute_permission_deny_bitmap}, "attribute_permission_admin_role": {attribute_permission_admin_role}, "attribute_permission_oper_role": {attribute_permission_oper_role}, "attribute_permission_deny_role": {attribute_permission_deny_role}, "attribute_username": {attribute_username}, "predefined_credential_dn": {predefined_credential_dn}, "predefined_credential_key": {predefined_credential_key}, "credential_key_form": {0 7}, "group_filter": {group_filter}, "pki_name": {pki_name} }] }]</pre>
----------------------	--

where:

Parameter	Description
group_name	The name of the LDAP server group (string).
vrf_name	The VRF instance for the LDAP server group (string). Valid value: the VRF instance name.
profiles	The list of LDAP profiles.
profile_name	The name of the LDAP profile (string).
host	The IP address of the LDAP server (string).

Parameter	Description
port	The TCP port for sending messages to the LDAP server. An integer from 1-65535.
base_dn	The LDAP based Domain Name (DN) (string).
bind_mode	The LDAP binding method (string). Valid values: "prompted"," predefined".
security	The LDAP transmit mode and security option (string). Valid values: <ul style="list-style-type: none"> • "ldaps" (ignore) • "startTLS" (ignore) • "clear"
retransmit	The LDAP retransmit count. An integer from 1-5.
timeout	The LDAP server connection timeout period, in seconds. An integer from 1-60.
authorization	The LDAP authorization method (string). Valid values: <ul style="list-style-type: none"> • "bitmap" for 8-byte permission bitmaps • "rbac" for Role-Based Access Control (RBAC)
attribute_group	The name of the custom LDAP attribute group (string).
attribute_permission_name	The custom LDAP attribute permission name (string).
attribute_permission_admin_bitmap	The custom LDAP attribute permission administrative bitmap (string).
predefined_credential_dn	The Domain Name for binding with the LDAP server (string).
attribute_permission_admin_role	The custom LDAP attribute permission administrator role (string).
attribute_permission_oper_bitmap	The custom LDAP attribute permission operative bitmap (string).
attribute_permission_deny_bitmap	The custom LDAP attribute permission denial bitmap (string).
credential_key_form	The LDAP authentication key encryption method (integer). Valid values: <ul style="list-style-type: none"> • 0 - clear text • 7 - encrypted
predefined_credential_key	The password for the Domain Name (string).
attribute_username	The custom LDAP attribute username (string).

Parameter	Description
attribute_permission_oper_role	The custom LDAP attribute permission operator role (string).
attribute_permission_deny_role	The custom LDAP attribute deny operator role (string).
group_filter	The filter when performing group searches (string).
pki_name	The name of the PKI profile used by LDAP (string).

Delete LDAP Server Group

Deletes a configured LDAP server group.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/ldap/groups/<group_name>
Request Body (JSON)	

where:

Parameter	Description
<i>group_name</i>	The name of the LDAP server group (string).

Response

Response Body (JSON)	
----------------------	--

LFD

The following Link Flap Dampening (LFD) URIs are available:

- /nos/api/lfd/interface GET, PUT
- /nos/api/lfd/interface/<if_name> GET, PUT

The following LFD commands are available:

- [Get Global LFD Status](#)
- [Get Interface LFD Status](#)
- [Set Global LFD Status](#)
- [Set Interface LFD Status](#)

Get Global LFD Status

Gets the global LFD status.

Request

Method Type	GET
Request URI	/nos/api/lfd
Request Body (JSON)	

Response

Response Body (JSON)	{ "enable": "<enable>" }
-------------------------	--------------------------------

where:

Parameter	Description
enable	The LFD state of the interface (string). Valid values: "enabled", "disabled".

Get Interface LFD Status

Gets the LFD status for a specified interface.

Request

Method Type	GET
Request URI	/nos/api/lfd/interface/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	(Optional) The interface name (string). Default value: Null. For example: "Ethernet1%2F1". Note: If <i>if_name</i> is not specified, the information for all interfaces is displayed.

Response

Response Body (JSON)	[{ "interface" : "<interface>", "enable" : "<enable>", "max_flaps" : <max_flaps>, "window" : <window>, "err_disable" : <err_disable> }]
-------------------------	---

where:

Parameter	Description
interface	The interface name (string).
enable	The LFD state of the interface (string). Valid values: "enabled", "disabled".
max_flaps	The number of flaps after which interface gets shut down. An integer from 0-100. Default value: 0.
window	The time range for an interface to reach maximum number of link flaps before entering error disable state. An integer from 5-500 Default value: 10.
err_disable	The error disable state of the interface (boolean). Valid values: True, False.

Set Global LFD Status

Sets the global LFD status.

Request

Method Type	PUT
Request URI	/nos/api/lfid
Request Body (JSON)	{ "status": "<status>" "recovery": "<recovery>" }

where:

Parameter	Description
status	The LFD state of the interface (boolean). Valid values: True, False.
recovery	The timer to recover from link-flap error disable state (boolean). Valid values: True, False.

Response

Response Body (JSON)	
-------------------------	--

Set Interface LFD Status

Sets the global LFD status for a specified interface or for all interfaces.

Request

Method Type	PUT
Request URI	/nos/api/lfd/interface/<if_name>
Request Body (JSON)	{ "status": <status>, "flaps": <flaps>, >window": <>window> }

where:

Parameter	Description
<i>if_name</i>	(Optional) The interface name (string). For example: "Ethernet1%2F1". Note: If <i>if_name</i> is not specified, the information for all interfaces is set.
<i>status</i>	The LFD state of the interface (boolean). Valid values: True, False.
<i>flaps</i>	The threshold for flaps that can occur on interface until it changes its state in error disabled. An integer from 0-100.
<i>window</i>	The time range for an interface to reach maximum number of link flaps before entering error disable state. An integer from 5-500.

Response

Boolean (True for enabled, otherwise False).

LLDP

The following LLDP URIs are available:

- /nos/api/cfg/lldp GET, PUT
- /nos/api/cfg/lldp/lldp_interface/<ifname> GET, PUT
- /nos/api/cfg/lldp/lldp_interface/statistics/<ifname> GET
- /nos/api/cfg/lldp/lldp_interface/neighbor/<ifname> GET
- /nos/api/cfg/lldp/tlv_select/<ifname> GET, PUT

The following LLDP commands are available:

- [Get LLDP System Properties](#)
- [Update LLDP System Properties](#)
- [Get LLDP Interface Properties](#)
- [Update LLDP Interface Properties](#)
- [Get LLDP Interface Statistics](#)
- [Get LLDP Interface Neighbor Information](#)
- [Get LLDP TLV Information Parameters](#)
- [Update LLDP TLV Information Parameters](#)

Get LLDP System Properties

Gets global LLDP properties of the system.

Request

Method Type	GET
Request URI	nos/api/cfg/lldp
Request Body (JSON)	

Response

Response Body (JSON)	{ "transmit interval": <transmit interval>, "transmit delay": <transmit delay>, "reinit delay": <reinit delay> }
-------------------------	--

where:

Parameter	Description
transmit interval	The time interval, in seconds, between transmissions of LLDP messages. An integer from 5-32768. Default value: 30.
transmit delay	The number of seconds for transmission delay. An integer from 1-8192. Default value: 2.
reinit delay	The number of seconds until LLDP re-initialization is attempted on an interface. An integer from 1-10. Default value: 2.

Update LLDP System Properties

Updates the global LLDP properties of the system.

Request

Method Type	PUT
Request URI	nos/api/cfg/lldp
Request Body (JSON)	{ "transmit interval": <transmit interval>, "transmit delay": <transmit delay>, "reinit delay": <reinit delay> }

where:

Parameter	Description
transmit interval	The time interval, in seconds, between transmissions of LLDP messages. An integer from 5-32768. Default value: 30.
transmit delay	The number of seconds for transmission delay. An integer from 1-8192. Default value: 2.
reinit delay	The number of seconds until LLDP re-initialization is attempted on an interface. An integer from 1-10. Default value: 2.

Response

Response Body (JSON)	{ "transmit interval": <transmit interval>, "transmit delay": <transmit delay>, "reinit delay": <reinit delay> }
-------------------------	--

where:

Parameter	Description
transmit interval	The time interval, in seconds, between transmissions of LLDP messages. An integer from 5-32768. Default value: 30.
transmit delay	The number of seconds for transmission delay. An integer from 1-8192. Default value: 2.
reinit delay	The number of seconds until LLDP re-initialization is attempted on an interface. An integer from 1-10. Default value: 2.

Get LLDP Interface Properties

Gets LLDP properties of all interfaces or for a specified interface.

Request

Method Type	GET
Request URI	nos/api/cfg/lldp/lldp_interface/<ifname>
Request Body (JSON)	

where:

Parameter	Description
<i>ifname</i>	(Optional). The Ethernet interface name (string). Use URL encoding to include a forward slash (/) in the URI. For example: "Ethernet1%2F1" instead of "Ethernet1/1". Note: If <i>ifname</i> is not specified, the information for all interfaces is displayed.

Response

Response Body (JSON)	{ "ena_lldp_rx": <ena_lldp_rx>, "if_name": <if_name>, "ena_lldp_tx": <ena_lldp_tx> }
-------------------------	--

where:

Parameter	Description
<i>if_name</i>	Ethernet interface name (string). Valid values: "Ethernet 1/X".
<i>ena_lldp_rx</i>	The LLDP receive status on the given interface (string). Valid values: "yes", "no".
<i>ena_lldp_tx</i>	The LLDP transmit status on the given interface (string). Valid values: "yes", "no".

Update LLDP Interface Properties

Updates the LLDP properties for a specified interface.

Request

Method Type	PUT
Request URI	nos/api/cfg/lldp/lldp_interface/<ifname>
Request Body (JSON)	{ "ena_lldp_rx": <ena_lldp_rx>, "if_name": <if_name>, "ena_lldp_tx": <ena_lldp_tx> }

where:

Parameter	Description
if_name	Ethernet interface name (string). Valid values: "Ethernet1%2FX".
ena_lldp_rx	The LLDP receive status on the given interface (string). Valid values: "yes", "no".
ena_lldp_tx	The LLDP transmit status on the given interface (string). Valid values: "yes", "no".

Response

Response Body (JSON)	{ "ena_lldp_rx": <ena_lldp_rx>, "if_name": <if_name>, "ena_lldp_tx": <ena_lldp_tx> }
-------------------------	--

where:

Parameter	Description
if_name	Ethernet interface name (string). Valid values: "Ethernet 1/X".
ena_lldp_rx	The LLDP receive status on the given interface (string). Valid values: "yes", "no".
ena_lldp_tx	The LLDP transmit status on the given interface (string). Valid values: "yes", "no".

Get LLDP Interface Statistics

Gets LLDP interface statistics for a specified interface.

Request

Method Type	GET
Request URI	/nos/api/cfg/lldp/lldp_interface/statistics/<ifname>
Request Body (JSON)	

where:

Parameter	Description
<i>ifname</i>	The Ethernet interface name (string). Note: Use URL encoding to include a forward slash (/) in the URI. For example: "Ethernet1%2F1" instead of "Ethernet1/1".

Response

Response Body (JSON)	{ "total frames": <total frames>, "total tlvs discarded": <total tlvs discarded>, "total frames transmitted": <total frames transmitted>, "total errored frames": <total errored frames>, "total frames discarded": <total frames discarded>, "total entries aged": <total entries aged>, "total tlvs unrecognized": <total tlvs unrecognized> }
-------------------------	--

where:

Parameter	Description
total frames	The total number of LLDP frames transmitted and received (integer).
total tlvs discarded	The total number of LLDP TLVs discarded (integer).
total frames transmitted	The total number of LLDP frames transmitted (integer).
total errored frames	The total number of frames with errors (integer).
total frames discarded	The total number of discarded frames (integer).

Parameter	Description
total entries aged	The total number of LLDP neighbors that have aged (integer).
total tlvs unrecognized	The total number of unrecognized LLDP TLVs (integer).

Get LLDP Interface Neighbor Information

Gets LLDP interface neighbors for all interfaces or for a specified interface.

Request

Method Type	GET
Request URI	/nos/api/cfg/lldp/lldp_interface/neighbor/<ifname>
Request Body (JSON)	

where:

Parameter	Description
<i>ifname</i>	(Optional). The Ethernet interface name (string). Use URL encoding to include a forward slash (/) in the URI. For example: "Ethernet1%2F1" instead of "Ethernet1/1". Note: If <i>ifname</i> is not specified, the information for all interfaces is displayed.

Response

Response Body (JSON)	{ "system mac": <system mac>, "if_name": <if_name>, "capability": <capability>, "system name": <system name>, "rx ttl": <rx ttl>, "system description": <system description> }
-------------------------	---

where:

Parameter	Description
system_mac	Unique system MAC (string).
if_name	Ethernet interface name (string). Valid values: "Ethernet 1/X".
capability	Remote switch capability; one of (B) – Bridge, (R) – Router.
system name	Remote system name (string).
rx ttl	The TTL (integer).
system description	Remote system description (string).

Get LLDP TLV Information Parameters

Gets LLDP information in type-length-value format.

Request

Method Type	GET
Request URI	nos/api/cfg/lldp/tlv_select/<ifname>
Request Body (JSON)	

where:

Parameter	Description
<i>ifname</i>	The Ethernet interface name (string). Default value: None. Note: Use URL encoding to include a forward slash (/) in the URI. For example: "Ethernet1%2F1" instead of "Ethernet1/1".

Response

Response Body (JSON)	<pre>{ "ifname": <ifname>, "tlv": { "link-aggregation": <link-aggregation>, "port-vlan": <port-vlan>, "system-capabilities": <system-capabilities>, "protocol-identity": <protocol-identity>, "vid-management": <vid-management>, "system-description": <system-description>, "management-address": <management-address>, "vlan-name": <vlan-name>, "mac-phy-status": <mac-phy-status>, "port-protocol-vlan": <port-protocol-vlan>, "max-frame-size": <max-frame-size>, "port-description": <port-description>, "system-name": <system-name>, "power-mdi": <power-mdi> } }</pre>
-------------------------	--

where:

Parameter	Description
link-aggregation	The Link Aggregation TLV informs the remote port whether or not the sending port believes it is currently in a link aggregation (string). Valid values: "yes", "no".
mac-phy-status	The MAC/PHY Configuration/Status is an optional TLV that identifies: <ul style="list-style-type: none"> • The duplex and bit-rate capability of the sending node that is connected to the physical medium. • The current duplex and bit-rate settings of the sending node. • Whether these settings are the results of auto-negotiation during link initiation or of manual set override action. A string with the following valid values: "yes", "no".
management-address	The most appropriate address for management use. If no management address is available, the MAC address for the station or port is used (string). Valid values: "yes", "no".
max-frame-size	Detects misconfigurations or incompatibilities between two stations with different maximum supported frame sizes (string). Valid values: "yes", "no".
port-description	Port Description TLV (string). Valid values: "yes", "no".
port-protocol-vlan	Port and Protocol VLAN ID TLV (string). Valid values: "yes", "no".
port-vlan	Port VLAN ID TLV (string). Valid values: "yes", "no".
power-mdi	Power via MDI TLV (string). Valid values: "yes", "no".
protocol-identity	Protocol Identity TLV (string). Valid values: "yes", "no".
system-capabilities	System Capabilities TLV (string). Valid values: "yes", "no".
system-description	System Description TLV (string). Valid values: "yes", "no".
system-name	System Name TLV (string). Valid values: "yes", "no".
vid-management	VID Management TLV (string). Valid values: "yes", "no".
vlan-name	VLAN Name TLV (string). Valid values: "yes", "no".

Update LLDP TLV Information Parameters

Updates LLDP information in type-length-value format.

Request

Method Type	PUT
Request URI	/nos/api/cfg/lldp/tlv_select/<ifname>
Request Body (JSON)	<pre>{ "ifname": <ifname>, "tlv": { "link-aggregation": <link-aggregation>, "port-vlan": <port-vlan>, "system-capabilities": <system-capabilities>, "protocol-identity": <protocol-identity>, "vid-management": <vid-management>, "system-description": <system-description>, "management-address": <management-address>, "vlan-name": <vlan-name>, "mac-phy-status": <mac-phy-status>, "port-protocol-vlan": <port-protocol-vlan>, "max-frame-size": <max-frame-size>, "port-description": <port-description>, "system-name": <system-name>, "power-mdi": <power-mdi> } }</pre>

where:

Parameter	Description
<i>ifname</i>	The Ethernet interface name (string). Default value: None. Note: Use URL encoding to include a forward slash (/) in the URI. For example: "Ethernet1%2F1" instead of "Ethernet1/1".
link-aggregation	The Link Aggregation TLV informs the remote port whether or not the sending port believes it is currently in a link aggregation (string). Valid values: "yes", "no".
mac-phy-status	The MAC/PHY Configuration/Status is an optional TLV that identifies: <ul style="list-style-type: none"> • The duplex and bit-rate capability of the sending node that is connected to the physical medium. • The current duplex and bit-rate settings of the sending node. • Whether these settings are the results of auto-negotiation during link initiation or of manual set override action. A string with the following valid values: "yes", "no".
management-address	The most appropriate address for management use. If no management address is available, the MAC address for the station or port is used (string). Valid values: "yes", "no".

Parameter	Description
max-frame-size	Detects misconfigurations or incompatibility between two stations with different maximum supported frame sizes (string). Valid values: "yes", "no".
port-description	Port Description TLV (string). Valid values: "yes", "no".
port-protocol-vlan	Port and Protocol VLAN ID TLV (string). Valid values: "yes", "no".
port-vlan	Port VLAN ID TLV (string). Valid values: "yes", "no".
power-mdi	Power Via MDI TLV (string). Valid values: "yes", "no".
protocol-identity	Protocol Identity TLV (string). Valid values: "yes", "no".
system-capabilities	System Capabilities TLV (string). Valid values: "yes", "no".
system-description	System Description TLV (string). Valid values: "yes", "no".
system-name	System Name TLV (string). Valid values: "yes", "no".
vid-management	VID Management TLV (string). Valid values: "yes", "no".
vlan-name	VLAN Name TLV (string). Valid values: "yes", "no".

Response

Response Body (JSON)	<pre>{ "ifname": <ifname>, "tlv": { "link-aggregation": <link-aggregation>, "port-vlan": <port-vlan>, "system-capabilities": <system-capabilities>, "protocol-identity": <protocol-identity>, "vid-management": <vid-management>, "system-description": <system-description>, "management-address": <management-address>, "vlan-name": <vlan-name>, "mac-phy-status": <mac-phy-status>, "port-protocol-vlan": <port-protocol-vlan>, "max-frame-size": <max-frame-size>, "port-description": <port-description>, "system-name": <system-name>, "power-mdi": <power-mdi> } }</pre>
-------------------------	--

where:

link-aggregation	The Link Aggregation TLV informs the remote port whether or not the sending port believes it is currently in a link aggregation (string). Valid values: "yes", "no".
mac-phy-status	The MAC/PHY Configuration/Status is an optional TLV that identifies: <ul style="list-style-type: none"> • The duplex and bit-rate capability of the sending node that is connected to the physical medium. • The current duplex and bit-rate settings of the sending node. • Whether these settings are the results of auto-negotiation during link initiation or of manual set override action. A string with the following valid values: "yes", "no".
management-address	The most appropriate address for management use. If no management address is available, the MAC address for the station or port is used (string). Valid values: "yes", "no".
max-frame-size	Detects misconfigurations or incompatibility between two stations with different maximum supported frame sizes (string). Valid values: "yes", "no".
port-description	Port Description TLV (string). Valid values: "yes", "no".
port-protocol-vlan	Port and Protocol VLAN ID TLV (string). Valid values: "yes", "no".
port-vlan	Port VLAN ID TLV (string). Valid values: "yes", "no".
power-mdi	Power via MDI TLV (string). Valid values: "yes", "no".

protocol-identity	Protocol Identity TLV (string). Valid values: "yes", "no".
system-capabilities	System Capabilities TLV (string). Valid values: "yes", "no".
system-description	System Description TLV (string). Valid values: "yes", "no".
system-name	System Name TLV (string). Valid values: "yes", "no".
vid-management	VID Management TLV (string). Valid values: "yes", "no".
vlan-name	VLAN Name TLV (string). Valid values: "yes", "no".

MAC Move Notification

The following MAC Move Notification URIs are available:

- /nos/api/cfg/mac_move_notification GET, PUT
- /nos/api/info/mac_move_notification GET

The following MAC Move Notification commands are available:

- [Get MAC Move Notification Settings](#)
- [Set MAC Move Notification Settings](#)
- [Get MAC Move Notification Information](#)

Get MAC Move Notification Settings

Gets all MAC Move Notification setting.

Request

Method Type	GET
Request URI	/nos/api/cfg/mac_move_notification
Request Body (JSON)	

Response

Response Body (JSON)	{ "mac_move_notification": "<state>", }
-------------------------	---

where:

Parameter	Description
state	Enables or disables MAC address-table notification (string). Valid values: "yes", "no".

Set MAC Move Notification Settings

Sets all MAC Move Notification configuration.

Request

Method Type	PUT
Request URI	/nos/api/cfg/mac_move_notification
Request Body (JSON)	{ "mac_move_notification": "<state>", }

where:

Parameter	Description
state	Enables or disables MAC address-table notification (string). Valid values: "yes", "no".

Response

Response Body (JSON)	{ "mac_move_notification": "<state>", }
-------------------------	---

where:

Parameter	Description
state	Enables or disables MAC address-table notification (string). Valid values: "yes", "no".

Get MAC Move Notification Information

Gets all MAC Move Notification information.

Request

Method Type	GET
Request URI	/nos/api/info/mac_move_notification
Request Body (JSON)	

Response

Response Body (JSON)	{ "mac_move_notification": "<state>", } or { "mac_move_notify_triggers": <all_move_count> }
-------------------------	---

where:

Parameter	Description
state	Whether MAC address-table notification is disabled (string). Valid values: "no".
all_move_count	All MAC move notify triggers after switch boot if MAC move notification is enabled. An integer from 1-4294967295.

Move Loop Detection

The following Move Loop Detection URIs are available:

- /nos/api/cfg/mac_loop_detect GET, PUT
- /nos/api/info/mac_loop_detect GET

The following Move Loop Detection commands are available:

- [Get MAC Move Loop Detection Settings](#)
- [Set MAC Move Loop Detection Configuration](#)
- [Get MAC Move Loop Detection Information](#)

Get MAC Move Loop Detection Settings

Gets all MAC Move Loop Detection settings.

Request

Method Type	GET
Request URI	/nos/api/cfg/mac_loop_detect
Request Body (JSON)	

Response

Response Body (JSON)	{ "enable": "<enable>", "down_edge_port": "<down_edge_port>", "error_disable_recovery": "<error_disable_recovery>" }
-------------------------	--

where:

Parameter	Description
enable	Enable or disable MAC address-table loop-detect port-down (string). Valid values: "yes", "no".
down_edge_port	Enable or disable MAC address-table loop-detect port-down edge-port (string). Valid values: "yes", "no".
error_disable_recovery	Enable or disable error-disable recovery cause mac-loop-detect (string). Valid values: "yes", "no".

Set MAC Move Loop Detection Configuration

Sets all MAC Move Loop Detection configuration.

Request

Method Type	PUT
Request URI	/nos/api/cfg/mac_loop_detect
Request Body (JSON)	{ "enable": "<enable>", "down_edge_port": "<down_edge_port>", "error_disable_recovery": "<error_disable_recovery>" }

where:

Parameter	Description
enable	Enable or disable MAC address-table loop-detect port-down (string). Valid values: "yes", "no".
down_edge_port	Enable or disable MAC address-table loop-detect port-down edge-port (string). Valid values: "yes", "no".
error_disable_recovery	Enable or disable error-disable recovery cause mac-loop-detect (string). Valid values: "yes", "no".

Response

Response Body (JSON)	{ "enable": "<enable>", "down_edge_port": "<down_edge_port>", "error_disable_recovery": "<error_disable_recovery>" }
-------------------------	--

where:

Parameter	Description
enable	Enable or disable MAC address-table loop-detect port-down (string). Valid values: "yes", "no".
down_edge_port	Enable or disable MAC address-table loop-detect port-down edge-port (string). Valid values: "yes", "no".
error_disable_recovery	Enable or disable error-disable recovery cause mac-loop-detect (string). Valid values: "yes", "no".

Get MAC Move Loop Detection Information

Gets all MAC Move Loop Detection information.

Request

Method Type	GET
Request URI	/nos/api/info/mac_loop_detect
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "enable": "<enable>", "down_edge_port": "<down_edge_port>", "error_disable_recovery": "<error_disable_recovery>", "errdis_interfaces": [{ "if_name": "<if_name>", "time_left": <time_left> }] }</pre>
-------------------------	--

where:

Parameter	Description
enable	Enable or disable MAC address-table loop-detect port-down (string). Valid values: "yes", "no".
down_edge_port	Enable or disable MAC address-table loop-detect port-down edge-port (string). Valid values: "yes", "no".
error_disable_recovery	Enable or disable error-disable recovery cause mac-loop-detect (string). Valid values: "yes", "no".
errdis_interfaces	A list of interfaces error-disabled by MAC Move Loop Detection.
if_name	The name of the error-disabled interface (string). A valid interface name. For example: "Ethernet1/12", "po10".
time_left	The left time. After it, interface will be recovered from error-disable status if error-disable recovery is enabled. An integer from 1-65535.

MP Packet Logging

The following MP Packet Logging URI is available:

- /nos/api/mp-logging/<param> GET, DELETE

The following MP Packet Logging commands are available:

- [Get MP Logging Logs or Counters](#)
- [Delete MP Logging Logs or Counters](#)

Get MP Logging Logs or Counters

Gets MP-logging logs or counters.

Request

Method Type	GET
Request URI	/nos/api/mp-logging/<param>
Request Body (JSON)	

where:

Parameter	Description
<i>param</i>	The retrieved element (string). Valid values: "counters", "logs".

Response

Response Body (JSON)	<pre> for /nos/api/mp-logging/logd [{ "direction": "<direction>", "src_port": "<src_port>", "src_mac_12": "<src_mac_12>", "target_ip": "<target_ip>", "dst_mac_12": "<dst_mac_12>", "sender_ip": "<sender_ip>", "length": "<length>", "dst_port": "<dst_port>", "time": "<time>", "interface": "<interface>", "type": "<type>", "vlan": "<vlan>", "sender_mac_13": "<sender_mac_13>", "target_mac_13": "<target_mac_13>" }] or, for /nos/api/mp-logging/counters [{ "protocol": "<protocol>", "received": <received>, "sent": <sent> }] </pre>
-------------------------	---

where:

Parameter	Description
direction	The packet received or sent by CPU (string). Valid values: "rx", "tx". Default value: None.
src_port	The source port. An integer from 1-65535. Default value: None.
dst_port	The destination port. An integer from 1-65535. Default value: None.
src_mac_12	The MAC address of the source (string). Default value: None.
dst_mac_12	The MAC address of the destination (string). Default value: None.
sender_ip	IPv4 or IPv6 address of the sender (string). Default value: None.
target_ip	IPv4 or IPv6 address of the destination (string). Default value: None.
length	The packet size (integer). Default value: None.

Parameter	Description
time	The time when packet was received/sent. A string in the following format: "YYYY/MM/DD-HH:MM:SS". Default value: None.
interface	The interface name (string). Default value: None.
type	The packet type (string). Valid values: <ul style="list-style-type: none"> ● "ACL_LOG" ● "ARP" ● "CDCP" ● "CFM" ● "DHCP" ● "EAPOL" ● "ECP" ● "EFM" ● "FIPS" ● "GARP" ● "IGMP" ● "IPv4_ICMP" ● "IPv4_Oth" ● "IPv4_TCP" ● "IPv4_UDP" ● "IPv6_ICMP" ● "IPv6_Oth" ● "IPv6_TCP" ● "IPv6_UDP" ● "LACP" ● "LLDP" ● "MLD" ● "Unknown" ● "PTP" ● "SFLOW" ● "SLP" ● "STP", ● "Total" ● "UFP" ● "VRRP" ● "VXLAN" Default value: None.
vlan	The VLAN ID. An integer from 1-4093.
sender_mac_ l3	The MAC address of an L3 interface on the sender unit (string). Default value: None.
target_mac_ l3	The MAC address of an L3 interface on the target unit (string). Default value: None.

Parameter	Description
protocol	The packet type (string). Valid values: <ul style="list-style-type: none"> ● "ACL_LOG" ● "ARP" ● "CDCP" ● "CFM" ● "DHCP" ● "EAPOL" ● "ECP" ● "EFM" ● "FIPS" ● "GARP" ● "IGMP" ● "IPv4 ICMP" ● "IPv4 Oth" ● "IPv4 TCP" ● "IPv4 UDP" ● "IPv6 ICMP" ● "IPv6 Oth" ● "IPv6 TCP" ● "IPv6 UDP" ● "LACP" ● "LLDP" ● "MLD" ● "Unknown" ● "PTP" ● "SFLOW" ● "SLP" ● "STP", ● "Total" ● "UFP" ● "VRRP" ● "VXLAN"
received	Number of packets, of that type, received (integer). Default value: 0.
sent	Number of packets, of that type, sent (integer). Default value: 0.

Delete MP Logging Logs or Counters

Deletes MP logging logs or counters.

Request

Method Type	DELETE
Request URI	/nos/api/mp-logging/<param>
Request Body (JSON)	

where:

Parameter	Description
<i>param</i>	Description of the deleted element (string). Valid values: "counters", "logs".

Response

Response Body (JSON)	
-------------------------	--

MSTP

The following MSTP URIs are available:

- /nos/api/cfg/mstp GET, PUT
- /nos/api/cfg/mstp_instance GET, POST
- /nos/api/cfg/mstp_instance/<instance_number> GET, PUT, DELETE
- /nos/api/cfg/mstp_interface/<instance_number>/<if_name> GET, PUT

The following MSTP commands are available:

- [Get MSTP System Properties](#)
- [Update MSTP System Properties](#)
- [Get Properties of All MSTP Instances](#)
- [Create MSTP Instance](#)
- [Get MSTP Instance](#)
- [Update MSTP Instance](#)
- [Delete MSTP Instance](#)
- [Get Interface Properties of an MSTP Instance](#)
- [Update Interface Properties of an MSTP Instance](#)

Get MSTP System Properties

Updates global MSTP properties of the system.

Request

Method Type	GET
Request URI	/nos/api/cfg/mstp
Request Body (JSON)	

Response

Response Body (JSON)	{ "region_name": "<region_name>" "revision": "<revision>" }
-------------------------	--

where:

Parameter	Description
region_name	Region name. A string up to 32 characters long.
revision	Revision number. An integer from 0-65535.

Update MSTP System Properties

Updates global MSTP properties of the system.

Note: If an element is not specified in a PUT request, no update for that element will be performed.

Request

Method Type	PUT
Request URI	/nos/api/cfg/mstp
Request Body (JSON)	{ "region_name": "<region_name>" "revision": "<revision>" }

where:

Parameter	Description
region_name	Region name. A string up to 32 characters long.
revision	Revision number. An integer from 0-65535.

Response

Response Body (JSON)	{ "region_name": "<region_name>" "revision": "<revision>" }
-------------------------	--

where:

Parameter	Description
region_name	Region name. A string up to 32 characters long.
revision	Revision number. An integer from 0-65535.

Get Properties of All MSTP Instances

Gets properties of all MSTP instances.

Request

Method Type	GET
Request URI	/nos/api/cfg/mstp_instance
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "instance_id": "<instance_id>", "instance_prio": "<instance_prio>", "vlans": [{ "vlan_id": "<vlan_id>" }] }]</pre>
-------------------------	--

where:

Parameter	Description
instance_id	MST instance ID. An integer from 0-64. Instance 0 refers to the CIST.
instance_prio	Sets the instance bridge priority. An integer from 0-61440. Default value: 32768.
vlans	Maps a range of VLANs to a multiple spanning tree instance (MSTI). An integer from 1-4094.

Create MSTP Instance

Creates an MSTP instance.

Request

Method Type	POST
Request URI	/nos/api/cfg/mstp_instance
Request Body (JSON)	<pre>{ "instance_id": "<instance_id>", "instance_prio": "<instance_prio>", "vlans": [{ "vlan_id": "<vlan_id>" }] }</pre>

where:

Parameter	Description
instance_id	MST instance ID. An integer from 0-64. Instance 0 refers to the CIST.
instance_prio	Sets the instance bridge priority. An integer from 0-61440. Default value: 32768.
vlans	Maps a range of VLANs to a multiple spanning tree instance (MSTI). An integer from 1-4094.

Response

Response Body (JSON)	<pre>{ "instance_id": "<instance_id>", "instance_prio": "<instance_prio>", "vlans": [{ "vlan_id": "<vlan_id>" }] }</pre>
-------------------------	--

where:

Parameter	Description
instance_id	MST instance ID. An integer from 0-64. Instance 0 refers to the CIST.
instance_prio	Sets the instance bridge priority. An integer from 0-61440. Default value: 32768.
vlans	Maps a range of VLANs to a multiple spanning tree instance (MSTI). An integer from 1-4094.

Get MSTP Instance

Gets properties of an MSTP instance.

Request

Method Type	GET
Request URI	/nos/api/cfg/mstp_instance/<instance_id>
Request Body (JSON)	

where:

Parameter	Description
<i>instance_id</i>	MST instance ID. An integer from 0-64. Instance 0 refers to the CIST.

Response

Response Body (JSON)	<pre>{ "instance_id": "<instance_id>", "instance_prio": "<instance_prio>", "vlans": [{ "vlan_id": "<vlan_id>" }] }</pre>
-------------------------	--

where:

Parameter	Description
<i>instance_id</i>	MST instance ID. An integer from 0-64. Instance 0 refers to the CIST.
<i>instance_prio</i>	Sets the instance bridge priority. An integer from 0-61440. Default value: 32768.
<i>vlans</i>	Maps a range of VLANs to a multiple spanning tree instance (MSTI). An integer from 1-4094.

Update MSTP Instance

Updates the properties of an MSTP instance.

Note: If an element is not specified in a PUT request, no update for that element will be performed.

Request

Method Type	PUT
Request URI	/nos/api/cfg/mstp_instance/<instance_id>
Request Body (JSON)	<pre>{ "instance_id": "<instance_id>", "instance_prio": "<instance_prio>", "vlans": [{ "vlan_id": "<vlan_id>" }] }</pre>

where:

Parameter	Description
instance_id	MST instance ID. An integer from 0-64. Instance 0 refers to the CIST.
instance_prio	Sets the instance bridge priority. An integer from 0-61440. Default value: 32768.
vlans	Maps a range of VLANs to a multiple spanning tree instance (MSTI). An integer from 1-4094.

Response

Response Body (JSON)	<pre>{ "instance_id": "<instance_id>", "instance_prio": "<instance_prio>", "vlans": [{ "vlan_id": "<vlan_id>" }] }</pre>
-------------------------	--

where:

Parameter	Description
instance_id	MST instance ID. An integer from 0-64. Instance 0 refers to the CIST.

Parameter	Description
<code>instance_prio</code>	Sets the instance bridge priority. An integer from 0-61440. Default value: 32768.
<code>vlan</code>	Maps a range of VLANs to a multiple spanning tree instance (MSTI). An integer from 1-4094.

Delete MSTP Instance

Deletes an MSTP instance.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/mstp_instance/<instance_id>
Request Body (JSON)	

where:

Parameter	Description
<i>instance_id</i>	MST instance ID. An integer from 0-64. Instance 0 refers to the CIST.

Response

Response Body (JSON)	
-------------------------	--

Get Interface Properties of an MSTP Instance

Gets properties of one interface in an MSTP instance.

Request

Method Type	GET
Request URI	/nos/api/cfg/mstp_interface/<instance_id>/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>instance_id</i>	MST instance ID. An integer from 0-64. Instance 0 refers to the CIST.
<i>if_name</i>	Interface name (string). For example: "Ethernet1%2F1". Note: The interface must exist.

Response

Response Body (JSON)	{ "if_name": "<if_name>", "path_cost": "<path_cost>", "port_prio": "<port_prio>" }
-------------------------	--

where:

Parameter	Description
<i>if_name</i>	Interface name (string). Note: The interface must exist.
<i>path_cost</i>	The port path-cost value on the specified MST instance. Either an integer from 1-200000000 or "auto" (default) to base the path-cost on port speed.
<i>port_prio</i>	The port priority, in increments of 32, on the specified MST instance. A multiple of 32 from 0-224. Default value: 128.

Update Interface Properties of an MSTP Instance

Updates the properties of one interface in an MSTP instance.

Request

Method Type	PUT
Request URI	/nos/api/cfg/mstp_interface/<instance_id>/<if_name>
Request Body (JSON)	{ "if_name": "<if_name>", "path_cost": "<path_cost>", "port_prio": "<port_prio>" }

where:

Parameter	Description
<i>instance_id</i>	MST instance ID. An integer from 0-64. Instance 0 refers to the CIST.
<i>if_name</i>	Interface name (string). For example: "Ethernet1%2F1". Note: The interface must exist.
<i>path_cost</i>	The port path-cost value on the specified MST instance. Either an integer from 1-200000000 or "auto" (default) to base the path-cost on port speed.
<i>port_prio</i>	The port priority, in increments of 32, on the specified MST instance. A multiple of 32 from 0-224. Default value: 128.

Response

Response Body (JSON)	{ "if_name": "<if_name>", "path_cost": "<path_cost>", "port_prio": "<port_prio>" }
-------------------------	--

where:

Parameter	Description
<i>if_name</i>	Interface name (string). Note: The interface must exist.
<i>path_cost</i>	The port path-cost value on the specified MST instance. Either an integer from 1-200000000 or "auto" (default) to base the path-cost on port speed.
<i>port_prio</i>	The port priority, in increments of 32, on the specified MST instance. A multiple of 32 from 0-224. Default value: 128.

NAT

The following Network Address Translation (NAT) URIs are available:

- `/nos/api/info/nat` GET
- `/nos/api/cfg/nat` POST, DELETE
- `/nos/api/cfg/nat/interface` POST

The following NAT commands are available:

- [Get NAT Rules Information](#)
- [Set a Static Bidirectional NAT Rule](#)
- [Delete a Static Bidirectional NAT Rule](#)
- [Set NAT Interface Options](#)

Get NAT Rules Information

Gets all the NAT rules information.

Request

Method Type	GET
Request URI	nos/api/info/nat
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "rule_id": <rule_id> "loc_addr": "<loc_addr>", "glb_addr": "<glb_addr>", "loc_14_port": <loc_14_port>, "glb_14_port": <glb_14_port>, "proto": "<proto>", "vrf_name": "<vrf_name>" }]</pre>
-------------------------	--

where:

Parameter	Description
rule_id	The ID of NAT rule (integer).
loc_addr	The NAT local IPv4 address (string).
glb_addr	The NAT global IPv4 address (string).
vrf_name	The VRF name (string). Default value: "default".
loc_14_port	The L4 local NAT port (integer).
glb_14_port	The L4 global NAT port (integer).
proto	The L4 protocol (string). Valid values: "udp", "tcp".

Set a Static Bidirectional NAT Rule

Sets a static bidirectional source NAT rule.

Request

Method Type	POST
Request URI	nos/api/cfg/nat
Request Body (JSON)	<pre>{ "loc_addr": "<loc_addr>", "glb_addr": "<glb_addr>", "loc_14_port": <loc_14_port>, "glb_14_port": <glb_14_port>, "proto": "<proto>", "vrf_name": "<vrf_name>" }</pre>

where:

Parameter	Description
loc_addr	The NAT local IPv4 address (string).
glb_addr	The NAT global IPv4 address (string).
vrf_name	(Optional) The VRF name (string). Default value: "default".
loc_14_port	(Optional) The L4 local NAT port (integer).
glb_14_port	(Optional) The L4 global NAT port (integer).
proto	(Optional) The L4 protocol (string). Valid values: "udp", "tcp".

Response

Response Body (JSON)	
-------------------------	--

Delete a Static Bidirectional NAT Rule

Deletes a static bidirectional source NAT rule.

Request

Method Type	DELETE
Request URI	nos/api/cfg/nat/<rule_id>
Request Body (JSON)	

where:

Parameter	Description
<i>rule_id</i>	The ID of the NAT rule (integer).

Response

Response Body (JSON)	
-------------------------	--

Set NAT Interface Options

Sets the NAT realm for an interface.

Request

Method Type	POST
Request URI	nos/api/cfg/nat/interface
Request Body (JSON)	{ "if_name": "<if_name>", "realm_name": "<realm_name>", }

where:

Parameter	Description
if_name	The interface name (string).
realm_name	The realm name (string). Valid values: "inside", "outside".

Response

Response Body (JSON)	
-------------------------	--

Nexthophealth

The following nexthophealth URI is available:

- /nos/api/cfg/nhophealth POST

The following nextophealth command is available:

- [Nexthop Health Check](#)

Nexthop Health Check

Enables or disables the nexthop health check feature by setting the health checking interval value.

Request

Method Type	POST
Request URI	/nos/api/cfg/nhophealth
Request Body (JSON)	{ "healthcheck_interval": <healthcheck_interval> }

where:

Parameter	Description
healthcheck_interval	The global nexthop health check interval, in seconds. An integer from 5-60. Default value: 0 (disabled).

Response

True if the operation succeeded; otherwise False.

NOS Copy

The following NOS copy URIs are available:

- /nos/api/saveneeded GET
- /nos/api/save/config GET
- /nos/api/reset GET
- /nos/api/download/image POST
- /nos/api/download/config POST
- /nos/api/upload/config POST
- /nos/api/upload/tech_support POST
- /nos/api/download/status/<content> GET
- /nos/api/upload/status/<content> GET

The following NOS Copy commands are available:

- [Determine Whether the Running Configuration Needs to be Saved](#)
- [Reset Switch](#)
- [Save Configuration](#)
- [Download Image to Switch](#)
- [Download Configuration to Switch](#)
- [Upload Configuration to Server](#)
- [Upload Tech Support to Server](#)
- [Get Download Transfer Status](#)
- [Get Upload Transfer Status](#)

Note: The requests in this section are required for XClarity support.

Determine Whether the Running Configuration Needs to be Saved

Gets whether the running configuration needs to be saved by checking if there is a difference between the configuration that is running versus what is in flash.

Request

Method Type	GET
Request URI	nos/api/saveneeded
Request Body (JSON)	

Response

Response Body (JSON)	{ "saveneeded" : "<flag>" }
-------------------------	-----------------------------------

where:

Parameter	Description
saveneeded	Whether the running configuration matches what is in flash memory (string). Valid values: "yes", "no".

Reset Switch

Resets the switch.

Request

Method Type	GET
Request URI	nos/api/reset
Request Body (JSON)	

Response

True if the operation succeeded; otherwise False.

Save Configuration

Saves the running configuration to flash memory.

Request

Method Type	GET
Request URI	nos/api/save/config
Request Body (JSON)	

Response

True if the operation succeeded; otherwise False.

Download Image to Switch

Downloads a boot image to the switch.

Request

Method Type	POST
Request URI	nos/api/download/image
Request Body (JSON)	{ "protocol":<protocol>, "serverip":<serverip>, "srcfile":<srcfile>, "imgtype":<imgtype>, "username":<username>, "passwd":<passwd>, "vrf_name":<vrf_name> }

where:

Parameter	Description
protocol	Protocol name (string). Valid values: "tftp", "sftp".
serverip	Server IP address (string).
srcfile	Source file. A string up to 256 characters long.
imgtype	System image type (string). Valid values: "all", "boot", "onie", "os".
username	Username for the server. Not required for TFTP (string).
passwd	Password for the server username. Not required for TFTP (string).
vrf_name	VRF name. A string up to 64 characters long. Default value: "Management".

Response

Response Body (JSON)	{ "status": "<status>", }
-------------------------	---------------------------------

where:

Parameter	Description
status	Transfer status (string). Valid values: "transferring", "installing", "successful", "failed".

Download Configuration to Switch

Downloads a configuration to the switch.

Request

Method Type	POST
Request URI	nos/api/download/config
Request Body (JSON)	<pre>{ "protocol":<protocol>, "serverip":<serverip>, "srcfile":<srcfile>, "dstfile":<dstfile>, "username":<username>, "passwd":<passwd>, "vrf_name":<vrf_name> }</pre>

where:

Parameter	Description
protocol	Protocol name (string). Valid values: "tftp", "sftp".
serverip	Server IP address (string).
srcfile	Source file. A string up to 256 characters long.
dstfile	Destination file (string). Valid values: "running_config", "startup_config".
username	Username for the server (string).
passwd	Password for the server username (string).
vrf_name	VRF name. A string up to 64 characters long. Default value: "Management".

Response

Response Body (JSON)	<pre>{ "status": <status>, "details": <details>, "filename": <filename> }</pre>
----------------------	---

where:

Parameter	Description
status	Transfer status (string). Valid values: "transferring", "installing", "successful", "failed".
details	Detailed description of the status (string). Valid values: <ul style="list-style-type: none">• "Transferring running-config"• "Transferring startup-config"• "Installing image"• "image installation succeeded"• "Copy success"• "VRF vrf_name doesn't exist"• "Another image installation is in progress"• "Host serverip is unreachable"• "ONIE feature in not enabled on this switch"• "File not found"• "SFTP authentication failure"• "image installation failed"• "Copy failed"
filename	Configuration filename (string).

Upload Configuration to Server

Uploads a configuration from the switch to a server.

Request

Method Type	POST
Request URI	/nos/api/upload/config
Request Body (JSON)	<pre>{ "protocol": "protocol", "serverip": "serverip", "srcfile": "srcfile", "dstfile": "dstfile", "username": "username", "passwd": "passwd", "vrf_name": "vrf_name" }</pre>

where:

Parameter	Description
protocol	Protocol name (string). Valid values: "tftp", "sftp".
serverip	Server IP address (string).
srcfile	Source file. A string up to 256 characters long.
dstfile	Destination file (string). Valid values: "running_config", "startup_config".
username	Username for the server (string).
passwd	Password for the server username (string).
vrf_name	VRF name. An alphabetic string up to 64 characters long.

Response

Response Body (JSON)	<pre>{ "status": "status", "details": "details", "filename": "filename" }</pre>
----------------------	---

where:

Parameter	Description
status	Transfer status (string). Valid values: "transferring", "installing", "successful", "failed".
details	Detailed description of the status (string). Valid values: <ul style="list-style-type: none">• "Transferring running-config"• "Transferring startup-config"• "Installing image"• "image installation succeeded"• "Copy success"• "VRF vrf_name doesn't exist"• "Another image installation is in progress"• "Host serverip is unreachable"• "ONIE feature is not enabled on this switch"• "File not found"• "SFTP authentication failure"• "image installation failed"• "Copy failed"
filename	Configuration filename (string).

Upload Tech Support to Server

Uploads technical support information from the switch to the server.

Request

Method Type	POST
Request URI	nos/api/upload/tech_support
Request Body (JSON)	<pre>{ "protocol": "protocol", "serverip": "serverip", "dstfile": "dstfile", "username": "username", "passwd": "passwd", "vrf_name": "vrf_name" }</pre>

where:

Parameter	Description
protocol	Protocol name (string). Valid values: "tftp", "sftp".
serverip	Server IP address (string).
srcfile	Source file. A string up to 256 characters long.
dstfile	Destination file (string). Valid values: "running_config", "startup_config".
username	Username for the server (string).
passwd	Password for the server username (string).

Response

Response Body (JSON)	<pre>{ "status": <status>, }</pre>
-------------------------	--

where:

Parameter	Description
status	Transfer status (string). Valid values: "transferring", "installing", "successful", "failed".

Get Download Transfer Status

Gets the status of a downloading transfer.

Request

Method Type	GET
Request URI	nos/api/download/status/<content>
Request Body (JSON)	

where:

Parameter	Description
<i>content</i>	The transfer items (string). Valid values: "image", "running_config", "startup_config".

Response

Response Body (JSON)	<pre>{ "status": <status>, "details": <details>, "filename": <filename> }</pre>
-------------------------	---

where:

Parameter	Description
status	Transfer status (string). Valid values: "transferring", "installing", "successful", "failed".
details	Detailed description of the status (string). Valid values: <ul style="list-style-type: none">"Transferring running-config""Transferring startup-config""Installing image""image installation succeeded""Copy success""VRF vrf_name doesn't exist""Another image installation is in progress""Host serverip is unreachable""ONIE feature in not enabled on this switch""File not found""SFTP authentication failure""image installation failed""Copy failed"
filename	Configuration filename (string).

Get Upload Transfer Status

Gets the status of an uploading transfer.

Request

Method Type	GET
Request URI	/nos/api/upload/status/<content>
Request Body (JSON)	

where:

Parameter	Description
<i>content</i>	The transfer items (string). Valid values: "image", "running_config", "startup_config".

Response

Response Body (JSON)	{ "status": <status>, "details": <details>, "filename": <filename> }
-------------------------	--

where:

Parameter	Description
status	Transfer status (string). Valid values: "transferring", "installing", "successful", "failed".
details	Detailed description of the status (string). Valid values: <ul style="list-style-type: none">"Transferring running-config""Transferring startup-config""Installing image""image installation succeeded""Copy success""VRF vrf_name doesn't exist""Another image installation is in progress""Host serverip is unreachable""ONIE feature in not enabled on this switch""File not found""SFTP authentication failure""image installation failed""Copy failed"
filename	Configuration filename (string).

NPA

The following Network Policy Agent (NPA) URIs are available:

- /nos/api/info/npa/vm/nutanix GET
- /nos/api/info/npa/vm/nutanix?uuid="*<uuid>*" GET
- /nos/api/info/npa/vm/nutanix?name="*<name>*" GET
- /nos/api/info/npa/vm/nutanix?if_name="*<if_name>*" GET
- /nos/api/info/npa/vnetwork/nutanix GET
- /nos/api/info/npa/vnetwork/nutanix?uuid="*<uuid>*" GET
- /nos/api/info/npa/stats/vnic/nutanix GET
- /nos/api/info/npa/stats/vnic/nutanix?uuid="*<vm_uuid>*" GET
- /nos/api/info/npa/stats/vnic/nutanix?name="*<vm_name>*" GET
- /nos/api/info/npa/stats/vnic/nutanix?if_name="*<if_name>*" GET
- /nos/api/info/npa/vm/vmware GET
- /nos/api/info/npa/vm/vmware?uuid="*<uuid>*" GET
- /nos/api/info/npa/vm/vmware?name="*<name>*" GET
- /nos/api/info/npa/vm/vmware?if_name="*<if_name>*" GET
- /nos/api/info/npa/vnetwork/vmware GET
- /nos/api/info/npa/vnetwork/vmware/dvswitch GET
- /nos/api/info/npa/stats/vnic/vmware GET
- /nos/api/info/npa/stats/vnic/vmware?uuid="*<vm_uuid>*" GET
- /nos/api/info/npa/stats/vnic/vmware?name="*<vm_name>*" GET
- /nos/api/info/npa/stats/vnic/vmware?if_name="*<if_name>*" GET

The following NPA commands are available for Nutanix:

- [Get All VM Information](#)
- [Get Specific VM Information by VM UUID](#)
- [Get Specific VM Information by VM Name](#)
- [Get VM Interface Information](#)
- [Get VM Information for Specific Interface](#)
- [Get Virtual Network Information](#)
- [Get Virtual Network Information by UUID](#)
- [Get VNIC Statistics](#)
- [Get VNIC Statistics for Specific VM by VM UUID](#)
- [Get VNIC Statistics for Specific VM by VM Name](#)

- [Get VNIC Interface Statistics](#)
- [Get VNIC Statistics for Specific Interface](#)

The following NPA commands are available for VMware:

- [Get All VM Information](#)
- [Get Specific VM Information by VM UUID](#)
- [Get Specific VM Information by VM Name](#)
- [Get VM Interface Information](#)
- [Get VM Information for Specific Interface](#)
- [Get Virtual Network Information](#)
- [Get DVSwitch Information](#)
- [Get VNIC Statistics](#)
- [Get VNIC Statistics for Specific VM by VM UUID](#)
- [Get VNIC Statistics for Specific VM by VM Name](#)
- [Get VNIC Interface Statistics](#)
- [Get VNIC Statistics for Specific Interface](#)

Get All VM Information

Gets information about configured virtual machines (VMs).

Request

Method Type	GET
Request URI	/nos/api/info/npa/vm/nutanix
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ nic_list: [{ mac: <value>, uuid: <value> }] uuid: <value>, num_cores_per_vcpu: <value>, hypervisor_type: <value>, memory_size_mib: <value>, num_vcpus: <value>, power_state: {on off}, host_uuid: <value>, name: <value> }]</pre>
----------------------	---

where:

Parameter	Description
nic_list	List of dictionary containing VNIC information.
mac	The MAC address of the VM. A string in the following format: "XX:XX:XX:XX:XX:XX".
uuid	The Universal Unique Identifier (UUID) of the VM. A string up to 36 characters long.
num_cores_per_vcpu	The number of cores for each virtual CPU (integer).
hypervisor_type	The type of hypervisor (string).
memory_size_mib	The size of the allocated memory in MBs (integer).
num_vcpus	The number of virtual CPUs (integer).

Parameter	Description
power_ state	The power state of the VM (string). Valid values: "on", "off".
host_uuid	The Universal Unique Identifier (UUID) of the host. A string up to 36 characters long.
name	The name of the VM (string).

Get Specific VM Information by VM UUID

Gets information about a specific virtual machine (VM) by its Universal Unique Identifier (UUID).

Request

Method Type	GET
Request URI	/nos/api/info/npa/vm/nutanix?uuid=<uuid>
Request Body (JSON)	

where:

Parameter	Description
<i>uuid</i>	The Universal Unique Identifier (UUID) of the VM. A string up to 36 characters long.

Response

Response Body (JSON)	<pre>[{ nic_list: [{ mac: <value>, uuid: <value> }] uuid: <value>, num_cores_per_vcpu: <value>, hypervisor_type: <value>, memory_size_mib: <value>, num_vcpus: <value>, power_state: {on off}, host_uuid: <value>, name: <value> }]</pre>
----------------------	---

where:

Parameter	Description
<i>nic_list</i>	List of dictionary containing VNIC information.
<i>mac</i>	The MAC address of the VM. A string in the following format: "XX:XX:XX:XX:XX:XX".
<i>uuid</i>	The Universal Unique Identifier (UUID) of the VM. A string up to 36 characters long.
<i>num_cores_per_vcpu</i>	The number of cores for each virtual CPU (integer).

Parameter	Description
hypervisor_type	The type of hypervisor (string).
memory_size_mib	The size of the allocated memory in MBs (integer).
num_vcpus	The number of virtual CPUs (integer).
power_state	The power state of the VM (string). Valid values: "on", "off".
host_uuid	The Universal Unique Identifier (UUID) of the host. A string up to 36 characters long.
name	The name of the VM (string).

Get Specific VM Information by VM Name

Gets information about a specific virtual machine (VM) by its name.

Request

Method Type	GET
Request URI	/nos/api/info/npa/vm/nutanix?name=<name>
Request Body (JSON)	

where:

Parameter	Description
<i>name</i>	The name of the VM (string).

Response

Response Body (JSON)	<pre>[{ nic_list: [{ mac: <value>, uuid: <value> }] uuid: <value>, num_cores_per_vcpu: <value>, hypervisor_type: <value>, memory_size_mib: <value>, num_vcpus: <value>, power_state: {on off}, host_uuid: <value>, name: <value> }]</pre>
----------------------	---

where:

Parameter	Description
<i>nic_list</i>	List of dictionary containing VNIC information.
<i>mac</i>	The MAC address of the VM. A string in the following format: "XX:XX:XX:XX:XX:XX".
<i>uuid</i>	The Universal Unique Identifier (UUID) of the VM. A string up to 36 characters long.
<i>num_cores_per_vcpu</i>	The number of cores for each virtual CPU (integer).

Parameter	Description
hypervisor_type	The type of hypervisor (string).
memory_size_mib	The size of the allocated memory in MBs (integer).
num_vcpus	The number of virtual CPUs (integer).
power_state	The power state of the VM (string). Valid values: "on", "off".
host_uuid	The Universal Unique Identifier (UUID) of the host. A string up to 36 characters long.
name	The name of the VM (string).

Get VM Interface Information

Gets information about virtual machines (VMs) for all switch interfaces.

Request

Method Type	GET
Request URI	/nos/api/info/npa/vm/nutanix?if_name= or /nos/api/info/npa/vm/nutanix?if_name=all
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ if_name: <value> [{ nic_list: [{ mac: <value>, uuid: <value> }] uuid: <value>, num_cores_per_vcpu: <value>, hypervisor_type: <value>, memory_size_mib: <value>, num_vcpus: <value>, power_state: {on off}, host_uuid: <value>, name: <value> }] }</pre>
----------------------	--

where:

Parameter	Description
if_name	The name of the switch interface (string). For example: "Ethernet1/12".
nic_list	List of dictionary containing VNIC information.
mac	The MAC address of the VM. A string in the following format: "XX:XX:XX:XX:XX:XX".
uuid	The Universal Unique Identifier (UUID) of the VM. A string up to 36 characters long.
num_cores_per_vcpu	The number of cores for each virtual CPU (integer).

Parameter	Description
hypervisor_type	The type of hypervisor (string).
memory_size_mib	The size of the allocated memory in MBs (integer).
num_vcpus	The number of virtual CPUs (integer).
power_state	The power state of the VM. Valid values: "on", "off".
host_uuid	The Universal Unique Identifier (UUID) of the host. A string up to 36 characters long.
name	The name of the VM (string).

Get VM Information for Specific Interface

Gets information about virtual machines (VMs) for a specific switch interface.

Request

Method Type	GET
Request URI	/nos/api/info/npa/vm/nutanix?if_name=<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The name of the switch interface (string). For example: "Ethernet1%2F1".

Response

Response Body (JSON)	<pre>{ if_name: <value> [{ nic_list: [{ mac: <value>, uuid: <value> }] uuid: <value>, num_cores_per_vcpu: <value>, hypervisor_type: <value>, memory_size_mib: <value>, num_vcpus: <value>, power_state: {on off}, host_uuid: <value>, name: <value> }] }</pre>
----------------------	--

where:

Parameter	Description
<i>if_name</i>	The name of the switch interface (string).
<i>nic_list</i>	List of dictionary containing VNIC information.
<i>mac</i>	The MAC address of the VM. A string the following format: "XX:XX:XX:XX:XX:XX".

Parameter	Description
uuid	The Universal Unique Identifier (UUID) of the VM. A string up to 36 characters long.
num_cores_per_vcpu	The number of cores for each virtual CPU (integer).
hypervisor_type	The type of hypervisor (string).
memory_size_mib	The size of the allocated memory in MBs (integer).
num_vcpus	The number of virtual CPUs (integer).
power_state	The power state of the VM (string). Valid values: "on", "off".
host_uuid	The Universal Unique Identifier (UUID) of the host. A string up to 36 characters long.
name	The name of the VM (string).

Get Virtual Network Information

Gets information about all virtual networks.

Request

Method Type	GET
Request URI	/nos/api/info/npa/vnetwork/nutanix
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ uuid: <value>, default_gateway: <value>, network_address: <value>, prefix_length: <value>, vlan_id: <value>, name: <value> }]</pre>
----------------------	---

where:

Parameter	Description
uuid	The Universal Unique Identifier (UUID) of the virtual network. A string up to 36 characters long.
default_gateway	The virtual network default gateway (string). An IP address.
network_address	The virtual network IP address (string). An IP address.
prefix_length	The virtual network prefix length. An integer from 0-32.
vlan_id	The VLAN ID for the virtual network. An integer from 0-3999.
name	The name of the virtual network (string).

Get Virtual Network Information by UUID

Gets information about a specific virtual networks by its network Universal Unique Identifier (UUID).

Request

Method Type	GET
Request URI	/nos/api/info/npa/vnetwork/nutanix?uuid=<uuid>
Request Body (JSON)	

where:

Parameter	Description
<i>uuid</i>	The Universal Unique Identifier (UUID) of the virtual network. A string up to 36 characters long.

Response

Response Body (JSON)	<pre>[{ uuid: <value>, default_gateway: <value>, network_address: <value>, prefix_length: <value>, vlan_id: <value>, name: <value> }]</pre>
----------------------	---

where:

Parameter	Description
<i>uuid</i>	The Universal Unique Identifier (UUID) of the virtual network. A string up to 36 characters long.
<i>default_gateway</i>	The virtual network default gateway (string). An IP address.
<i>network_address</i>	The virtual network IP address (string). An IP address.
<i>prefix_length</i>	The virtual network prefix length. An integer from 0-32.
<i>vlan_id</i>	The VLAN ID for the virtual network. An integer from 0-3999.
<i>name</i>	The name of the virtual network (string).

Get vNIC Statistics

Gets all virtualized Network Interface Card (vNIC) statistics.

Request

Method Type	GET
Request URI	/nos/api/info/npa/stats/vnic/nutanix
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ vm_uuid: <value>, vnic_uuid: <value>, time_stamp: <value>, bytes_rx: <value>, bytes_tx: <value>, pkts_rx: <value>, pkts_tx: <value>, mcast_pkts_rx: <value>, mcast_pkts_tx: <value>, bcast_pkts_rx: <value>, bcast_pkts_tx: <value>, dropped_pkts_rx: <value>, dropped_pkts_tx: <value>, error_pkts_rx: <value>, error_pkts_tx: <value>, rate_kbps_rx: <value>, rate_kbps_tx: <value>, unsupported_prot_pkts_rx: <value>, rate_usage_kbps: <value> }]</pre>
----------------------	---

where:

Parameter	Description
vm_uuid	The Universal Unique Identifier (UUID) of the virtual machine (VM). A string up to 36 characters long.
vnic_uuid	The UUID of the vNIC. A string up to 36 characters long.
time_stamp	The time when the vNIC statistics were collected. Valid value: the timestamp in the following format: "YYYY/MM/DD HH:MM:SS".
bytes_rx	The number of received bytes (integer).
bytes_tx	The number of transmitted bytes (integer).
pkts_rx	The number of received packets (integer).

Parameter	Description
pkts_tx	The number of transmitted packets (integer).
mcast_pkts_rx	The number of received multicast packets (integer).
mcast_pkts_tx	The number of transmitted multicast packets (integer).
bcast_pkts_rx	The number of received broadcast packets (integer).
bcast_pkts_tx	The number of transmitted broadcast packets (integer).
dropped_pkts_rx	The number of received dropped packets (integer).
dropped_pkts_tx	The number of transmitted dropped packets (integer).
error_pkts_rx	The number of received error packets (integer).
error_pkts_tx	The number of transmitted error packets (integer).
rate_kbps_rx	The rate of received data, in kbps (integer).
rate_kbps_tx	The rate of transmitted data, in kbps (integer).
unsupported_prot_pkts_rx	The number of received unsupported protocol packets (integer).
rate_usage_kbps	The usage rate, in kbps (integer).

Get vNIC Statistics for Specific VM by VM UUID

Gets virtualized Network Interface Card (vNIC) statistics for a specific virtual machine (VM) by its Universal Unique Identifier (UUID).

Request

Method Type	GET
Request URI	/nos/api/info/npa/stats/vnic/nutanix?uuid=<vm_uuid>
Request Body (JSON)	

where:

Parameter	Description
<i>vm_uuid</i>	The Universal Unique Identifier (UUID) of the virtual machine (VM). A string up to 36 characters long.

Response

Response Body (JSON)	<pre>[{ vm_uuid: <value>, vnic_uuid: <value>, time_stamp: <value>, bytes_rx: <value>, bytes_tx: <value>, pkts_rx: <value>, pkts_tx: <value>, mcast_pkts_rx: <value>, mcast_pkts_tx: <value>, bcast_pkts_rx: <value>, bcast_pkts_tx: <value>, dropped_pkts_rx: <value>, dropped_pkts_tx: <value>, error_pkts_rx: <value>, error_pkts_tx: <value>, rate_kbps_rx: <value>, rate_kbps_tx: <value>, unsupported_prot_pkts_rx: <value>, rate_usage_kbps: <value> }]</pre>
----------------------	---

where:

Parameter	Description
vm_uuid	The Universal Unique Identifier (UUID) of the virtual machine (VM). A string up to 36 characters long.
vnic_uuid	The UUID of the vNIC. A string up to 36 characters long.
time_stamp	The time when the vNIC statistics were collected. Valid value: the timestamp in the following format: "YYYY/MM/DD HH:MM:SS".
bytes_rx	The number of received bytes (integer).
bytes_tx	The number of transmitted bytes (integer).
pkts_rx	The number of received packets (integer).
pkts_tx	The number of transmitted packets (integer).
mcast_pkts_rx	The number of received multicast packets (integer).
mcast_pkts_tx	The number of transmitted multicast packets (integer).
bcast_pkts_rx	The number of received broadcast packets (integer).
bcast_pkts_tx	The number of transmitted broadcast packets (integer).
dropped_pkts_rx	The number of received dropped packets (integer).
dropped_pkts_tx	The number of transmitted dropped packets (integer).
error_pkts_rx	The number of received error packets (integer).
error_pkts_tx	The number of transmitted error packets (integer).
rate_kbps_rx	The rate of received data, in kbps (integer).
rate_kbps_tx	The rate of transmitted data, in kbps (integer).
unsupported_prot_pkts_rx	The number of received unsupported protocol packets (integer).
rate_usage_kbps	The usage rate, in kbps (integer).

Get vNIC Statistics for Specific VM by VM Name

Gets virtualized Network Interface Card (vNIC) statistics for a specific virtual machine (VM) by its name.

Request

Method Type	GET
Request URI	/nos/api/info/npa/stats/vnic/nutanix?name=<vm_name>
Request Body (JSON)	

where:

Parameter	Description
<i>name</i>	The name of the VM (string).

Response

Response Body (JSON)	<pre>[{ vm_uuid: <value>, vnic_uuid: <value>, time_stamp: <value>, bytes_rx: <value>, bytes_tx: <value>, pkts_rx: <value>, pkts_tx: <value>, mcast_pkts_rx: <value>, mcast_pkts_tx: <value>, bcast_pkts_rx: <value>, bcast_pkts_tx: <value>, dropped_pkts_rx: <value>, dropped_pkts_tx: <value>, error_pkts_rx: <value>, error_pkts_tx: <value>, rate_kbps_rx: <value>, rate_kbps_tx: <value>, unsupported_prot_pkts_rx: <value>, rate_usage_kbps: <value> }]</pre>
----------------------	---

where:

Parameter	Description
vm_uuid	The Universal Unique Identifier (UUID) of the virtual machine (VM). A string up to 36 characters long.
vnic_uuid	The UUID of the vNIC. A string up to 36 characters long.
time_stamp	The time when the vNIC statistics were collected. Valid value: the <code>timestamp</code> in the following format: "YYYY/MM/DD HH:MM:SS".
bytes_rx	The number of received bytes (integer).
bytes_tx	The number of transmitted bytes (integer).
pkts_rx	The number of received packets (integer).
pkts_tx	The number of transmitted packets (integer).
mcast_pkts_rx	The number of received multicast packets (integer).
mcast_pkts_tx	The number of transmitted multicast packets (integer).
bcast_pkts_rx	The number of received broadcast packets (integer).
bcast_pkts_tx	The number of transmitted broadcast packets (integer).
dropped_pkts_rx	The number of received dropped packets (integer).
dropped_pkts_tx	The number of transmitted dropped packets (integer).
error_pkts_rx	The number of received error packets (integer).
error_pkts_tx	The number of transmitted error packets (integer).
rate_kbps_rx	The rate of received data, in kbps (integer).
rate_kbps_tx	The rate of transmitted data, in kbps (integer).
unsupported_prot_pkts_rx	The number of received unsupported protocol packets (integer).
rate_usage_kbps	The usage rate, in kbps (integer).

Get vNIC Interface Statistics

Gets virtualized Network Interface Card (vNIC) statistics for all switch interfaces.

Request

Method Type	GET
Request URI	/nos/api/info/npa/stats/vnic/nutanix?if_name= or /nos/api/info/npa/stats/vnic/nutanix?if_name=all
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ if_name: <value>, [{ vm_uuid: <value>, vnic_uuid: <value>, time_stamp: <value>, bytes_rx: <value>, bytes_tx: <value>, pkts_rx: <value>, pkts_tx: <value>, mcast_pkts_rx: <value>, mcast_pkts_tx: <value>, bcast_pkts_rx: <value>, bcast_pkts_tx: <value>, dropped_pkts_rx: <value>, dropped_pkts_tx: <value>, error_pkts_rx: <value>, error_pkts_tx: <value>, rate_kbps_rx: <value>, rate_kbps_tx: <value>, unsupported_prot_pkts_rx: <value>, rate_usage_kbps: <value> }] }</pre>
----------------------	---

where:

Parameter	Description
if_name	The name of the switch interface (string).
vm_uuid	The Universal Unique Identifier (UUID) of the virtual machine (VM). A string up to 36 characters long.
vnic_uuid	The UUID of the vNIC. A string up to 36 characters long.
time_stamp	The time when the vNIC statistics were collected. Valid value: the <code>timestamp</code> in the following format: "YYYY/MM/DD HH:MM:SS".
bytes_rx	The number of received bytes (integer).
bytes_tx	The number of transmitted bytes (integer).
pkts_rx	The number of received packets (integer).
pkts_tx	The number of transmitted packets (integer).
mcast_pkts_rx	The number of received multicast packets (integer).
mcast_pkts_tx	The number of transmitted multicast packets (integer).
bcast_pkts_rx	The number of received broadcast packets (integer).
bcast_pkts_tx	The number of transmitted broadcast packets (integer).
dropped_pkts_rx	The number of received dropped packets (integer).
dropped_pkts_tx	The number of transmitted dropped packets (integer).
error_pkts_rx	The number of received error packets (integer).
error_pkts_tx	The number of transmitted error packets (integer).
rate_kbps_rx	The rate of received data, in kbps (integer).
rate_kbps_tx	The rate of transmitted data, in kbps (integer).
unsupported_prot_pkts_rx	The number of received unsupported protocol packets (integer).
rate_usage_kbps	The usage rate, in kbps (integer).

Get vNIC Statistics for Specific Interface

Gets virtualized Network Interface Card (vNIC) statistics for a specific switch interfaces.

Request

Method Type	GET
Request URI	/nos/api/info/npa/stats/vnic/nutanix?if_name=<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The name of the switch interface (string). For example: "Ethernet1%2F1".

Response

Response Body (JSON)	<pre>{ if_name: <value>, [{ vm_uuid: <value>, vnic_uuid: <value>, time_stamp: <value>, bytes_rx: <value>, bytes_tx: <value>, pkts_rx: <value>, pkts_tx: <value>, mcast_pkts_rx: <value>, mcast_pkts_tx: <value>, bcast_pkts_rx: <value>, bcast_pkts_tx: <value>, dropped_pkts_rx: <value>, dropped_pkts_tx: <value>, error_pkts_rx: <value>, error_pkts_tx: <value>, rate_kbps_rx: <value>, rate_kbps_tx: <value>, unsupported_prot_pkts_rx: <value>, rate_usage_kbps: <value> }] }</pre>
----------------------	---

where:

Parameter	Description
if_name	The name of the switch interface (string).
vm_uuid	The Universal Unique Identifier (UUID) of the virtual machine (VM). A string up to 36 characters long.
vnic_uuid	The UUID of the vNIC. A string up to 36 characters long.
time_stamp	The time when the vNIC statistics were collected. Valid value: the <code>timestamp</code> in the following format: "YYYY/MM/DD HH:MM:SS".
bytes_rx	The number of received bytes (integer).
bytes_tx	The number of transmitted bytes (integer).
pkts_rx	The number of received packets (integer).
pkts_tx	The number of transmitted packets (integer).
mcast_pkts_rx	The number of received multicast packets (integer).
mcast_pkts_tx	The number of transmitted multicast packets (integer).
bcast_pkts_rx	The number of received broadcast packets (integer).
bcast_pkts_tx	The number of transmitted broadcast packets (integer).
dropped_pkts_rx	The number of received dropped packets (integer).
dropped_pkts_tx	The number of transmitted dropped packets (integer).
error_pkts_rx	The number of received error packets (integer).
error_pkts_tx	The number of transmitted error packets (integer).
rate_kbps_rx	The rate of received data, in kbps (integer).
rate_kbps_tx	The rate of transmitted data, in kbps (integer).
unsupported_prot_pkts_rx	The number of received unsupported protocol packets (integer).
rate_usage_kbps	The usage rate, in kbps (integer).

Get All VM Information

Gets information about configured virtual machines (VMs).

Request

Method Type	GET
Request URI	/nos/api/info/npa/vm/vmware
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ nic_list: [{ connected_state: {connected disconnected}, nic_type: <value>, mac: <value>, network_name: <value> }], uuid: <value>, num_cores_per_vcpu: <value>, memory_size_mb: <value>, num_vcpus: <value>, power_state: <poweredOff poweredOn>, host_uuid: <value>, name: <value> }]</pre>
----------------------	---

where:

Parameter	Description
nic_list	List of dictionary containing VNIC information.
connected_state	Whether the VNIC is connected or disconnected (string).
nic_type	The type of VMware VNIC (string).
mac	The MAC address of the VM. Valid value: the MAC address in the following format: "XX:XX:XX:XX:XX:XX".
network_name	The name of the network (string).
uuid	The Universal Unique Identifier (UUID) of the VM. A string up to 36 characters long.
num_cores_per_vcpu	The number of cores for each virtual CPU (integer).
memory-size	The size of the allocated memory in MBs (integer).
num_vcpus	The number of virtual CPUs (integer).
power_state	The power state of the VM (string). Valid values: "poweredOff", "poweredOn".

Parameter	Description
host_uuid	The Universal Unique Identifier (UUID) of the host. A string up to 36 characters long.
name	The name of the VM (string).

Get Specific VM Information by VM UUID

Gets information about a specific virtual machine (VM) by its Universal Unique Identifier (UUID).

Request

Method Type	GET
Request URI	/nos/api/info/npa/vm/vmware?uuid=<uuid>
Request Body (JSON)	

where:

Parameter	Description
<i>vm_uuid</i>	The Universal Unique Identifier (UUID) of the VM. A string up to 36 characters long.

Response

Response Body (JSON)	<pre>[{ nic_list: [{ connected_state: {connected disconnected}, nic_type: <value>, mac: <value>, network_name: <value> }], uuid: <value>, num_cores_per_vcpu: <value>, memory_size_mb: <value>, num_vcpus: <value>, power_state: <poweredOff poweredOn>, host_uuid: <value>, name: <value> }]</pre>
----------------------	---

where:

Parameter	Description
<i>nic_list</i>	List of dictionary containing VNIC information.
<i>connected_state</i>	Whether the VNIC is connected or disconnected (string).
<i>nic_type</i>	The type of VMware VNIC (string).
<i>mac</i>	The MAC address of the VM. Valid value: the MAC address in the following format: "XX:XX:XX:XX:XX:XX".
<i>network_name</i>	The name of the network (string).
<i>uuid</i>	The Universal Unique Identifier (UUID) of the VM. A string up to 36 characters long.

Parameter	Description
num_cores_per_vcpu	The number of cores for each virtual CPU (integer).
memory-size	The size of the allocated memory in MBs (integer).
num_vcpus	The number of virtual CPUs (integer).
power_state	The power state of the VM (string). Valid values: "poweredOff", "poweredOn".
host_uuid	The Universal Unique Identifier (UUID) of the host. A string up to 36 characters long.
name	The name of the VM (string).

Get Specific VM Information by VM Name

Gets information about a specific virtual machine (VM) by its name.

Request

Method Type	GET
Request URI	/nos/api/info/npa/vm/vmware?name=<name>
Request Body (JSON)	

where:

Parameter	Description
<i>vm_name</i>	The name of the VM (string).

Response

Response Body (JSON)	<pre>[{ nic_list: [{ connected_state: {connected disconnected}, nic_type: <value>, mac: <value>, network_name: <value> }], uuid: <value>, num_cores_per_vcpu: <value>, memory_size_mb: <value>, num_vcpus: <value>, power_state: <poweredOff poweredOn>, host_uuid: <value>, name: <value> }]</pre>
----------------------	---

where:

Parameter	Description
<i>nic_list</i>	List of dictionary containing VNIC information.
<i>connected_state</i>	Whether the VNIC is connected or disconnected (string).
<i>nic_type</i>	The type of VMware VNIC (string).
<i>mac</i>	The MAC address of the VM. Valid value: the MAC address in the following format: "XX:XX:XX:XX:XX:XX".
<i>network_name</i>	The name of the network (string).
<i>uuid</i>	The Universal Unique Identifier (UUID) of the VM. A string up to 36 characters long.

Parameter	Description
num_cores_per_vcpu	The number of cores for each virtual CPU (integer).
memory_size_mib	The size of the allocated memory in MBs (integer).
num_vcpus	The number of virtual CPUs (integer).
power_state	The power state of the VM (string). Valid values: "poweredOff", "poweredOn".
host_uuid	The Universal Unique Identifier (UUID) of the host. A string up to 36 characters long.
name	The name of the VM (string).

Get VM Interface Information

Gets information about virtual machines (VMs) for all switch interfaces.

Request

Method Type	GET
Request URI	/nos/api/info/npa/vm/vmware?if_name= or /nos/api/info/npa/vm/vmware?if_name=all
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ if_name: [{ nic_list: [{ connected_state: <connected disconnect>, nic_type: <value>, mac: <value>, network_name: <value> }], uuid: <value>, num_cores_per_vcpu: <value>, memory_size_mb: <value>, num_vcpus: <value>, power_state: <poweredOn poweredOff>, host_uuid: <value>, name: <value> }] }</pre>
----------------------	--

where:

Parameter	Description
if_name	The name of the switch interface (string). For example: "Ethernet1/12".
nic_list	List of dictionary containing VNIC information.
connected_state	Whether the VNIC is connected or disconnected (string).
nic_type	The type of VMware VNIC (string).
mac	The MAC address of the VM. Valid value: the MAC address in the following format: "XX:XX:XX:XX:XX:XX".
network_name	The name of the network (string).
uuid	The Universal Unique Identifier (UUID) of the VM. A string up to 36 characters long.

Parameter	Description
num_cores_per_vcpu	The number of cores for each virtual CPU (integer).
memory_size_mib	The size of the allocated memory in MBs (integer).
num_vcpus	The number of virtual CPUs (integer).
power_state	The power state of the VM (string). Valid values: "poweredOff", "poweredOn".
host_uuid	The Universal Unique Identifier (UUID) of the host. A string up to 36 characters long.
name	The name of the VM (string).

Get VM Information for Specific Interface

Gets information about virtual machines (VMs) for a specific switch interface.

Request

Method Type	GET
Request URI	/nos/api/info/npa/vm/vmware?if_name=<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The name of the switch interface (string). For example: "Ethernet1%2F1".

Response

Response Body (JSON)	<pre>{ if_name: [{ nic_list: [{ connected_state: <connected disconnect>, nic_type: <value>, mac: <value>, network_name: <value> }], uuid: <value>, num_cores_per_vcpu: <value>, memory_size_mb: <value>, num_vcpus: <value>, power_state: <poweredOn poweredOff>, host_uuid: <value>, name: <value> }] }</pre>
----------------------	--

where:

Parameter	Description
<i>if_name</i>	The name of the switch interface (string). For example: "Ethernet1/12".
<i>nic_list</i>	List of dictionary containing VNIC information.
<i>connected_state</i>	Whether the VNIC is connected or disconnected (string).
<i>nic_type</i>	The type of VMware VNIC (string).
<i>mac</i>	The MAC address of the VM. Valid value: the MAC address in the following format: "XX:XX:XX:XX:XX:XX".

Parameter	Description
network_name	The name of the network (string).
uuid	The Universal Unique Identifier (UUID) of the VM. A string up to 36 characters long.
num_cores_per_vcpu	The number of cores for each virtual CPU (integer).
memory_size_mib	The size of the allocated memory in MBs (integer).
num_vcpus	The number of virtual CPUs (integer).
power_state	The power state of the VM (string). Valid values: "poweredOff", "poweredOn".
host_uuid	The Universal Unique Identifier (UUID) of the host. A string up to 36 characters long.
name	The name of the VM (string).

Get Virtual Network Information

Gets information about all virtual networks.

Request

Method Type	GET
Request URI	/nos/api/info/npa/vnetwork/vmware
Request Body (JSON)	

Response

Response Body (JSON)	[{ vswitch_name: <value>, uuid: <value>, vlan_id: <value>, name: <value> }]
----------------------	--

where:

Parameter	Description
vswitch_name	The name of the Vswitch (string).
uuid	The Universal Unique Identifier (UUID) of the host. A string up to 36 characters long.
vlan_id	The VLAN ID for the virtual network. An integer from 0-3999.
name	The name of the virtual network (string).

Get DVSwitch Information

Gets the distributed virtual switch information.

Request

Method Type	GET
Request URI	/nos/api/info/npa/vnetwork/vmware/dvswitch
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "name": <value>, "vlans": <value>, "vlan_mode": <value>, "vlan_id": <value>, "dvswitch_name": <value> }, { "name": <value>, "vlans": <value>, "vlan_mode": <value>, "vlan_id": 0, "dvswitch_name": <value> }]</pre>
----------------------	---

where:

Parameter	Description
name	The name of the virtual network (string).
vlans	The VLANs that the switch port is a member of.
vlan_mode	The VLAN mode (string).
vlan_id	The VLAN ID for the virtual network. An integer from 0-3999.
dvswitch_name	The name of the DVswitch (string).

Get vNIC Statistics

Gets all virtualized Network Interface Card (vNIC) statistics.

Request

Method Type	GET
Request URI	/nos/api/info/npa/stats/vnic/vmware
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ pkts_tx: <value>, bcast_pkts_rx: <value>, dropped_pkts_tx: <value>, bcast_pkts_tx: <value>, pkts_rx: <value>, bytes_rx: <value>, rate_usage_kbps: <value>, mcast_pkts_tx: <value>, rate_kbps_tx: <value>, rate_kbps_rx: <value>, vm_uuid: <value>, dropped_pkts_rx: <value>, bytes_tx: <value>, time_stamp: <value>, vnic_mac: <value>, mcast_pkts_rx: <value> }]</pre>
----------------------	---

where:

Parameter	Description
vm_uuid	The Universal Unique Identifier (UUID) of the virtual machine (VM). A string up to 36 characters long.
vnic_mac	The vNIC MAC address in the following format: "xx:xx:xx:xx:xx:xx".
time_stamp	The time when the vNIC statistics were collected in the following format: "YYYY/MM/DD HH:MM:SS".
bytes_rx	The number of received bytes (integer).
bytes_tx	The number of transmitted bytes (integer).
pkts_rx	The number of received packets (integer).
pkts_tx	The number of transmitted packets (integer).
mcast_pkts_rx	The number of received multicast packets (integer).

Parameter	Description
mcast_pkts_tx	The number of transmitted multicast packets (integer).
bcast_pkts_rx	The number of received broadcast packets (integer).
bcast_pkts_tx	The number of transmitted broadcast packets (integer).
dropped_pkts_rx	The number of received dropped packets (integer).
dropped_pkts_tx	The number of transmitted dropped packets (integer).
rate_kbps_rx	The rate of received data, in kbps (integer).
rate_kbps_tx	The rate of transmitted data, in kbps (integer).
rate_usage_kbps	The usage rate, in kbps (integer).

Get vNIC Statistics for Specific VM by VM UUID

Gets virtualized Network Interface Card (vNIC) statistics for a specific virtual machine (VM) by its Universal Unique Identifier (UUID).

Request

Method Type	GET
Request URI	/nos/api/info/npa/stats/vnic/vmware?uuid=<vm_uuid>
Request Body (JSON)	

where:

Parameter	Description
<i>vm_uuid</i>	The Universal Unique Identifier (UUID) of the virtual machine (VM). A string up to 36 characters long.

Response

Response Body (JSON)	<pre>[{ pkts_tx: <value>, bcast_pkts_rx: <value>, dropped_pkts_tx: <value>, bcast_pkts_tx: <value>, pkts_rx: <value>, bytes_rx: <value>, rate_usage_kbps: <value>, mcast_pkts_tx: <value>, rate_kbps_tx: <value>, rate_kbps_rx: <value>, vm_uuid: <value>, dropped_pkts_rx: <value>, bytes_tx: <value>, time_stamp: <value>, vnic_mac: <value>, mcast_pkts_rx: <value> }]</pre>
----------------------	---

where:

Parameter	Description
vm_uuid	The Universal Unique Identifier (UUID) of the virtual machine (VM). A string up to 36 characters long.
vnic_mac	The vNIC MAC address in the following format: "xx:xx:xx:xx:xx:xx".
time_stamp	The time when the vNIC statistics were collected. Valid value: the timestamp in the following format: "YYYY/MM/DD HH:MM:SS".
bytes_rx	The number of received bytes (integer).
bytes_tx	The number of transmitted bytes (integer).
pkts_rx	The number of received packets (integer).
pkts_tx	The number of transmitted packets (integer).
mcast_pkts_rx	The number of received multicast packets (integer).
mcast_pkts_tx	The number of transmitted multicast packets (integer).
bcast_pkts_rx	The number of received broadcast packets (integer).
bcast_pkts_tx	The number of transmitted broadcast packets (integer).
dropped_pkts_rx	The number of received dropped packets (integer).
dropped_pkts_tx	The number of transmitted dropped packets (integer).
rate_kbps_rx	The rate of received data, in kbps (integer).
rate_kbps_tx	The rate of transmitted data, in kbps (integer).
rate_usage_kbps	The usage rate, in kbps (integer).

Get vNIC Statistics for Specific VM by VM Name

Gets virtualized Network Interface Card (vNIC) statistics for a specific virtual machine (VM) by its name.

Request

Method Type	GET
Request URI	/nos/api/info/npa/stats/vnic/vmware?name=<vm_name>
Request Body (JSON)	

where:

Parameter	Description
<i>vm_name</i>	The name of the VM (string).

Response

Response Body (JSON)	<pre>[{ pkts_tx: <value>, bcast_pkts_rx: <value>, dropped_pkts_tx: <value>, bcast_pkts_tx: <value>, pkts_rx: <value>, bytes_rx: <value>, rate_usage_kbps: <value>, mcast_pkts_tx: <value>, rate_kbps_tx: <value>, rate_kbps_rx: <value>, vm_uuid: <value>, dropped_pkts_rx: <value>, bytes_tx: <value>, time_stamp: <value>, vnic_mac: <value>, mcast_pkts_rx: <value> }]</pre>
----------------------	---

where:

Parameter	Description
vm_uuid	The Universal Unique Identifier (UUID) of the virtual machine (VM). A string up to 36 characters long.
vnic_mac	The vNIC MAC address in the following format: "xx:xx:xx:xx:xx:xx".
time_stamp	The time when the vNIC statistics were collected. Valid value: the timestamp in the following format: "YYYY/MM/DD HH:MM:SS".
bytes_rx	The number of received bytes (integer).
bytes_tx	The number of transmitted bytes (integer).
pkts_rx	The number of received packets (integer).
pkts_tx	The number of transmitted packets (integer).
mcast_pkts_rx	The number of received multicast packets (integer).
mcast_pkts_tx	The number of transmitted multicast packets (integer).
bcast_pkts_rx	The number of received broadcast packets (integer).
bcast_pkts_tx	The number of transmitted broadcast packets (integer).
dropped_pkts_rx	The number of received dropped packets (integer).
dropped_pkts_tx	The number of transmitted dropped packets (integer).
rate_kbps_rx	The rate of received data, in kbps (integer).
rate_kbps_tx	The rate of transmitted data, in kbps (integer).
rate_usage_kbps	The usage rate, in kbps (integer).

Get vNIC Interface Statistics

Gets virtualized Network Interface Card (vNIC) statistics for all switch interfaces.

Request

Method Type	GET
Request URI	/nos/api/info/npa/stats/vnic/vmware?if_name= or /nos/api/info/npa/stats/vnic/vmware?if_name=all
Request Body (JSON)	

Response

Response Body (JSON)	<pre>if_name :[{ pkts_tx: <value>, bcast_pkts_rx: <value>, dropped_pkts_tx: <value>, bcast_pkts_tx: <value>, pkts_rx: <value>, bytes_rx: <value>, rate_usage_kbps: <value>, mcast_pkts_tx: <value>, rate_kbps_tx: <value>, rate_kbps_rx: <value>, vm_uuid: <value>, dropped_pkts_rx: <value>, bytes_tx: <value>, time_stamp: <value>, vnic_mac: <value>, mcast_pkts_rx: <value> }]</pre>
----------------------	--

where:

Parameter	Description
if_name	The name of the switch interface (string). For example: "Ethernet1/12".
vm_uuid	The Universal Unique Identifier (UUID) of the virtual machine (VM). A string up to 36 characters long.
vnic_mac	The vNIC MAC address in the following format: "xx:xx:xx:xx:xx:xx".
time_stamp	The time when the vNIC statistics were collected. Valid value: the timestamp in the following format: "YYYY/MM/DD HH:MM:SS".
bytes_rx	The number of received bytes (integer).
bytes_tx	The number of transmitted bytes (integer).
pkts_rx	The number of received packets (integer).
pkts_tx	The number of transmitted packets (integer).
mcast_pkts_rx	The number of received multicast packets (integer).
mcast_pkts_tx	The number of transmitted multicast packets (integer).
bcast_pkts_rx	The number of received broadcast packets (integer).
bcast_pkts_tx	The number of transmitted broadcast packets (integer).
dropped_pkts_rx	The number of received dropped packets (integer).
dropped_pkts_tx	The number of transmitted dropped packets (integer).
rate_kbps_rx	The rate of received data, in kbps (integer).
rate_kbps_tx	The rate of transmitted data, in kbps (integer).
rate_usage_kbps	The usage rate, in kbps (integer).

Get vNIC Statistics for Specific Interface

Gets virtualized Network Interface Card (vNIC) statistics for a specific switch interfaces.

Request

Method Type	GET
Request URI	/nos/api/info/npa/stats/vnic/vmware?if_name=<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The name of the switch interface (string). For example: "Ethernet1%2F1".

Response

Response Body (JSON)	<pre>if_name :[{ pkts_tx: <value>, bcast_pkts_rx: <value>, dropped_pkts_tx: <value>, bcast_pkts_tx: <value>, pkts_rx: <value>, bytes_rx: <value>, rate_usage_kbps: <value>, mcast_pkts_tx: <value>, rate_kbps_tx: <value>, rate_kbps_rx: <value>, vm_uuid: <value>, dropped_pkts_rx: <value>, bytes_tx: <value>, time_stamp: <value>, vnic_mac: <value>, mcast_pkts_rx: <value> }]</pre>
----------------------	--

where:

Parameter	Description
if_name	The name of the switch interface (string). For example: "Ethernet1/12".
vm_uuid	The Universal Unique Identifier (UUID) of the virtual machine (VM). A string up to 36 characters long.
vnic_mac	The vNIC MAC address in the following format: "xx:xx:xx:xx:xx:xx".
time_stamp	The time when the vNIC statistics were collected. Valid value: the timestamp in the following format: "YYYY/MM/DD HH:MM:SS".
bytes_rx	The number of received bytes (integer).
bytes_tx	The number of transmitted bytes (integer).
pkts_rx	The number of received packets (integer).
pkts_tx	The number of transmitted packets (integer).
mcast_pkts_rx	The number of received multicast packets (integer).
mcast_pkts_tx	The number of transmitted multicast packets (integer).
bcast_pkts_rx	The number of received broadcast packets (integer).
bcast_pkts_tx	The number of transmitted broadcast packets (integer).
dropped_pkts_rx	The number of received dropped packets (integer).
dropped_pkts_tx	The number of transmitted dropped packets (integer).
rate_kbps_rx	The rate of received data, in kbps (integer).
rate_kbps_tx	The rate of transmitted data, in kbps (integer).
rate_usage_kbps	The usage rate, in kbps (integer).

NTP

The following NTP URIs are available:

- /nos/api/cfg/ntp/peers GET, POST, DELETE
- /nos/api/info/ntp/peer-status GET
- /nos/api/cfg/ntp/authentication-status GET, POST
- /nos/api/cfg/ntp/trusted-keys GET, POST, DELETE
- /nos/api/cfg/ntp/authentication-keys GET, POST, DELETE
- /nos/api/info/ntp/statistics/peer/<ip_addr> GET
- /nos/api/info/ntp/statistics/mem GET
- /nos/api/info/ntp/statistics/io GET
- /nos/api/info/ntp/statistics/local GET
- /nos/api/cfg/ntp/enable GET, POST
- /nos/api/cfg/ntp/vrf GET, POST

The following NTP commands are available:

- [Get NTP Properties](#)
- [Update NTP Peers](#)
- [Get NTP Peer Status](#)
- [Get NTP Authentication Status](#)
- [Set NTP Authentication Status](#)
- [Delete the Specified NTP Peers](#)
- [Get NTP Trusted Keys](#)
- [Set NTP Trusted Keys](#)
- [Delete NTP Trusted Keys](#)
- [Get NTP Authentication Keys](#)
- [Set NTP Authentication Keys](#)
- [Delete NTP Authentication Keys](#)
- [Get NTP Peer Statistics](#)
- [Get NTP Memory Statistics](#)
- [Get NTP IO Statistics](#)
- [Get NTP Local Statistics](#)
- [Get NTP VRF Type](#)
- [Set NTP VRF Type](#)
- [Get NTP Feature Status](#)
- [Enable or Disable NTP](#)

Get NTP Properties

Gets the configured NTP peers.

Note: This is required for XClarity support.

Request

Method Type	GET
Request URI	/nos/api/cfg/ntp/peers
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "maxpoll": <max_poll>, "name": <name>, "server_type": <server_type>, "minpoll": <minpoll>, "prefer": <prefer>, "type": <type> }]</pre>
-------------------------	--

where:

Parameter	Description
maxpoll	Maximum poll interval for NTP messages. An integer from 3-17.
name	IP address of peer (string).
server_type	The server type (string). Valid values: "static", "dynamic".
minpoll	Minimum poll interval for NTP messages. An integer from 3-17.
prefer	The peer prefer option (string). Valid values: "yes", "no".
type	The configured peer. (string). Valid values: "peer".

Update NTP Peers

Updates the configured NTP peers.

Note: This is required for XClarity support.

Request

Method Type	POST
Request URI	/nos/api/cfg/ntp/peers
Request Body (JSON)	<pre>{ "maxpoll": <max_poll>, "name": <name>, "server_type": <server_type>, "minpoll": <minpoll>, "prefer": <prefer>, "type": <type> }</pre>

where:

Parameter	Description
maxpoll	Maximum poll interval for NTP messages. An integer from 3-17.
name	IP address of peer (string).
server_type	The server type (string). Valid values: "static", "dynamic".
minpoll	Minimum poll interval for NTP messages. An integer from 3-17.
prefer	The peer prefer option (string). Valid values: "yes", "no".
type	The configured peer. (string). Valid values: "peer".

Response

Response Body (JSON)	<pre>[{ "maxpoll": <max_poll>, "name": <name>, "server_type": <server_type>, "minpoll": <minpoll>, "prefer": <prefer>, "type": <type> }]</pre>
-------------------------	--

where:

Parameter	Description
maxpoll	Maximum poll interval for NTP messages. An integer from 3-17.
name	IP address of peer (string).
server_type	The server type (string). Valid values: "static", "dynamic".
minpoll	Minimum poll interval for NTP messages. An integer from 3-17.
prefer	The peer prefer option (string). Valid values: "yes", "no".
type	The configured peer. (string). Valid values: "peer".

Get NTP Peer Status

Gets NTP peer status.

Request

Method Type	GET
Request URI	/nos/api/info/ntp/peer-status
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "remote": <remote>, "reach": <reach>, "st": <st>, "t": <t>, "when": <when>, "poll": <poll>, "delay": <delay>, "offset": <offset>, "jitter": <jitter>, "refid": <refid> }]</pre>
-------------------------	---

where:

Parameter	Description
remote	The IP of the remote machine (string).
reach	An 8-bit rotating register. Any 1 bit means a time packet was received (string). Valid values: a string with an 8-bit unsigned integer.
st	The status of the remote machine (string). Valid values: 0 for the best value, 16 for unsynchronized.
t	The available types (string). Valid values: <ul style="list-style-type: none">• "l" - local• "u" - unicast• "m" - multicast• "b" - broadcast• "-" - network address
when	The number of seconds passed since the last poll (string).
poll	The polling interval in seconds. A string with a positive integer.

Parameter	Description
delay	The time interval in milliseconds between our time and that of the remote. A string with a positive integer.
offset	The offset in milliseconds between our time and that of the remote. A string with a positive integer.
jitter	The observed jitter in milliseconds of time with the remote. A string with a positive integer.
refid	The identification of the time source to which the remote machines is synced (string).

Get NTP Authentication Status

Gets the NTP authentication status.

Request

Method Type	GET
Request URI	/nos/api/cfg/ntp/authentication-status
Request Body (JSON)	

Response

Response Body (JSON)	{ "status": <status>, }
-------------------------	-------------------------------

where:

Parameter	Description
status	The NTP authentication status (string). Valid values: "Enable", "Disable".

Set NTP Authentication Status

Sets the NTP authentication status.

Request

Method Type	POST
Request URI	/nos/api/cfg/ntp/authentication-status
Request Body (JSON)	[{ "status": <status>, }]

where:

Parameter	Description
status	The NTP authentication status (string). Valid values: "Enable", "Disable".

Response

Response Body (JSON)	[{ "status": <status>, }]
-------------------------	---

where:

Parameter	Description
status	The NTP authentication status (string). Valid values: "Enable", "Disable".

Delete the Specified NTP Peers

Deletes the configured NTP peers.

Note: This is required for XClarity support.

Request

Method Type	DELETE
Request URI	nos/api/cfg/ntp/peers/<ip>/<peer>
Request Body (JSON)	

where:

Parameter	Description
<i>ip</i>	IP address of the peer (string).
<i>peer</i>	The peer to be deleted (string).

Response

Response Body (JSON)	
-------------------------	--

Get NTP Trusted Keys

Gets the NTP trusted keys.

Request

Method Type	GET
Request URI	nos/api/cfg/ntp/trusted-keys
Request Body (JSON)	

Response

Response Body (JSON)	[{ "key": <key> }]
-------------------------	----------------------------------

where:

Parameter	Description
key	The number of the trusted key. An integer from 1-65534.

Set NTP Trusted Keys

Sets the NTP trusted keys.

Request

Method Type	POST
Request URI	nos/api/cfg/ntp/trusted-keys
Request Body (JSON)	{ "key": <key> }

where:

Parameter	Description
key	The number of the trusted key. An integer from 1-65534.

Response

Response Body (JSON)	[{ "key": <key> }]
-------------------------	----------------------------------

where:

Parameter	Description
key	The number of the trusted key. An integer from 1-65534.

Delete NTP Trusted Keys

Deletes the specified NTP trusted key.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/ntp/trusted-keys/<key_number>
Request Body (JSON)	

where:

Parameter	Description
<i>key_number</i>	The number of the trusted key (integer).

Response

Response Body (JSON)	
-------------------------	--

Get NTP Authentication Keys

Gets NTP authentication keys.

Request

Method Type	GET
Request URI	nos/api/cfg/ntp/authentication-keys
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "key_num": <key_num>, "md5": "<string>" or "sha1": "<string>" }]</pre>
-------------------------	--

where:

Parameter	Description
key_num	The number of the trusted key. An integer from 1-65534.
string	The MD5 or SHA1 authentication string. A string of maximum 8 characters long.

Set NTP Authentication Keys

Sets NTP authentication keys.

Request

Method Type	POST
Request URI	nos/api/cfg/ntp/authentication-keys
Request Body (JSON)	<pre>{ "key_num": <key_num>, "md5": "<string>" or "sha1": "<string>" }</pre>

where:

Parameter	Description
key_num	The number of the trusted key. An integer from 1-65534.
string	The MD5 or SHA1 authentication string. A string of maximum 8 characters long.

Response

Response Body (JSON)	<pre>[{ "key_num": <key_num>, "md5": "<string>" or "sha1": "<string>" }]</pre>
-------------------------	--

where:

Parameter	Description
key_num	The number of the trusted key. An integer from 1-65534.
string	The MD5 or SHA1 authentication string. A string of maximum 8 characters long.

Delete NTP Authentication Keys

Deletes the specified NTP authentication keys.

Request

Method Type	DELETE
Request URI	nos/api/cfg/ntp/authentication-keys/<key_number>
Request Body (JSON)	

where:

Parameter	Description
<i>key_number</i>	The number of the trusted key (integer).

Response

Response Body (JSON)	
-------------------------	--

Get NTP Peer Statistics

Gets the NTP peer statistics for a specified IP address.

Request

Method Type	GET
Request URI	/nos/api/info/ntp/statistics/peer/<ip_addr>
Request Body (JSON)	

where:

Parameter	Description
<i>ip_addr</i>	The IP address of the peer (string).

Response

Response Body (JSON)	<pre>{ "status": <status>, "bad dispersion": <bad_dispersions>, "time until next send": <time_until_next_send>, "candidate order": <candidate_order>, "packets sent": <packets_sent>, "associd": <associd>, "remote host": <remote_host>, "time last received": <time_last_received>, "duplicate": <duplicate>, "bad reference time": <bad_reference_time>, "bad authentication": <bad_authentication>, "local address": <local_address>, "packets received": <packets_received>, "bogus origin": <bogus_origin>, "reachability change": <reachability_change> }</pre>
-------------------------	--

where:

Parameter	Description
status	A list containing general information about the specific peer (string).
bad_dispersions	The number of bad dispersions (string).
time_until_next_send	The time until the send packet (string).
candidate_order	The candidate order number (string).
packets_sent	The number of sent packets (string).
associd	The associated ID (string).

Parameter	Description
remote_host	The number of remote host ID (string).
time_last_received	The time since the last sent packet (string).
duplicate	The duplicate (string). Valid values: a positive integer.
bad_reference_time	The bad reference time (string).
bad_authentication	The bad authentication (string).
local_address	The local address (string).
packets_received	The number of received packets (string).
bogus_origin	The bogus origin (string).
reachability_change	The reachability change (string).

Get NTP Memory Statistics

Gets NTP memory statistics.

Request

Method Type	GET
Request URI	/nos/api/info/ntp/statistics/mem
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "reclaim above count": <reclaim_above_count>, "addresses": <addresses>, "maximum kilobytes": <maximum_kilobytes>, "enabled": <enabled>, "reclaim older than": <reclaim_older_than>, "maximum addresses": <maximum_addresses>, "kilobytes": <kilobytes>, "peak addresses": <peak_addresses> }</pre>
-------------------------	---

where:

Parameter	Description
reclaim_above_count	The reclaim above counter (string).
addresses	The IP addresses (string).
maximum_kilobytes	The maximum number of kilobytes (string).
enabled	The enabled status (string).
reclaim_older_than	Reclaim older than (string).
maximum_addresses	The maximum number of addresses (string).
kilobytes	The number of number of kilobytes (string).
peak_addresses	The number of number of peak addresses (string).

Get NTP IO Statistics

Gets NTP input/output statistics.

Request

Method Type	GET
Request URI	/nos/api/info/ntp/statistics/io
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "used receive buffers": <used_receive_buffers>, "ignored packets": <ignored_packets>, "free receive buffers": <free_receive_buffers>, "dropped packets": <dropped_packets>, "useful input wakeups": <useful_input_wakeups>, "packets sent": <packets_sent>, "received packets": <received_packets>, "input wakeups": <input_wakeups>, "receive buffers": <receive_buffers>, "packet send failures": <packet_send_failures>, "time since reset": <time_since_reset>, "low water refills": <low_water_refills> }</pre>
-------------------------	---

where:

Parameter	Description
used_received_buffers	The number of used receive buffers (string).
ignored_packets	The number of ignored packets (string).
free_receive_buffers	The number of free receive buffers (string).
dropped_packets	The number of dropped packets (string).
useful_input_wakeups	The number of useful input wakeups (string).
packets_sent	The number of packets sent (string).
received_packets	The number of received packets (string).
input_wakeups	The number of input wakeups (string).
receive_buffers	The number of receive buffers (string).
packet_send_failures	The number of packet send failures (string).
time_since_reset	The time since reset, in milliseconds (string).
low_water_refills	The number of low water refills (string).

Get NTP Local Statistics

Gets NTP peer local statistics.

Request

Method Type	GET
Request URI	/nos/api/info/ntp/statistics/local
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "uptime": <uptime>, "sysstats reset": <sysstats_reset>, "packets received": <packets_received>, "restricted": <restricted>, "processed for time": <processed_for_time>, "bad length or format": <bad_length_or_format>, "current version": <current_version>, "declined": <declined>, "older version": <older_version>, "rate limited": <rate_limited>, "authentication failed": <authentication_failed>, "KoD responses": <KoD_responses> }</pre>
-------------------------	---

where:

Parameter	Description
uptime	The system uptime, in milliseconds (string).
sysstats_reset	The time, in milliseconds, since the system reset (string).
packets_received	The number of packets received (string).
restricted	The number of restricted packets (string).
processed_for_time	Processed for time (string).
bad_length_or_format	Bad length of format (string).
current_version	The current version (string).
declined	Declined (string).
older_version	The older version (string).
rate_limited	Rate limited (string).

Parameter	Description
authentication_failed	The number of failed authentications (string).
KoD_responses	Kiss-o'-Death responses (string).

Get NTP VRF Type

Gets NTP VRF type.

Request

Method Type	GET
Request URI	nos/api/cfg/ntp/vrf
Request Body (JSON)	

Response

Response Body (JSON)	{ "vrf": "<vrf>" }
-------------------------	--------------------------

where:

Parameter	Description
vrf	The NTP VRF mode (string).

Set NTP VRF Type

Sets NTP VRF.

Request

Method Type	POST
Request URI	nos/api/cfg/ntp/vrf
Request Body (JSON)	{ "vrf": "<vrf>" }

where:

Parameter	Description
vrf	The NTP VRF mode (string).

Response

Response Body (JSON)	{ "vrf": "<vrf>" }
-------------------------	--------------------------

where:

Parameter	Description
vrf	The NTP VRF mode (string).

Get NTP Feature Status

Gets the NTP module status.

Request

Method Type	GET
Request URI	nos/api/cfg/ntp/enable
Request Body (JSON)	

Response

Response Body (JSON)	{ "status": <status> }
-------------------------	------------------------------

where:

Parameter	Description
status	The NTP module status (string). Valid values: "Disable", "Enable".

Enable or Disable NTP

Updates the NTP module status.

Request

Method Type	POST
Request URI	nos/api/cfg/ntp/enable
Request Body (JSON)	{ "status": <status> }

where:

Parameter	Description
status	The NTP module status (string). Valid values: "Disable", "Enable".

Response

Response Body (JSON)	{ "status": <status> }
-------------------------	------------------------------

where:

Parameter	Description
status	The NTP module status (string). Valid values: "Disable", "Enable".

OSPF

The following OSPF URIs are available:

- /nos/api/info/ospf/stats GET
- /nos/api/info/ospf/traffic-stats GET
- /nos/api/info/ospf/neighbor GET
- /nos/api/info/ospf/route GET
- /nos/api/info/ospf/database GET
- /nos/api/info/ospf/border-router GET
- /nos/api/info/ospf/summary-address GET
- /nos/api/cfg/ospf/interface GET, PUT
- /nos/api/cfg/ospf/virtual-link GET, PUT
- /nos/api/info/ospf/multiarea-neighbors GET
- /nos/api/info/ospf/ribcounter GET
- /nos/api/cfg/ospf/process PUT
- /nos/api/cfg/ospf/redistribute GET, PUT
- /nos/api/cfg/ospf/nssa GET, PUT
- /nos/api/cfg/ospf/area_def_cost PUT
- /nos/api/cfg/ospf/area_auth PUT
- /nos/api/cfg/ospf/summary_addr PUT
- /nos/api/cfg/ospf/range PUT
- /nos/api/cfg/ospf/overflow_db PUT
- /nos/api/cfg/ospf/autocost_refbw PUT
- /nos/api/cfg/ospf/stub PUT
- /nos/api/cfg/ospf/clear PUT

The following OSPF commands are available:

- [Get OSPF Global Statistics](#)
- [Get OSPF Traffic Statistics](#)
- [Get OSPF Neighbors](#)
- [Get OSPF Routes](#)
- [Get OSPF Database](#)
- [Get OSPF Border Routers](#)
- [Get OSPF Summary Address](#)
- [Get OSPF Interface](#)

- Set OSPF Interface
- Get OSPF Virtual Links
- Set OSPF Virtual Links
- Get OSPF Process
- Get OSPF Multi-Area Neighbor
- Get OSPF RIB Counters
- Set OSPF Process
- Get OSPF Redistribute
- Set OSPF Redistribute
- Get OSPF NSSA Area
- Set OSPF NSSA Area
- Set OSPF Default Cost
- Set Area Authentication
- Set OSPF Summary Address
- Set OSPF Area Range
- Set OSPF Overflow Database
- Set OSPF Auto-cost Reference Bandwidth
- Set OSPF Stub Configuration
- Set OSPF Remove Configuration

Get OSPF Global Statistics

Gets the global OSPF statistics.

Request

Method Type	GET
Request URI	/nos/api/info/ospf/stats/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>vrf_name</i>	(Optional) Default VRF name (string). Default value: "default".

Response

Response Body (JSON)	<pre>[{ "stats": { "ospf_id": "<ospf_id>" "clr_timer_str": "{ <clr_timer_str>", "router_id_changes": "<router_id_changes>", "dr_election_counter": "<dr_election_counter>", "older_lsas_counter": "<older_lsas_counter>", "nbr_state_change_counter": "<nbr_state_change_counter>", "nbr_bad_lsreqs_counter": "<nbr_bad_lsreqs_counter>", "nbr_interval_expired_counter": "<nbr_interval_expired_counter>", "nbr_seq_number_mismatch": "<nbr_seq_number_mismatch>", "spf_full": "<spf_full>", "spf_summary": "<spf_summary>", "spf_external": "<spf_external>", "recv_buf": "<recv_buf>", "send_buf": "<send_buf>", "lsa_buf": "<lsa_buf>", "packet_unuse": "<packet_unuse>", "packet_max": "<packet_max>", "lsa_unuse": "<lsa_unuse>", "lsa_max": "<lsa_max>", "routerLsa_generated": "<routerLsa_generated>", "routerLsa_refreshed": "<routerLsa_refreshed>", "routerLsa_flushed": "<routerLsa_flushed>", "routerLsa_agedOut": "<routerLsa_agedOut>", "networkLsa_generated": "<networkLsa_generated>", "networkLsa_refreshed": "<networkLsa_refreshed>", "networkLsa_flushed": "<networkLsa_flushed>", "networkLsa_agedOut": "<networkLsa_agedOut>", "summaryLsa_generated": "<summaryLsa_generated>", "summaryLsa_refreshed": "<summaryLsa_refreshed>", "summaryLsa_flushed": "<summaryLsa_flushed>", "summaryLsa_agedOut": "<summaryLsa_agedOut>", "asbrSummaryLsa_generated": "<asbrSummaryLsa_generated>", "asbrSummaryLsa_refreshed": "<asbrSummaryLsa_refreshed>", "asbrSummaryLsa_flushed": "<asbrSummaryLsa_flushed>", "asbrSummaryLsa_agedOut": "<asbrSummaryLsa_agedOut>", "asExternalLsa_generated": "<asExternalLsa_generated>",</pre>
-------------------------	--

Response Body (JSON)	<pre> "asExternalLsa_refreshed": "<asExternalLsa_refreshed>", "asExternalLsa_flushed": "<asExternalLsa_flushed>", "asExternalLsa_agedOut": "<asExternalLsa_agedOut>", "asNssaLsa_generated": "<asNssaLsa_generated>", "asNssaLsa_refreshed": "<asNssaLsa_refreshed>", "asNssaLsa_flushed": "<asNssaLsa_flushed>", "asNssaLsa_agedOut": "<asNssaLsa_agedOut>", "type8Lsa_generated": "<type8Lsa_generated>", "type8Lsa_refreshed": "<type8Lsa_refreshed>", "type8Lsa_flushed": "<type8Lsa_flushed>", "type8Lsa_agedOut": "<type8Lsa_agedOut>", "linkOpaqueLsa_generated": "<linkOpaqueLsa_generated>", "linkOpaqueLsa_refreshed": "<linkOpaqueLsa_refreshed>", "linkOpaqueLsa_flushed": "<linkOpaqueLsa_flushed>", "linkOpaqueLsa_agedOut": "<linkOpaqueLsa_agedOut>", "areaOpaqueLsa_generated": "<areaOpaqueLsa_generated>", "areaOpaqueLsa_refreshed": "<areaOpaqueLsa_refreshed>", "areaOpaqueLsa_flushed": "<areaOpaqueLsa_flushed>", "areaOpaqueLsa_agedOut": "<areaOpaqueLsa_agedOut>", "asOpaqueLsa_generated": "<asOpaqueLsa_generated>", "asOpaqueLsa_refreshed": "<asOpaqueLsa_refreshed>", "asOpaqueLsa_flushed": "<asOpaqueLsa_flushed>", "asOpaqueLsa_agedOut": "<asOpaqueLsa_agedOut>" }, "vrf_name": "<vrf_name>" }] </pre>
-------------------------	---

where:

Parameter	Description
ospf_id	OSPF identifier (integer). Default value: 0.
clr_timer_str	Time since last OSPF process clear in the following format: "HH:MM:SS".
router_id_changes	Router-ID changes counter. A positive integer.
dr_election_counter	DR elections counter. A positive integer.
older_lsas_counter	Older received LSAs counter. A positive integer.
nbr_state_change_counter	Neighbor state changes counter. A positive integer.
nbr_bad_lsreqs_counter	Neighbor bad LS received requests counter. A positive integer.
nbr_interval_expired_counter	Neighbor dead-interval expirations counter. A positive integer.
nbr_seq_number_mismatch	Neighbor sequence number mismatches counter. A positive integer.
spf_full	Full SPF Computations counter. A positive integer.

Parameter	Description
spf_summary	Summary SPF Computations counter. A positive integer.
spf_external	External SPF Computations counter. A positive integer.
recv_buf	Received packet buffer. A positive integer.
send_buf	Sent packet buffer. A positive integer.
lsa_buf	LSA buffer. A positive integer.
packet_unuse	Unused packets number. A positive integer.
packet_max	Maximum packets number. A positive integer.
lsa_unuse	Unused LSAs number. A positive integer.
lsa_max	Maximum LSAs number. A positive integer.
router_lsa_type	Router LSA type name. A positive integer.
routerLsa_generated	Number of generated router LSAs. A positive integer.
routerLsa_refreshed	Number of refreshed router LSAs. A positive integer.
routerLsa_flushed	Number of flushed router LSAs. A positive integer.
routerLsa_agedOut	Number of aged out router LSAs. A positive integer.
networkLsa_generated	Number of generated network LSAs. A positive integer.
networkLsa_refreshed	Number of refreshed network LSAs. A positive integer.
networkLsa_flushed	Number of flushed network LSAs. A positive integer.
networkLsa_agedOut	Number of aged out network LSAs. A positive integer.
summaryLsa_generated	Number of generated summary LSAs. A positive integer.
summaryLsa_refreshed	Number of refreshed summary LSAs. A positive integer.
summaryLsa_flushed	Number of flushed summary LSAs. A positive integer.
summaryLsa_agedOut	Number of aged out summary LSAs. A positive integer.
asbrSummaryLsa_generated	Number of generated ASBR summary LSAs. A positive integer.

Parameter	Description
asbrSummaryLsa_refreshed	Number of refreshed ASBR summary LSAs. A positive integer.
asbrSummaryLsa_flushed	Number of flushed ASBR summary LSAs. A positive integer.
asbrSummaryLsa_agedOut	Number of aged out ASBR summary LSAs. A positive integer.
asExternalLsa_generated	Number of generated AS-External LSAs. A positive integer.
asExternalLsa_refreshed	Number of refreshed AS-External LSAs. A positive integer.
asExternalLsa_flushed	Number of flushed AS-External LSAs. A positive integer.
asExternalLsa_agedOut	Number of aged out AS-External LSAs. A positive integer.
asNssaLsa_generated	Number of generated AS-NSSA LSAs. A positive integer.
asNssaLsa_refreshed	Number of refreshed AS-NSSA LSAs. A positive integer.
asNssaLsa_flushed	Number of flushed AS-NSSA LSAs. A positive integer.
asNssaLsa_agedOut	Number of aged out AS-NSSA LSAs. A positive integer.
type8Lsa_generated	Number of generated type-8 LSAs. A positive integer.
type8Lsa_refreshed	Number of refreshed type-8 LSAs. A positive integer.
type8Lsa_flushed	Number of flushed type-8 LSAs. A positive integer.
type8Lsa_agedOut	Number of aged out type-8 LSAs. A positive integer.
linkOpaqueLsa_generated	Number of generated Link Opaque LSAs; a positive integer.
linkOpaqueLsa_refreshed	Number of refreshed Link Opaque LSAs. A positive integer.
linkOpaqueLsa_flushed	Number of flushed Link Opaque LSAs. A positive integer.
linkOpaqueLsa_agedOut	Number of aged out Link Opaque LSAs. A positive integer.
areaOpaque_lsa_type	Area Opaque LSA type name. A positive integer.
areaOpaqueLsa_generated	Number of generated Area Opaque LSAs. A positive integer.

Parameter	Description
areaOpaqueLsa_refreshed	Number of refreshed Area Opaque LSAs. A positive integer.
areaOpaqueLsa_flushed	Number of flushed Area Opaque LSAs. A positive integer.
areaOpaqueLsa_agedOut	Number of aged out Area Opaque LSAs. A positive integer.
asOpaque_lsa_type	AS Opaque LSA type name. A positive integer.
asOpaqueLsa_generated	Number of generated AS External Opaque LSAs. A positive integer.
asOpaqueLsa_refreshed	Number of refreshed AS External Opaque LSAs. A positive integer.
asOpaqueLsa_flushed	Number of flushed AS External Opaque LSAs. A positive integer.
asOpaqueLsa_agedOut	Number of aged out AS External Opaque LSAs. A positive integer.
vrf_name	Default VRF name (string). Default value: "default".

Get OSPF Traffic Statistics

Gets the OSPF traffic statistics.

Request

Method Type	GET
Request URI	/nos/api/info/ospf/traffic-stats/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>vrf_name</i>	(Optional) Default VRF name (string). Default value: "default".

Response

Response Body (JSON)	<pre>[{ "traffic-stats": { "ospf_id": "<ospf_id>", "timer_str": "<timer_str>", "total_pkt_in": "<total_pkt_in>", "total_pkt_out": "<total_pkt_out>", "hello_in": "<hello_in>", "hello_out": "<hello_out>", "db_desc_in": "<db_desc_in>", "db_desc_out": "<db_desc_out>", "ls_req_in": "<ls_req_in>", "ls_req_out": "<ls_req_out>", "ls_upd_in": "<ls_upd_in>", "ls_upd_out": "<ls_upd_out>", "ls_ack_in": "<ls_ack_in>", "ls_ack_out": "<ls_ack_out>", "error_drops_in": "<error_drops_in>", "error_drops_out": "<error_drops_out>", "error_hellosin": "<error_hellosin>", "error_dbsin": "<error_dbsin>", "error_lsreqin": "<error_lsreqin>", "error_lsuin": "<error_lsuin>", "error_lsackin": "<error_lsackin>", "error_unknown_in": "<error_unknown_in>", "error_unknown_out": "<error_unknown_out>", "error_badcrc": "<error_badcrc>", "error_wrong_area": "<error_wrong_area>", "error_bad_version": "<error_bad_version>", "error_bad_auth": "<error_bad_auth>", "error_passive": "<error_passive>", "error_nonbr": "<error_nonbr>", "error_invalid_src": "<error_invalid_src>", "error_invalid_dst": "<error_invalid_dst>", "error_pktlength": "<error_pktlength>" }, "vrf_name": "<vrf_name>" }]</pre>
-------------------------	--

where:

Parameter	Description
ospf_id	OSPF identifier (integer). Default value: 0.
timer_str	Time since last OSPF process clear in the following format: "HH:MM:SS".
total_pkt_in	Number of total packets in. A positive integer.
total_pkt_out	Number of total packets out. A positive integer.
hello_in	Number of hello packets in. A positive integer.
hello_out	Number of hello packets out. A positive integer.
db_desc_in	Number of DB descriptor packets in. A positive integer.

Parameter	Description
db_desc_out	Number of DB descriptor packets out. A positive integer.
ls_req_in	Number of LS Request packets in. A positive integer.
ls_req_out	Number of LS Request packets out. A positive integer.
ls_upd_in	Number of LS Update packets in. A positive integer.
ls_upd_out	Number of LS Update packets out. A positive integer.
ls_ack_in	Number of LS ACK packets in. A positive integer.
ls_ack_out	Number of LS ACK packets out. A positive integer.
error_drops_in	Number of errors related to drops in. A positive integer.
error_drops_out	Number of errors related to drops out. A positive integer.
error_hellosin	Number of errors related to hellos in. A positive integer.
error_dbsin	Number of errors related to DB Descriptors. A positive integer.
error_lsreqin	Number of errors related to LS Requests. A positive integer.
error_lsuin	Number of errors related to LS Updates. A positive integer.
error_lsackin	Number of errors related to LS ACKs. A positive integer.
error_unknown_in	Number of errors related to unknown in. A positive integer.
error_unknown_out	Number of errors related to unknown out. A positive integer.
error_badcrc	Number of errors related to Bad CRC. A positive integer.
error_wrong_area	Number of errors related to Wrong Area. A positive integer.
error_bad_version	Number of errors related to Bad Version. A positive integer.
error_bad_auth	Number of errors related to Bad Authentication. A positive integer.
error_passive	Number of errors related to Passive. A positive integer.
error_nonbr	Number of errors related to No Neighbor. A positive integer.
error_invalid_src	Number of errors related to Invalid Source. A positive integer.
error_invalid_dst	Number of errors related to Invalid Destination. A positive integer.

Parameter	Description
error_pktlength	Number of errors related to Packet Length. A positive integer.
vrf_name	Default VRF name (string). Default value: "default".

Get OSPF Neighbors

Gets the OSPF neighbors list.

Request

Method Type	GET
Request URI	/nos/api/info/ospf/neighbor/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>vrf_name</i>	(Optional) Default VRF name (string). Default value: "default".

Response

Response Body (JSON)	[{ "vrf_name": "<vrf_name>", "nbr_router_id": "<nbr_router_id>", "priority": "<priority>", "nbr_state": "<nbr_state>", "dead_timer": "<dead_timer>", "nbr_addr": "<nbr_addr>", "ifp_name": "<ifp_name>" }]
-------------------------	--

where:

Parameter	Description
<i>vrf_name</i>	Default VRF name (string). Default value: "default".
<i>nbr_router_id</i>	Neighbor router ID identifier (string). A valid IPv4 or IPv6 address.
<i>priority</i>	The neighbor priority. An integer from 0-255.
<i>dead_timer</i>	The time left for dead interval expiry in the following format: "HH:MM:SS".
<i>nbr_addr</i>	Neighbor IP address (string). a valid IPv4 or IPv6 address.
<i>ifp_name</i>	Ethernet interface name (string).

Get OSPF Routes

Gets the OSPF routes list.

Request

Method Type	GET
Request URI	/nos/api/info/ospf/route/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>vrf_name</i>	(Optional) Default VRF name (string). Default value: "default".

Response

Response Body (JSON)	<pre>[{ "Network": "<Network>", "pathcode": "<pathcode>", "pathCount": "<pathCount>", "route_path_cost": "<route_path_cost>", "route_type2path_cost": "<route_type2path_cost>", "next_hop_info": [{ "interface": "<interface>", "area_id": "<area_id>", "neighbor_addr": "<neighbor_addr>" }] }]</pre>
-------------------------	--

where:

Parameter	Description
network	Network name; a string in the following format: "AA:BB:CC:DD/MM".
pathcode	Path type (string). Valid values: <ul style="list-style-type: none"> ● "connected" ● "Discard" ● "OSPF" ● "OSPF inter area" ● "OSPF NSSA external type 1" ● "OSPF NSSA external type 2" ● "OSPF external type 1" ● "OSPF external type 2"
pathCount	Number of ecmp paths. A positive integer.
route_path_cost	Route-path cost. A positive integer.
route_type2path_cost	Route-type 2 path cost. A positive integer.
next_hop_info	Next-hop information. A list of dictionaries. Depending on the configuration, each dictionary may contain the following values: <ul style="list-style-type: none"> ● <code>interface</code>: Neighbor IP address (string). A valid IPv4 or IPv6 address. ● <code>area_id</code>: Neighbor area-ID (string). A valid IPv4 or IPv6 address. ● <code>neighbor_addr</code>: Neighbor IP address (string). A valid IPv4 or IPv6 address.

Get OSPF Database

Gets the OSPF database.

Request

Method Type	GET
Request URI	/nos/api/info/ospf/database/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>vrf_name</i>	(Optional) Default VRF name (string). Default value: "default".

Response

Response Body (JSON)	[{ "link_state_id": "<link_state_id>", "adv_router": "<adv_router>", "lsa_type": "<lsa_type>", "lsa_age": "<lsa_age>", "ls_seqnum_str": "<ls_seqnum_str>", "checksum": "<checksum>", "link count": "<link count>", "area_id": "<area_id>" }]
-------------------------	---

where:

Parameter	Description
<i>link_state_id</i>	VRF name (string). A valid IPv4 or IPv6 address.
<i>adv_router</i>	Advertising router ID (string). A valid IPv4 or IPv6 address.
<i>lsa_type</i>	LSA type. Valid values: <ul style="list-style-type: none">● Router -LSA● Network -LSA● Summary -LSA● ASBR -summary -LSA● AS-external -LSA● AS-NSSA -LSA
<i>lsa_age</i>	LSA age. A positive integer.

Parameter	Description
ls_seqnum_str	LS sequence number in hexadecimal format.
checksum	LSA checksum in hexadecimal format.
link count	Links number. A positive integer.
area_id	The area-ID of the LSDB. A valid IPv4 or IPv6 address.

Get OSPF Border Routers

Gets the OSPF border routers.

Request

Method Type	GET
Request URI	/nos/api/info/ospf/border-router/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>vrf_name</i>	(Optional) Default VRF name (string). Default value: "default".

Response

Response Body (JSON)	[{ "abr_id": "<abr_id>", "abr_route_type": "<abr_route_type>", "abr_route_metric": "<abr_route_metric>", "asbr_id": "<asbr_id >", "asbr_route_type": "<asbr_route_type>", "asbr_route_metric": "<asbr_route_metric>", "type_border_router": "<type_border_router>", "abr_via": "<abr_via>", "asbr_via": "<asbr_via>", "abr_transit_area": "<abr_transit_area>", "asbr_transit_area": "<asbr_transit_area>", "abr_area_ifname": "<abr_area_ifname>", "asbr_area_ifname": "<asbr_area_ifname>" }]
-------------------------	---

where:

Parameter	Description
<i>abr_id</i>	The ABR ID (string). Shows the type, router ID or cost.
<i>abr_route_type</i>	Type of router related to ABR (string).
<i>abr_route_metric</i>	Metric of router related to ABR (string).
<i>asbr_id</i>	The ASBR ID (string). Shows the type, router ID or cost.
<i>asbr_route_type</i>	Type of router related to ASBR (string).

Parameter	Description
asbr_route_metric	Metric of router related to ASBR (string).
type_border_router	The border router type (string). Valid values: "ABR", "ASBR".
abr_via	The next-hop IP for ABR (string). A valid IP address.
asbr_via	The next-hop IP for ABSBR (string). A valid IP address.
abr_transit_area	The transit area-ID for ABR (string). A valid IP address.
asbr_transit_area	The transit area-ID for ASBR (string). A valid IP address.
abr_area_ifname	The OSPF interface for ABR (string). For example: "Ethernet1/X", or "VLAN interface".
asbr_area_ifname	The OSPF interface for ABSR (string). For example: "Ethernet1/X", or "VLAN interface".

Get OSPF Summary Address

Gets the OSPF summary address.

Request

Method Type	GET
Request URI	/nos/api/info/ospf/summary-address/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>vrf_name</i>	(Optional) Default VRF name (string). Default value: "default".

Response

Response Body (JSON)	<pre>[{ "router_id": "<router_id>", "ospf_id": "<ospf_id>", "vrf_name": "<vrf_name>", "prefix": "<prefix>", "metric": "<metric>", "tag": "<tag>", "summary_address_state": "<summary_address_state>" }]</pre>
-------------------------	---

where::

Parameter	Description
<i>router_id</i>	Router-ID in IP address format (string). A valid IP address.
<i>ospf_id</i>	OSPF identifier (integer). Default value: 0.
<i>vrf_name</i>	Default VRF name (string). Default value: "default".
<i>prefix</i>	The IP prefix. A string in the following format: "XX.XX.XX.XX/XX".
<i>metric</i>	The metric value. An integer from 0-16777214.

Parameter	Description
tag	External/NSSA LSAs tag. A positive integer from 0-4294967295.
summary_address_state	The summary address status (string). Valid values: "Active", "Pending".

Get OSPF Interface

Displays the OSPF interface information.

Request

Method Type	GET
Request URI	nos/api/cfg/ospf/interface/<if_name>/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The interface name (string). For example: "Ethernet1%2F1".
<i>vrf_name</i>	(Optional) Default VRF name (string). Default value: "default".

Response

Response Body (JSON)	<pre> { "if_name": "<ip_name>", "vrf_name": "<vrf_name>", "ospf_id": "<ospf_id>", "ospf_status": "<ospf_status>", "if_addr": "<if_addr>", "if_area_id": "<if_area_id>", "if_mtu": "<if_mtu>", "router_id": "<router_id>", "if_network_type": "<if_network_type>", "if_output_cost": "<if_output_cost>", "if_transmit_delay": "<if_transmit_delay>", "priority": "<priority>", "if_state": "<if_state>", "designated_router": "<designated_router>", "designated_router_addr": "<designated_router_addr>", "backup_designated_router": "<backup_designated_router>", "backup_designated_router_addr": "<backup_designated_router_addr>", "hello_interval": "<hello_interval>", "dead_interval": "<dead_interval>", "retransmit_interval": "<retransmit_interval>", "if_hello_timer": "<if_hello_timer>", "neighbor_count": "<neighbor_count>", "adj_neighbor_count": "<adj_neighbor_count>", "hello_in": "<hello_in>", "hello_out": "<hello_out>", "ls_req_in": "<ls_req_in>", "ls_req_out": "<ls_req_out>", "ls_upd_in": "<ls_upd_in>", "ls_upd_out": "<ls_upd_out>", "ls_ack_in": "<ls_ack_in>", "ls_ack_out": "<ls_ack_out>", "db_desc_in": "<db_desc_in>", "db_desc_out": "<db_desc_out>", "discarded": "<discarded>", "if_mtu_ignore": "<if_mtu_ignore>", "passive_interface": "<passive_interface>", "if_bfd": "<if_bfd>", "db_filter_all_out": "<db_filter_all_out>", "auth_type": "<auth_type>", "key_id": "<key_id>" } </pre>
-------------------------	---

where:

Parameter	Description
if_name	The interface name (string). For example: "Ethernet1/X", "VLAN interface".
vrf_name	Default VRF name (string). Default value: "default".
ospf_id	OSPF process identifier (integer). Default value: 0.
ospf_status	The status of the OSPF protocol (string). Valid values: "Up", "Down".

Parameter	Description
if_addr	The IP address or mask (string). A valid IP address or mask.
if_area_id	The area-ID (string). A valid IP address.
if_mtu	The maximum transmission unit. A positive integer from 576-65535.
router_id	The router-ID in IP address format (string). A valid IP address.
if_network_type	The network type (string). Valid values: "Broadcast", "Point-to-Point".
if_output_cost	Interface output cost. A positive integer from 1-65535.
if_transmit_delay	The interface transmit delay, in seconds. An integer from 1-3600.
priority	The router priority. An integer from 0-255.
if_state	The operation state of the interface (string). Valid values: "DR", "Backup", "DRother".
designated_router	Designated Router-ID (string). A valid IP address.
designated_router_addr	The IP address for the designated router (string).
backup_designated_router	The backup Router-ID for the designated router (string). A valid IP address.
backup_designated_router_addr	The backup Router-ID for the designated router. (string).
hello_interval	The hello interval, in seconds. An integer from 1-65535.
dead_interval	The dead interval, in seconds. An integer from 1-65535.
retransmit_interval	The retransmit interval, in seconds. An integer from 1-65535.
if_hello_timer	The hello interval timer expiration time (string).
neighbor_count	The neighbor count. A positive integer.
adj_neighbor_count	The adjacent neighbors count. A positive integer.
hello_in	Number of total hello packets in. A positive integer.
hello_out	Number of total hello packets out. A positive integer.
ls_req_in	Number of total LS Request packets in. A positive integer.

Parameter	Description
ls_req_out	Number of total LS Request packets out. A positive integer.
ls_upd_in	Number of total LS Update packets in. A positive integer.
ls_upd_out	Number of total LS Update packets out. A positive integer.
ls_ack_in	Number of total LS ACK packets in. A positive integer.
ls_ack_out	Number of total LS ACK packets out. A positive integer.
db_desc_in	Number of total DB Descriptors packets in. A positive integer.
db_desc_out	Number of total DB Descriptors packets out. A positive integer.
discarded	Number of total discarded packets. A positive integer.
auth_type	The type of authentication (string). Valid values: "message-digest", "simple", "null".
key_id	The Key-ID, if the authentication type is MD5/SHA256. An integer from 1-255.
if_mtu_ignore	The maximum transmission unit status (string). Valid values: "Enable", "Disable".
passive_interface	The passive interface status (string). Valid values: "Enable", "Disable".
if_bfd	The BDF status (string). Valid values: "Enable", "Disable".
db_filter_all_out	Database filter all out (string). Valid values: "Enable", "Disable".

Set OSPF Interface

Sets the OSPF interface.

Request

Method Type	PUT
Request URI	nos/api/cfg/ospf/interface/<ifname>/<vrf_name>
Request Body (JSON)	<pre>{ "if_name": "<if_name>", "ospf_status": "<ospf_status>", "if_area_id": "<if_area_id>", "if_mtu": <if_mtu>, "if_network_type": "<if_network_type>", "if_output_cost": "<if_output_cost>", "if_transmit_delay": "<if_transmit_delay>", "priority": "<priority>", "hello_interval": "<hello_interval>", "dead_interval": "<dead_interval>", "retransmit_interval": "<retransmit_interval>", "if_mtu_ignore": "<if_mtu_ignore>", "passive_interface": "<passive_interface>", "if_bfd": "<if_bfd>", "db_filter_all_out": "<db_filter_all_out>", "auth_type": "<auth_type>", "auth_key": "<auth_key>", "key_id": "<key_id>", "md5 ": "<md5_password>", or "sha256": "<sha256_password>", "set_to_default": [set_to_default], "key_remove_with_key_id": "<key_remove_with_key_id>" }</pre>

where:

Parameter	Description
<i>vrf_name</i>	(Optional) Default VRF name (string). Default value: "default".
<i>if_name</i>	The interface name (string). For example: "Ethernet1/X", "VLAN interface".
<i>ospf_status</i>	The status of the OSPF protocol (string). Valid values: "Up", "Down".
<i>if_area_id</i>	The area-ID (string). A valid IP address.
<i>if_mtu</i>	The MTU size. An integer from 576-65535.
<i>if_network_type</i>	The network type (string). Valid values: "Broadcast", "Point-to-Point".
<i>if_output_cost</i>	Interface output cost. A positive integer from 1-65535.

Parameter	Description
if_transmit_delay	The interface transmit delay, in seconds. An integer from 1-3600.
priority	The router priority. An integer from 0-255.
hello_interval	The hello interval, in seconds. An integer from 1-65535.
dead_interval	The dead interval, in seconds. An integer from 1-65535.
retransmit_interval	The retransmit interval, in seconds. An integer from 1-65535.
auth_type	The type of authentication (string). Valid values: "message-digest", "simple", "null".
auth_key	The key of authentication.
key_id	The Key-ID, if the authentication type is MD5/SHA256. An integer from 1-255.
if_mtu_ignore	The maximum transmission unit status (string). Valid values: "Enable", "Disable".
passive_interface	The passive interface status (string). Valid values: "Enable", "Disable".
if_bfd	The BDF status (string). Valid values: "Enable", "Disable".
db_filter_all_out	Database filter all out (string). Valid values: "Enable", "Disable".
md5/sha256	The password.
set_to_default	The list of keys for which the configuration is set to the default settings: <ul style="list-style-type: none"> ● auth_key ● auth_type ● hello_interval ● dead_interval ● if_transmit_delay ● retransmit_interval ● if_output_cost, priority ● if_mtu
key_remove_with_key_id	The MD5 or SHA Key ID to be removed. An integer from 1-256.

Response

Response Body (JSON)	<pre> { "if_name": "<ip_name>", "vrf_name": "<vrf_name>", "ospf_id": "<ospf_id>", "ospf_status": "<ospf_status>", "if_addr": "<if_addr>", "if_area_id": "<if_area_id>", "if_mtu": "<if_mtu>", "router_id": "<router_id>", "if_network_type": "<if_network_type>", "if_output_cost": "<if_output_cost>", "if_transmit_delay": "<if_transmit_delay>", "priority": "<priority>", "if_state": "<if_state>", "designated_router": "<designated_router>", "designated_router_addr": "<designated_router_addr>", "backup_designated_router": "<backup_designated_router>", "backup_designated_router_addr": "< backup_designated_router_addr>", "hello_interval": "<hello_interval>", "dead_interval": "<dead_interval>", "retransmit_interval": "<retransmit_interval>", "if_hello_timer": "<if_hello_timer>", "neighbor_count": "<neighbor_count>", "adj_neighbor_count": "<adj_neighbor_count>", "hello_in": "<hello_in>", "hello_out": "<hello_out>", "ls_req_in": "<ls_req_in>", "ls_req_out": "<ls_req_out>", "ls_upd_in": "<ls_upd_in>", "ls_upd_out": "<ls_upd_out>", "ls_ack_in": "<ls_ack_in>", "ls_ack_out": "<ls_ack_out>", "db_desc_in": "<db_desc_in>", "db_desc_out": "<db_desc_out>", "discarded": "<discarded>", "if_mtu_ignore": "<if_mtu_ignore>", "passive_interface": "<passive_interface>", "if_bfd": "<if_bfd>", "db_filter_all_out": "<db_filter_all_out>", "auth_type": "<auth_type>", "key_id": "<key_id>" } </pre>
-------------------------	--

where:

Parameter	Description
if_name	The interface name (string). For example: "Ethernet1/X", "VLAN interface".
vrf_name	Default VRF name (string). Default value: "default".
ospf_id	OSPF process identifier (integer). Default value: 0.
ospf_status	The status of the OSPF protocol (string). Valid values: "Up", "Down".

Parameter	Description
if_addr	The IP address or mask (string). A valid IP address or mask.
if_area_id	The area-ID (string). A valid IP address.
if_mtu	The maximum transmission unit. A positive integer from 576-65535.
router_id	The router-ID in IP address format (string). A valid IP address.
if_network_type	The network type (string). Valid values: "Broadcast", "Point-to-Point".
if_output_cost	Interface output cost. A positive integer from 1-65535.
if_transmit_delay	The interface transmit delay, in seconds. An integer from 1-3600.
priority	The router priority. An integer from 0-255.
if_state	The operation state of the interface (string). Valid values: "DR", "Backup", "DROther".
designated_router	Designated Router-ID (string). A valid IP address.
designated_router_addr	The IP address for the designated router (string).
backup_designated_router	The backup Router-ID for the designated router (string). A valid IP address.
backup_designated_router_addr	The backup Router-ID for the designated router (string).
hello_interval	The hello interval, in seconds. An integer from 1-65535.
dead_interval	The dead interval, in seconds. An integer from 1-65535.
retransmit_interval	The retransmit interval, in seconds. An integer from 1-65535.
if_hello_timer	The hello interval timer expiration time (string).
neighbor_count	The neighbor count. A positive integer.
adj_neighbor_count	The adjacent neighbors count. A positive integer.
hello_in	Number of total hello packets in. A positive integer.
hello_out	Number of total hello packets out. A positive integer.
ls_req_in	Number of total LS Request packets in. A positive integer.

Parameter	Description
ls_req_out	Number of total LS Request packets out. A positive integer.
ls_upd_in	Number of total LS Update packets in. A positive integer.
ls_upd_out	Number of total LS Update packets out. A positive integer.
ls_ack_in	Number of total LS ACK packets in. A positive integer.
ls_ack_out	Number of total LS ACK packets out. A positive integer.
db_desc_in	Number of total DB Descriptors packets in. A positive integer.
db_desc_out	Number of total DB Descriptors packets out. A positive integer.
discarded	Number of total discarded packets. A positive integer.
auth_type	The type of authentication (string). Valid values: "message-digest", "simple", "null".
key_id	The Key-ID, if the authentication type is MD5/SHA256. An integer from 1-255.
if_mtu_ignore	The maximum transmission unit status (string). Valid values: "Enable", "Disable".
passive_interface	The passive interface status (string). Valid values: "Enable", "Disable".
if_bfd	The BFD status (string). Valid values: "Enable", "Disable".
db_filter_all_out	Database filter all out (string). Valid values: "Enable", "Disable".

Get OSPF Virtual Links

Gets the OSPF virtual-links.

Request

Method Type	GET
Request URI	/nos/api/cfg/ospf/virtual-link/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>vrf_name</i>	(Optional) Default VRF name (string). Default value: "default".

Response

Response Body (JSON)	<pre>[{ "vrf_name": "<vrf_name>", "vlink_name": "<vlink_name>", "nbr_router_id": "<nbr_router_id>", "ifp_name": "<ifp_name>", "local_address": "<local_address>", "remote_address": "<remote_address>", "transit_area": "<transit_area>", "transmit_delay": "<transmit_delay>", "vlink_state": "<vlink_state>", "hello_interval": "<hello_interval>", "dead_interval": "<dead_interval>", "wait_interval": "<wait_interval>", "retransmit_interval": "<retransmit_interval>", "hello_due": "<hello_due>", "adjacency_state": "<adjacency_state>", "authentication_type": "<authentication_type>", "key_id": "<key_id>" }]</pre>
-------------------------	---

where:

Parameter	Description
<i>vrf_name</i>	Default VRF name (string). Default value: "default".
<i>vlink_name</i>	The virtual-link name (string).
<i>nbr_router_id</i>	The neighbor router ID (string). A valid IP address.

Parameter	Description
ifp_name	The interface name (string). For example: "Ethernet1/X", "VLAN interface".
local_address	The local interface IP address (string). A valid IP address.
remote_address	The remote interface IP address (string). A valid IP address.
transit_area	The transit area-ID (string). A valid IP address.
transmit_delay	The transmission delay interval, in seconds. An integer from 1-3600.
vlink_state	The Virtual Link status (string). Valid valeus: "Up", "Down".
hello_interval	The hello interval, in seconds. An integer from 1-65535.
dead_interval	The dead interval, in seconds. An integer from 1-65535.
wait_interval	The wait interval, in seconds. An integer from 1-65535.
retransmit_interval	The retransmit interval, in seconds. An integer from 1-65535.
hello_due	The due time to send the next hello (string).
adjacency_state	The adjacency state across the virtual-link (string).
authentication_type	The type of authentication (string). Valid values: "message-digest", "simple", "null".
key_id	The Key-ID, if the authentication type is MD5/SHA256. An integer from 1-255.

Set OSPF Virtual Links

Sets the OSPF virtual-links.

Request

Method Type	PUT
Request URI	/nos/api/cfg/ospf/virtual-link/<vrf_name>
Request Body (JSON)	<pre>{ "vlink_name": "<vlink_name>", "area_id": "<area_id>", "nbr_router_id": "<nbr_router_id>", "virtual_link_disable": "< virtual_link_disable>", "hello_interval": <hello_interval>, "dead_interval": <dead_interval>, "retransmit_interval": < retransmit_interval>, "transmit_delay": <transmit_delay> "auth_type": "<auth_type>", "auth_key": "<auth_key>", "key_id": "<key_id>", "md5": "<md5_password>", or "sha256": "<sha256_password>", "bfd": "<bfd>", "set_to_default": [set_to_default], "key_remove_with_key_id": "<key_remove_with_key_id>" }</pre>

where:

Parameter	Description
<i>vrf_name</i>	(Optional) Default VRF name (string). Default value: "default".
vlink_name	The virtual-link name (string).
area_id	The area-ID (string). A valid IP address.
nbr_router_id	The neighbor router ID (string). A valid IP address.
transmit_delay	The transmission delay interval, in seconds. An integer from 1-3600.
virtual_link_disable	The Virtual Link status (string). Valid values: "Yes", "No".
hello_interval	The hello interval, in seconds. An integer from 1-65535.
dead_interval	The dead interval, in seconds. An integer from 1-65535.
retransmit_interval	The retransmit interval, in seconds. An integer from 1-65535.

Parameter	Description
bfd	The BFD status (string). Valid values: "Enable", "Disable".
auth_type	The type of authentication (string). Valid values: "message-digest", "simple", "null".
auth_key	The authentication key (string).
key_id	The Key-ID, if the authentication type is MD5/SHA256. An integer from 1-255.
md5/sha256	The password for Message-digest Authentication.
set_to_default	The list of keys to set to default settings. Valid values: <ul style="list-style-type: none"> • auth_key • auth_type • hello_interval • dead_interval • transmit_delay • retransmit_interval
key_remove_with_key_id	The md5 key ID to remove.

Response

Response Body (JSON)	<pre>[{ "vrf_name": "<vrf_name>", "vlink_name": "<vlink_name>", "nbr_router_id": "<nbr_router_id>", "ifp_name": "<ifp_name>", "local_address": "<local_address>", "remote_address": "<remote_address>", "transit_area": "<transit_area>", "transmit_delay": "<transmit_delay>", "vlink_state": "<vlink_state>", "hello_interval": "<hello_interval>", "dead_interval": "<dead_interval>", "wait_interval": "<wait_interval>", "retransmit_interval": "<retransmit_interval>", "hello_due": "<hello_due>", "adjacency_state": "<adjacency_state>", "authentication_type": "<authentication_type>", "key_id": "<key_id>" }]</pre>
-------------------------	---

where:

Parameter	Description
vrf_name	Default VRF name (string). Default value: "default".
vlink_name	The virtual-link name (string).
nbr_router_id	The neighbor router ID (string). A valid IP address.
ifp_name	The interface name (string). For example: "Ethernet1/X", "VLAN interface".
local_address	The local interface IP address (string). A valid IP address.
remote_address	The remote interface IP address (string). A valid IP address.
transit_area	The transit area-ID (string). A valid IP address.
transmit_delay	The transmission delay interval, in seconds. An integer from 1-3600.
vlink_state	The Virtual Link status (string). Valid values: one of "Up", "Down".
hello_interval	The hello interval, in seconds. An integer from 1-65535.
dead_interval	The dead interval, in seconds. An integer from 1-65535.
wait_interval	The wait interval, in seconds. An integer from 1-65535.
retransmit_interval	The retransmit interval, in seconds. An integer from 1-65535.
hello_due	The due time to send the next hello (string).
adjacency_state	The adjacency state across the virtual-link (string).
authentication_type	The type of authentication (string). Valid values: "message-digest", "simple", "null".
key_id	The Key-ID, if the authentication type is MD5/SHA256. An integer from 1-255.

Get OSPF Process

Gets the OSPF process information.

Request

Method Type	GET
Request URI	/nos/api/cfg/ospf/interface/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>vrf_name</i>	(Optional) Default VRF name (string). Default value: "default".

Response

Response Body (JSON)	<pre>[{ "ospfId": "<ospfId>", "routerId": "<routerId>", "upTime": "<upTime>", "vrfName": "<vrfName>", "vrfFlags": "<vrfFlags>", "abrType": "<abrType>", "spfStartDelaySec": "<spfStartDelaySec>", "spfStartDelayUsec": "<spfStartDelayUsec>", "spfMinDelaySec": "<spfMinDelaySec>", "spfMinDelayUsec": "<spfMinDelayUsec>", "spfMaxDelaySec": "<spfMaxDelaySec>", "lsdbCount": "<lsdbCount>", "lsdbChecksum": "<lsdbChecksum>", "originateNewLsas": "<originateNewLsas>", "rxNewLsas": "<rxNewLsas>", "distance_all": "<distance_all>", "distance_intra": "<distance_intra>", "distance_inter": "<distance_inter>", "distance_external": "<distance_external>", "area_info": [{ "auth_type": "<auth_type>", "mode": "<mode>", "area_id": "<area_id>", "area_flags": "<area_flags>", "area_type": "<area_type>", "active_if_count": "<active_if_count>", "full_virt_nbr_count": "<full_virt_nbr_count>", "full_nbr_count": "<full_nbr_count>", "spf_calc_count": "<spf_calc_count>", "area_lsdb_count": "<area_lsdb_count>", "area_lsdb_checksum": "<area_lsdb_checksum>" }] }]</pre>
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where:

Parameter	Description
ospfId	The OSPF process identifier (integer). Default value: 0.
routerId	Router-ID in IP address format (string). A valid IP address.
uptime	The OSPF process uptime. A string in the following format: "HH:MM:SS".
vrfName	Default VRF name (string). Default value: "default".
vrfFlags	The VRF flag. A positive value.

Parameter	Description
abrType	The ABR type (integer). Displays the valid ABR types.
spfStartDelaySec	The SPF schedule start delay, in seconds. An integer from 0-600.
spfStartDelayUsec	The SPF schedule start delay, in microseconds. An integer from 0-1000.
spfMinDelaySec	The minimum SPF schedule delay time. An integer from 1-600.
spfMinDelayUsec	The minimum SPF schedule delay time, in microseconds. An integer from 1-1000.
lsdbCount	The number of external LSAs. Zero or a positive integer.
lsdbChecksum	LAS checksum value (integer).
lsdbOverflow	The number of LSAs exceeding the limit. Zero or a positive integer.
originateNewLsas	The number of new originated LSAs. Zero or a positive integer.
rxNewLsas	The number of new LSAs received. Zero or a positive integer.
distance_all	The distance to all destinations. Zero or a positive integer.
distance_intra	The distance to intra-area destinations. Zero or a positive integer.
distance_inter	The distance to inter-area destinations. Zero or a positive integer.
distance_external	The distance to external destinations. Zero or a positive integer.
auth_type	The type of authentication (string). Valid values: "null", "zero", "cryptographic".
mode	The IS area shortcut. Valid values: "shortcut", "none".
area_id	The area-ID. An integer from 0-4294967295.
area_flags	The area flag. A positive value.
area_type	The area type (string). Valid values: "default", "stub", "nssa".
active_if_count	The number of active interfaces in an area. Zero or a positive integer.

Parameter	Description
area_if_count	The number of interfaces in an area. Zero or a positive integer.
full_virt_nbr_count	Virtual neighbors count. Zero or a positive integer.
full_nbr_count	Total number of neighbors. Zero or a positive integer.
spf_calc_count	The number of SPF calculations. Zero or a positive integer.
area_lsdb_count	The number of LSAs in the area. Zero or a positive integer.
area_lsdb_checksum	The valid checksum of the link state database. A positive integer.

Get OSPF Multi-Area Neighbor

Gets the OSPF multi-area neighbor information.

Request

Method Type	GET
Request URI	/nos/api/info/ospf/multiarea-neighbors/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>vrf_name</i>	(Optional) Default VRF name (string). Default value: "default".

Response

Response Body (JSON)	<pre>[{ "ifname": "<ifname>", "nbr_addr": "<nbr_addr>", "type": "<type>", "ifIpAddress": "<ifIpAddress>", "ifAreaId": "<ifAreaId>", "ifMTU": "<ifMTU>", "proc_id": "<proc_id>", "ifRouterId": "<ifRouterId>", "ifTransmitDelay": "<ifTransmitDelay>", "ifNetworkType": "<ifNetworkType>", "if_output_cost": "<if_output_cost>", "d_router": "<d_router>", "D_router_address": "<D_router_address>", "Bd_router": "<Bd_router>", "Bd_router_address": "<Bd_router_address>", "hello_interval": "<hello_interval>", "dead_interval": "<dead_interval>", "retransmit_interval": "<retransmit_interval>", "neighbor_count": "<neighbor_count>" }]</pre>
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where:

Parameter	Description
<i>ifName</i>	The interface name (string). For example: "Ethernet1/X", "VLAN interface".
<i>nbr_addr</i>	Neighbor IP address (string). A valid IP address.

Parameter	Description
type	The area type (string). Valid values: "default", "stub", "nssa".
ifIpAddress	The interface IP address (string). A valid IP address.
ifAreaId	The interface area-ID. An integer from 0-4294967295.
ifMTU	The maximum transmission unit (integer).
proc_id	The OSPF process identifier (integer). Default value: 0.
ifRouterId	The router-ID in IP address format (string). A valid IP address.
ifNetworkType	The interface network type (string). Default value: "Point-to-Point".
if_output_cost	Interface output cost. Zero or a positive integer.
if_transmit_delay	The interface transmit delay, in seconds (integer).
transmit_if_state	The interface state type (integer).
d_router	Designated Router-ID (string). A valid IP address.
D_router_address	The IP address for the designated router (string).
Bd_router	The backup Router-ID for the designated router (string). A valid IP address.
Bd_router_address	The backup address for the designated router. (string).
Hello_interval	The hello interval, in seconds (integer).
Dead_interval	The dead interval, in seconds (integer).
retransmit_interval	The retransmit interval, in seconds (integer).
neighbor_count	The number of multi-area adjacent neighbors (integer).

Get OSPF RIB Counters

Gets the OSPF RIB counters information.

Request

Method Type	GET
Request URI	/nos/api/info/ospf/ribcounter/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>vrf_name</i>	(Optional) Default VRF name (string). Default value: "default".

Response

Response Body (JSON)	[{ "ospf2rib_route_add": "<ospf2rib_route_add>", "ospf2rib_route_add_error": "<ospf2rib_route_add_error>", "ospf2rib_route_delete": "<ospf2rib_route_delete>", "ospf2rib_route_delete_error": "<ospf2rib_route_delete_error>", "ospf_route_adds": "<ospf_route_adds>", "ospf_route_dels": "<ospf_route_dels >", "ospf_route_adds_ignored": "<ospf_route_adds_ignored >", "ospf_route_dels_ignored": "<ospf_route_dels_ignored >", "rib2ospf_route_add": "<rib2ospf_route_add >", "rib2ospf_route_add_error": "<rib2ospf_route_add_error>", "rib2ospf_route_del": "<rib2ospf_route_del>", "rib2ospf_route_del_error": "<rib2ospf_route_del_error>", }]
-------------------------	--

where:

Parameter	Description
ospf2rib_route_add	The OSPF route addition calls made to RIB (integer).
ospf2rib_route_add_error	The OSPF to RIB route addition call errors (integer).
ospf2rib_route_delete	The OSPF to RIB route deletion calls (integer).
ospf2rib_route_delete_error	The OSPF to RIB route deletion call errors (integer).
ospf2rib_route_add	The OSPF route addition calls (integer).
ospf2rib_route_dels	The OSPF route deleted calls (integer).

Parameter	Description
ospf_route_adds	The OSPF route addition calls (integer).
ospf_route_dels	The OSPF route deleted calls (integer).
ospf_route_adds_ignored	The OSPF ignored route addition calls (integer).
ospf_route_dels_ignored	The OSPF ignored route deleted calls (integer).
rib2ospf_route_add	The number of route additional calls from RIB to OSPF (integer).
rib2ospf_route_add_error	The number of route additional call errors from RIB to OSPF (integer).
rib2ospf_route_del	The number of route deleted calls from RIB to OSPF (integer).
rib2ospf_route_del_error	The number of route deleted call errors from RIB to OSPF (integer).

Set OSPF Process

Updates the OSPF process information.

Request

Method Type	PUT
Request URI	/nos/api/cfg/ospf/process/
Request Body (JSON)	{ "routerId": "<routerId>", "defaultMetric": "<defaultMetric>", "distance_all": "<distance_all>", "bfd": "<bfd>", "shutdown": "<shutdown>" }

where:

Parameter	Description
routerId	The OPSF router-ID in IP address format (string). A valid IP address.
defaultMetric	The default metric cost. An integer from 1-16777214.
distance_all	The administrative distance. An integer from 1-255.
bfd	Whether to enable BFD configuration (string). Valid values: "Enable", "Disable".
shutdown	Whether to enable the shutdown OSPF process (string). Valid values: "Enable", "Disable".

Response

Response Body (JSON)	<pre> { "ospfId": "<ospfId>", "routerId": "<routerId>", "upTime": "<upTime>", "vrfName": "<vrfName>", "adminFlags": "<adminFlags>", "configFlags": "<configFlags>", "abrType": "<abrType>", "spfStartDelaySec": "<spfStartDelaySec>", "spfStartDelayUsec": "<spfStartDelayUsec>", "spfMinDelaySec": "<spfMinDelaySec>", "spfMinDelayUsec": "<spfMinDelayUsec>", "spfMaxDelaySec": "<spfMaxDelaySec>", "lsdbCount": "<lsdbCount>", "lsdbChecksum": "<lsdbChecksum>", "originateNewLsas": "<originateNewLsas>", "rxNewLsas": "<rxNewLsas>", "distance_all": "<distance_all>", "distance_intra": "<distance_intra>", "distance_inter": "<distance_inter>", "distance_external": "<distance_external>", "area_info": [{ "auth_type": "<auth_type>", "mode": "<mode>", "area_id": "<area_id>", "area_flags": "<area_flags>", "area_type": "<area_type>", "active_if_count": "<active_if_count>", "full_virt_nbr_count": "<full_virt_nbr_count>", "full_nbr_count": "<full_nbr_count>", "spf_calc_count": "<spf_calc_count>", "area_lsdb_count": "<area_lsdb_count>", "area_lsdb_checksum": "<area_lsdb_checksum>", }] } </pre>
-------------------------	---

where:

Parameter	Description
ospfId	OSPF process ID. Default value: 0.
routerId	The router ID. A valid IP address.
upTime	OSPF process uptime. A string in the following format: "hh:mm:ss".
vrfName	The VRF name. A valid IP address.
adminFlag	Administrative Flags. A positive number.
configFlag	Configuration flags. A positive number.
vrf flags	VRF flags. A positive number.
abrType	Area Border Router type (string).

Parameter	Description
spfStartDelaySec	SPF schedule start delay. The delay value, in seconds.
spfStartDelayUsec	SPF schedule start delay. The delay value, in microseconds.
spfMinDelayMinSec	The minimum SPF schedule delay time. The delay value, in seconds.
spfMinDelayMinUsec	The minimum SPF schedule delay time in microseconds. The delay value, in microseconds.
lsdbCount	Number of as-external-LSAs. Zero, or a positive number.
lsdbChecksum	The Checksum value. A valid checksum value.
lsdbOverflow	Number of LSAs exceeding limit value. Zero, or a positive number.
originateNewLsas	Number of new LSAs originated. Zero, or a positive number.
rxNewLsas	Number of new LSAs received. Zero, or a positive number.
distance_all	Distances of all destinations. Zero, or a positive number.
distance_intra	Distance of intra-area destinations. Zero, or a positive number.
distance_inter	Distance of inter-area destinations. Zero, or a positive number.
distance_external	Distance of external destinations. Zero, or a positive number.
auth_type	Authentication type (string). Valid values: "null", "zero", "cryptographic".
mode is	Area configured as shortcut (string). Valid values: "shortcut mode", "none".
area_id	The Area ID. Zero or a positive number.
area_type	Type of area (string). Valid values: "default", "stub", "nssa".
active_if_count	Active interfaces in an area. Zero, or a positive number.
area_if_count	Number of interfaces in an area. Zero, or a positive number.
full_virt_nbr_count	Count of virtual neighbors. Zero, or a positive number.
full_nbr_count	Number of neighbors. Zero, or a positive number.

Parameter	Description
spf_calc_count	Number of SPF calculations. Zero, or a positive number.
area_lsdb_count	Number of LSAs in link state database. Zero, or a positive number.
area_lsdb_checksum	Checksum of link state database. A positive number.

Get OSPF Redistribute

Gets the OSPF redistribution.

Request

Method Type	GET
Request URI	/nos/api/cfg/ospf/redistribute
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "vrfName": "<vrfName>", "redist_direct": "<redist_direct>", "direct_metric": "<direct_metric>", "direct_metric_type": "<direct_metric_type>", "direct_tag": "<direct_tag>", "direct_rmap_name": "<direct_rmap_name>", "redist_bgp": "<redist_bgp>", "bgp_metric": "<bgp_metric>", "bgp_metric_type": "<bgp_metric>", "bgp_tag": "<bgp_tag>", "bgp_rmap_name": "<bgp_rmap_name>", "redist_static": "<redist_static>", "static_metric": "<static_metric>", "static_metric_type": "<static_metric_type>", "static_tag": "<static_tag>", "static_rmap_name": "<static_rmap_name>" }</pre>
-------------------------	--

where:

Parameter	Description
vrf_name	(Optional) Default VRF name (string). Default value: "default".
redist_direct	Redistribute the direct configuration (string). Valid values: "Enable", "Disable".
direct_metric	Redistribute the direct cost. An integer from 0-16777214.
direct_metric_type	The external metric type (integer). Valid values: 1,2.
direct_tag	The tag value. An integer from 0-4294967295.
direct_rmap_name	The route-map name (string).
redist_bgp	Whether redistribute BGP is enabled (string). Valid values: "Enable", "Disable".

Parameter	Description
bgp_metric	Redistribute BGP cost. An integer from 0-16777214.
bgp_metric_type	The external metric type (integer). Valid values: 1,2.
bgp_tag	The BGP tag value. An integer from 0-4294967295.
bgp_rmap_name	The BGP route map name (string).
redist_static	Whether redistribute static is enabled (string). Valid values: "Enable", "Disable".
static_metric	Redistribute static cost. An integer from 0-16777214.
static_metric_type	The external metric type (integer). Valid values: 1,2.
static_tag	The tag value. An integer from 0-4294967295.
static_rmap_name	The static route map name (string).

Set OSPF Redistribute

Updates the OSPF redistribution.

Request

Method Type	PUT
Request URI	/nos/api/cfg/ospf/redistribute/<vrf_name>
Request Body (JSON)	{ "redist_direct": "<redist_direct>", "direct_metric": "<direct_metric>", "direct_metric_type": "<direct_metric_type>", "direct_tag": "<direct_tag>", "direct_rmap_name": "<direct_rmap_name>", "redist_bgp": "<redist_bgp>", "bgp_metric": "<bgp_metric>", "bgp_metric_type": "<bgp_metric>", "bgp_tag": " "<bgp_tag>", "bgp_rmap_name": "<bgp_rmap_name>", "redist_static": "<redist_static>", "static_metric": "<static_metric>", "static_metric_type": "<static_metric_type>", "static_tag": "<static_tag>", "static_rmap_name": "<static_rmap_name>" }

where:

Parameter	Description
<i>vrf_name</i>	(Optional) Default VRF name (string). Default value: "default".
redist_direct	Redistribute the direct configuration (string). Valid values: "Enable", "Disable".
direct_metric	Redistribute the direct cost. An integer from 0-16777214.
direct_metric_type	The external metric type (integer). Valid values: 1,2.
direct_tag	The tag value. An integer from 0-4294967295.
direct_rmap_name	The route-map name (string).
redist_bgp	Whether redistribute BGP is enabled (string). Valid values: "Enable", "Disable".
bgp_metric	Redistribute BGP cost. An integer from 0-16777214.
bgp_metric_type	The external metric type (integer). Valid values: 1,2.
bgp_tag	The BGP tag value. An integer from 0-4294967295.

Parameter	Description
bgp_rmap_name	The BGP route map name (string).
redist_static	Whether redistribute static is enabled (string). Valid values: "Enable", "Disable".
static_metric	Redistribute static cost. An integer from 0-16777214.
static_metric_type	The external metric type (integer). Valid values: 1,2.
static_tag	The tag value. An integer from 0-4294967295.
static_rmap_name	The static route map name (string).

Response

Response Body (JSON)	<pre>{ "vrfName": "<vrfName>", "redist_direct": "<redist_direct>", "direct_metric": "<direct_metric>", "direct_metric_type": "<direct_metric_type>", "direct_tag": "<direct_tag>", "direct_rmap_name": "<direct_rmap_name>", "redist_bgp": "<redist_bgp>", "bgp_metric": "<bgp_metric>", "bgp_metric_type": "<bgp_metric>", "bgp_tag": "<bgp_tag>", "bgp_rmap_name": "<bgp_rmap_name>", "redist_static": "<redist_static>", "static_metric": "<static_metric>", "static_metric_type": "<static_metric_type>", "static_tag": "<static_tag>", "static_rmap_name": "<static_rmap_name>" }</pre>
-------------------------	--

where:

Parameter	Description
vrf_name	(Optional) Default VRF name (string). Default value: "default".
redist_direct	Redistribute the direct configuration (string). Valid values: "Enable", "Disable".
direct_metric	Redistribute the direct cost. An integer from 0-16777214.
direct_metric_type	The external metric type (integer). Valid values:1,2.
direct_tag	The tag value. An integer from 0-4294967295.
direct_rmap_name	The route-map name (string).

Parameter	Description
redist_bgp	Whether redistribute BGP is enabled (string). Valid values: "Enable", "Disable".
bgp_metric	Redistribute BGP cost. An integer from 0-16777214.
bgp_metric_type	The external metric type (integer). Valid values:1,2.
bgp_tag	The BGP tag value. An integer from 0-4294967295.
bgp_rmap_name	The BGP route map name (string).
redist_static	Whether redistribute static is enabled (string). Valid values: "Enable", "Disable".
static_metric	Redistribute static cost. An integer from 0-16777214.
static_metric_type	The external metric type (integer). Valid values:1,2.
static_tag	The tag value. An integer from 0-4294967295.
static_rmap_name	The static route map name (string).

Get OSPF NSSA Area

Gets the OSPF nssa area configuration.

Request

Method Type	GET
Request URI	/nos/api/cfg/ospf/nssa/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>vrf_name</i>	(Optional) Default VRF name (string). Default value: "default".

Response

Response Body (JSON)	<pre>{ "nssa_area": "<nssa_area>", "nssa_area_id": "<nssa_area_id>", "nssa_def_info": "<nssa_def_info>", "nssa_def_metric": "<nssa_def_metric>", "nssa_def_metric_type": "<nssa_def_metric_type>", "nssa_no_redist": "<nssa_no_redist>", "nssa_no_summary": "<nssa_no_summary>", "nssa_translate_always": "<nssa_translate_always>", "nssa_stability_interval": "<nssa_stability_interval>" }</pre>
-------------------------	---

where:

Parameter	Description
nssa_area	The NSSA area configuration (string). Valid values: "Enable", "Disable".
nssa_area_id	The NSSA area ID IP address (string). A valid IP address.
nssa_def_info	The NSSA default information originate configuration (string). Valid values: "Enable", "Disable".
nssa_def_metric	The NSSA default metric. An integer from 0-16777214.
nssa_def_metric_type	The NSSA external metric type (integer). Valid values: 1,2.

Parameter	Description
nssa_no_redist	Whether to stop redistribution in the NSSA area (string). Valid values: "Enable", "Disable".
nssa_no_summary	Whether to stop summary LSAs into the NSSA area (string). Valid values: "Enable", "Disable".
nssa_translate_always	Always translate type7 LSA (string). Valid values: "Enable", "Disable".
nssa_stability_interval	The NSSA stability interval. An integer from 0-2147483647.

Set OSPF NSSA Area

Updates the OSPF nssa area configuration.

Request

Method Type	PUT
Request URI	/nos/api/cfg/ospf/nssa/<vrf_name>
Request Body (JSON)	<pre>{ "vrfName": "<vrfName>" "nssa_area": "<nssa_area>", "nssa_area_id": "<nssa_area_id>", "nssa_def_info": "<nssa_def_info>", "nssa_def_metric": "<nssa_def_metric>", "nssa_def_metric_type": "<nssa_def_metric_type>", "nssa_no_redist": "<nssa_no_redist>", "nssa_no_summary": "<nssa_no_summary>", "nssa_translate_always": "<nssa_translate_always>", "nssa_stability_interval": "<nssa_stability_interval>" }</pre>

where:

Parameter	Description
vrf_name	(Optional) Default VRF name (string). Default value: "default".
nssa_area	The NSSA area configuration (string). Valid values: "Enable", "Disable".
nssa_area_id	The NSSA area ID IP address (string). A valid IP address.
nssa_def_info	The NSSA default information originate configuration (string). Valid values: "Enable", "Disable".
nssa_def_metric	The NSSA default metric. An integer from 0-16777214.
nssa_def_metric_type	The NSSA external metric type (integer). Valid values: 1,2.
nssa_no_redist	Whether to stop redistribution in the NSSA area (string). Valid values: "Enable", "Disable".
nssa_no_summary	Whether to stop summary LSAs into the NSSA area (string). Valid values: "Enable", "Disable".

Parameter	Description
nssa_translate_always	Always translate type7 LSA (string). Valid values: "Enable", "Disable".
nssa_stability_interval	The NSSA stability interval. An integer from 0-2147483647.

Response

Response Body (JSON)	<pre>{ "nssa_area": "<nssa_area>", "nssa_area_id": "<nssa_area_id>", "nssa_def_info": "<nssa_def_info>", "nssa_def_metric": "<nssa_def_metric>", "nssa_def_metric_type": "<nssa_def_metric_type>", "nssa_no_redist": "<nssa_no_redist>", "nssa_no_summary": "<nssa_no_summary>", "nssa_translate_always": "<nssa_translate_always>", "nssa_stability_interval": "<nssa_stability_interval>" }</pre>
-------------------------	---

where:

Parameter	Description
nssa_area	The NSSA area configuration (string). Valid values: "Enable", "Disable".
nssa_area_id	The NSSA area ID IP address (string). A valid IP address.
nssa_def_info	The NSSA default information originate configuration (string). Valid values: "Enable", "Disable".
nssa_def_metric	The NSSA default metric. An integer from 0-16777214.
nssa_def_metric_type	The NSSA external metric type (integer). Valid values: 1,2.
nssa_no_redist	Whether to stop redistribution in the NSSA area (string). Valid values: "Enable", "Disable".
nssa_no_summary	Whether to stop summary LSAs into the NSSA area (string). Valid values: "Enable", "Disable".
nssa_translate_always	Always translate type7 LSA (string). Valid values: "Enable", "Disable".
nssa_stability_interval	The NSSA stability interval. An integer from 0-2147483647.

Set OSPF Default Cost

Gets the OSPF database.

Request

Method Type	PUT
Request URI	/nos/api/cfg/ospf/area_def_cost
Request Body (JSON)	<pre>{ "vrfName": "<vrfName>", "area_id": "<area_id>", "state": "<state>", "default-cost": "<default-cost>" }</pre>

where:

Parameter	Description
vrf_name	Default VRF name (string). Default value: "default".
area_id	The area ID IP address (string). A valid IP address.
state	Whether the default cost is enabled (string). Valid values: "Enable", "Disable".
default_cost	The default summary cost value. An integer from 0-16777214.

Response

Response Body (JSON)	
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Set Area Authentication

Updates the OSPF area authentication.

Request

Method Type	PUT
Request URI	/nos/api/cfg/ospf/area_auth/<vrf_name>
Request Body (JSON)	{ "vrfName": "<vrfName>", "area_id": "<area_id>", "auth": "auth", "message-digest": "<message-digest>" }

where:

Parameter	Description
vrf_name	Default VRF name (string). Default value: "default".
area_id	The area ID IP address (string). A valid IP address.
auth	The authentication configuration (string). Valid values: "Enable", "Disable".

Response

Response Body (JSON)	
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Set OSPF Summary Address

Gets the OSPF summary address.

Request

Method Type	PUT
Request URI	/nos/api/cfg/ospf/summary_addr/<vrf_name>
Request Body (JSON)	{ "summary_addr": "<summary_addr>", "prefix": "<prefix>", "masklen": "<masklen>", "not-advertise": "<not-advertise>", "tag": "<tag>" }

where:

Parameter	Description
<i>vrf_name</i>	(Optional) Default VRF name (string). Default value: "default".
summary_addr	Whether to enable summary address configuration (string). Valid values: "Enable", "Disable".
prefix	The IP address (string). A valid IP address.
masklen	The mask length. An integer from 0-32.
not-advertise	Whether to suppress routes that match the prefix (string). Valid values: "Enable", "Disable".
tag	The tag value. An integer from 0-4294967295.

Response

Response Body (JSON)	
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Set OSPF Area Range

Sets the OSPF area range addresses.

Request

Method Type	PUT
Request URI	/nos/api/cfg/ospf/range/<vrf_name>
Request Body (JSON)	<pre>{ "area_id": "<area_id>", "range": "<range>", "prefix": "<prefix>", "masklen": "<masklen>", "not-advertise": "<not-advertise>" }</pre>

where:

Parameter	Description
<i>vrf_name</i>	(Optional) Default VRF name (string). Default value: "default".
<i>area_id</i>	The area ID IP address (string). A valid IP address.
<i>range</i>	Whether to enable the range of IP addresses (string). Valid values: "Enable", "Disable".
<i>prefix</i>	The IP address (string). A valid IP address.
<i>mask</i>	The mask length. An integer from 0-32.
<i>not-advertise</i>	Whether to suppress routes that match the prefix (string). Valid values: "Enable", "Disable".

Response

Response Body (JSON)	
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Set OSPF Overflow Database

Updates the database overflow limits.

Request

Method Type	PUT
Request URI	/nos/api/cfg/ospf/overflow_db/<vrf_name>
Request Body (JSON)	{ "db_overflow": "<db_overflow>", "max_lsas": "<max_lsas>", "limit": "<limit>", "external": "<external>", "ext_max_lsas": "<ext_max_lsas>", "recovery_time": "<recovery_time>" }

where:

Parameter	Description
<i>vrf_name</i>	(Optional) Default VRF name (string). Default value: "default".
db_overflow	Whether to enable the database overflow configuration (string). Valid values: "Enable", "Disable".
max_lsas	The maximum LSA limit. An integer from 0-4294967294.
limit	The database limit type (string). Valid values: "hard", "soft".
external	Whether to enable the external LSA limit (string). Valid values: "Enable", "Disable".
ext_max_lsas	The maximum external LSA limit. An integer from 0-2147483647.
recovery_time	The time to recover from the external LSA limit, in seconds. An integer from 0-65535.

Response

Response Body (JSON)	
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Set OSPF Auto-cost Reference Bandwidth

Updates the auto-cost reference bandwidth.

Request

Method Type	PUT
Request URI	/nos/api/cfg/ospf/autocost_refbw/<vrf_name>
Request Body (JSON)	{ "autocost_refbw": "<autocost_refbw>", "bw_value": "<bw_value>", "bw_unit": "<bw_unit>" }

where:

Parameter	Description
<i>vrf_name</i>	(Optional) Default VRF name (string). Default value: "default".
autocost_refbw	Whether to enable the autocost reference bandwidth configuration (string). Valid values: "Enable", "Disable".
bw_value	The bandwidth value. An integer from: <ul style="list-style-type: none">● 1-4294 for Gbps● 1-4294967 for Mbps
bw_unit	The bandwidth unit (string). Valid values: "gbps", "mbps".

Response

Response Body (JSON)	
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Set OSPF Stub Configuration

Updates the stub area configuration.

Request

Method Type	PUT
Request URI	/nos/api/cfg/ospf/stub/<vrf_name>
Request Body (JSON)	{ "area_id": "<area_id>", "stub": "<stub>", "no_summary": "<no_summary>" }

where::

Parameter	Description
<i>vrf_name</i>	(Optional) Default VRF name (string). Default value: "default".
area-id	The area ID IP address (string). A valid IP address.
stub	Whether to enable the stub area configuration (string). Valid values: "Enable", "Disable".
no_summary	Whether to not inject summary routes into the stub configuration (string). Valid values: "Enable", "Disable".

Response

Response Body (JSON)	
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Set OSPF Remove Configuration

Sets the OSPF remove commands.

Request

Method Type	PUT
Request URI	/nos/api/cfg/ospf/clear/<vrf_name>
Request Body (JSON)	{ "process": "<process>", "statistics": "<statistics>", "traffic": "<traffic>", "neighbors": "<neighbors>" }

where:

Parameter	Description
<i>vrf_name</i>	(Optional) Default VRF name (string). Default value: "default".
process	Remove the OSPF process configurations (string). Valid values: "Enable", "Disable".
statistics	Remove the OSPF statistic configurations (string). Valid values: "Enable", "Disable".
traffic	Remove the OSPF process traffic statistic configurations (string). Valid values: "Enable", "Disable".
neighbors	Remove the OSPF neighbor configurations (string). Valid values: "Enable", "Disable".

Response

Response Body (JSON)	
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PBR

The following Policy Based Routing (PBR) URIs are available:

- /nos/api/cfg/pbr GET, POST, DELETE
- /nos/api/cfg/pbr/interface GET, PUT

The following PBR commands are available:

- [Get PBR Status](#)
- [Enable PBR Status](#)
- [Disable PBR Status](#)
- [Get PBR Policy](#)
- [Set PBR Policy](#)

Get PBR Status

Gets the global PBR status.

Request

Method Type	GET
Request URI	nos/api/cfg/pbr
Request Body (JSON)	

Response

Response Body (JSON)	{ "status": "<status>" }
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where:

Parameter	Description
status	The PBR status (string). Valid values: "enable", "disable".

Enable PBR Status

Enables PBR.

Request

Method Type	POST
Request URI	nos/api/cfg/pbr
Request Body (JSON)	

Response

Response Body (JSON)	
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Disable PBR Status

Disables PBR.

Request

Method Type	DELETE
Request URI	nos/api/cfg/pbr
Request Body (JSON)	

Response

Response Body (JSON)	
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Get PBR Policy

Gets the policies applied on various interfaces.

Request

Method Type	GET
Request URI	nos/api/cfg/pbr/interface
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "status": "<status>", "ifname": "<ifname>", "routemap": "<routemap>", "vrf": <vrf> }]</pre>
-------------------------	---

where:

Parameter	Description
status	The policy status (string). Valid values: "active", "inactive".
ifname	The interface name (string). Valid values: "Ethernet", "Vlan".
routemap	The name of the route map for the policy configured for this interface (string).
vrf	The VRF id associated to the interface. An integer from 1-64.

Set PBR Policy

Adds or removes a policy from the specified interface.

Request

Method Type	PUT
Request URI	<code>nos/api/cfg/pbr/interface/<ifType>/<chassisNumber>/<ifNumber>/<ifSubNumber></code>
Request Body (JSON)	<pre>[{ "routemap": "<routemap>", "op": <op> }]</pre>

where:

Parameter	Description
<i>ifType</i>	The interface type (string). Valid values: "ethernet", "vlan".
<i>chassisNumber</i>	The chassis number (integer). Valid value: 1.
<i>ifNumber</i>	The interface number (integer).
<i>ifSubNumber</i>	The interface sub-number (integer). Valid values: 1, 4.
routemap	The route map name (string).
op	The operation type (string). Valid values: "add", "remove".

Response

Response Body (JSON)	
-------------------------	--

PKA

The following Public Key Authentication (PKA) URIs are available:

- /nos/api/cfg/pka GET
- /nos/api/cfg/pka/pub GET, PUT,DELETE

The following PKA commands are available:

- [Get PKA Summary Informations](#)
- [Get PKA Certificate](#)
- [Import PKA Certificate via SFTP](#)
- [Import PKA Certificate Directly](#)
- [Delete PKA Certificate](#)

Get PKA Summary Informations

Gets the PKA summary informations.

Request

Method Type	GET
Request URI	nos/api/cfg/pka
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "pka_number": <pka_number>, "label_name_list": [label_name_list], "pka_username": <pka_username> }]</pre>
-------------------------	---

where:

Parameter	Description
pka_number	The binding public key number for a specific user. An integer from 1-10.
label_name_list	The binding public key label name list for a specific user. A string in the following format: {label_name_list}.
pka_username	The username who binds the public key. An integer up to 28 characters.

Get PKA Certificate

Gets the public key certificate for a specific label name.

Request

Method Type	GET
Request URI	/nos/api/cfg/pka/pub/<pk_username>/<label_name>
Request Body (JSON)	

where:

Parameter	Description
<i>pk_username</i>	The username who binds the public key. An integer up to 28 characters.
<i>label_name</i>	The binding public key label name for a specific user. A string in the following format: {label_name}.

Response

Response Body (JSON)	["ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQDZXSHy1c40U9ByMtHoC2E9K10npyo tac0McTKP/zAXRbGeZT9CU58LPLneRYzkZQ1o6EQs0Hx+0codt6kYf0nqVY s15xRrKPNQYSxUVQYBwKZCigb7LwUPogaiX81h0l20sMxAzbLTx3YydZEt1 SELfzPdjq+FHerycMUy0mmc1azIJc/US1/ZBmvw7K0UdVjwj1DBcQ1ZYdUX YNxKG/+YR3LpdpHkJnsxtDobdw94G3rqR2bTdcHXWcrZjCnpzQEcYjrDwHS d09EJwQZ5a+KorTkuZsYyqP5s/jAwyk4+B5saRidtD2n4H3qzKCq7U4PpZ EIFF3D0sgcU/0Du7fT stack@ubuntu-226"]
-------------------------	--

Import PKA Certificate via SFTP

Imports the public key certificate for a specific label name.

Request

Method Type	PUT
Request URI	/nos/api/cfg/pka/pub/<pk_username>/<label_name>
Request Body (JSON)	{ "import_type": "sftp", "server_ip": <server_ip>, "src_file": <src_file>, "login_username": <login_username>, "login_passwd": <login_password>, "vrf_name": <vrf_name> }

where:

Parameter	Description
<i>pk_username</i>	The username who binds the public key. An integer up to 28 characters.
<i>label_name</i>	The binding public key label name for a specific user. A string in the following format: {label_name}.
<i>import_type</i>	The import type for the public key certificate (string). Valid values: "sftp", "line".
<i>server_ip</i>	The server IP address (string). A valid IPv4 or IPv6 address.
<i>src_file</i>	The source file. A string up to 256 characters.
<i>login_username</i>	The server username (string).
<i>login_passwd</i>	The server password (string).
<i>vrf_name</i>	(Optional) The VRF instance name (string). Valid values: <ul style="list-style-type: none">• "default"• "management" Default value: "default".

Response

Response Body (JSON)	<pre>{ "status": <status>, "details": <details>, "filename": <filename> }</pre>
----------------------	---

where:

Parameter	Description
status	The import status (string). Valid values: "failed", "import success".
details	The detailed description of the status (string).
filename	The source file name (string).

Import PKA Certificate Directly

Imports the public key content.

Request

Method Type	PUT
Request URI	/nos/api/cfg/pka/pub/<pk_username>/<label_name>
Request Body (JSON)	{ "import_type": "line", "pk_content": {pk_content} }

where:

Parameter	Description
<i>pk_username</i>	The username who binds the public key. An integer up to 28 characters.
<i>label_name</i>	The binding public key label name for a specific user. A string in the following format: {label_name}.
<i>import_type</i>	The import type for the public key certificate (string). Valid values: "sftp", "line".
<i>pk_content</i>	The public key certificate content. A string in the following format: {pk_content}.

Response

Response Body (JSON)	{ "status": <status>, "details": <details>, "filename": <filename> }
-------------------------	--

where:

Parameter	Description
<i>status</i>	The import status (string). Valid values: "failed", "import success".
<i>details</i>	The detailed description of the status (string).
<i>filename</i>	The source file name (string). If the import type is line, the filename is null.

Delete PKA Certificate

Deletes a public key certificate.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/pka/pub/<pk_username>/<label_name>
Request Body (JSON)	

where:

Parameter	Description
<i>pk_username</i>	The username who binds the public key. An integer up to 28 characters.
<i>label_name</i>	The binding public key label name for a specific user. A string in the following format: {label_name}.

Response

Response Body (JSON)	
-------------------------	--

PKI

The following Private Key Infrastructure (PKI) URIs are available:

- /nos/api/cfg/pki GET, DELETE
- /nos/api/cfg/pki/ca GET, PUT, DELETE
- /nos/api/cfg/pki/hostcert GET, PUT, POST, DELETE
- /nos/api/cfg/pki/csr GET, PUT, POST
- /nos/api/cfg/pki/cdp_check GET, PUT
- /nos/api/cfg/pki/crl GET, PUT, DELETE
- /nos/api/cfg/pki/crl_auto_update GET, PUT
- /nos/api/cfg/pki/crl_url GET, PUT, DELETE
- /nos/api/cfg/pki/key_length GET, PUT
- /nos/api/cfg/pki/trustpoint GET, PUT, DELETE

The following PKI commands are available:

- [Get PKI Profile Summary Information](#)
- [Delete PKI Profile](#)
- [Get CA Certificate](#)
- [Import CA Certificate](#)
- [Delete CA Certificate](#)
- [Get Host Certificate](#)
- [Import Host Certificate](#)
- [Generate Host Certificate](#)
- [Delete Host Certificate](#)
- [Generate CSR](#)
- [Get CSR](#)
- [Export CSR and Import Signed CSR](#)
- [Get CDP Check Status](#)
- [Set CDP Check Properties](#)
- [Get the CRL Stored in a PKI Profile](#)
- [Import a CRL to a PKI Profile](#)
- [Delete CRL by Issuer](#)
- [Get the CRL Auto Update Status](#)
- [Set the CRL Auto Update Properties](#)
- [Get the URL of Periodic Update CRL](#)
- [Set the URL of Periodic Update CRL](#)

- Delete the URL of Periodic Update CRL
- Get Key Length Properties
- Set Key Length Properties
- Get Trust Point
- Import Trust Point
- Delete Trust Point

Get PKI Profile Summary Information

Gets summary information about a specific PKI profile or about all configured PKI profiles.

Request

Method Type	GET
Request URI	/nos/api/cfg/pki/<pk_i_name>
Request Body (JSON)	

where:

Parameter	Description
<i>pk_i_name</i>	(Optional) The name of the PKI profile. A string up to 16 characters long. Note: If no PKI profile name is provided, then the command returns summary information about all configured PKI profiles.

Response

Response Body (JSON)	<pre>[{ "Host_certificate": "{existent non-existent}", "In_use": "{No Yes}", "CA": <CA number>, "CRL_period_update_URL": "{CRL_period_update_URL}", "TrustPoint": "{existent non-existent}", "PKI_Profile_Name": "{PKI_Profile_Name}", "CRL": <CRL number>, "CSR": "{existent non-existent}" }]</pre>
----------------------	---

where:

Parameter	Description
Host_certificate	Whether host certificates are present in the PKI profile (string). Valid values: "existent", "non existent". Default value: "non existent".
In_use	Whether the PKI profile is used by the switch (string). Valid values: "Yes", "No". Default value: "No".
CA	The number of Certificate Authority (CA) stored in the PKI profile. An integer from 0-5. Default value: 0.
CRL_period_update_URL	The periodic update CRL URL in this PKI profile (string).

Parameter	Description
TrustPoint	The store status of trustpoint in this PKI profile (string). Valid values: "existent", "non existent". Default value: "non existent".
PKI_Profile _Name	The name of the PKI profile. A string up to 16 characters long.
CRL	The numbers of CRL stored in this PKI profile. An integer from 0-5. Default value: 0.
CSR	Whether Certificate Signing Requests (CSR) are present in the PKI profile. Valid values: "existent", "non existent". Default value: "non existent".

Delete PKI Profile

Removes a configured PKI profile.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/pki/<pk_name>
Request Body (JSON)	

where:

Parameter	Description
<i>pk_name</i>	The name of the PKI profile. A string up to 16 characters long.

Response

Response Body (JSON)	
----------------------	--

Get CA Certificate

Gets the Certificate Authority (CA) stored in the PKI profile.

Request

Method Type	GET
Request URI	/nos/api/cfg/pki/ca/<pk_name>/<format>
Request Body (JSON)	

where:

Parameter	Description
<i>pk_name</i>	The name of the PKI profile. A string up to 16 characters long.
<i>format</i>	The format for displaying the CA (string). Valid values: "text", "base64". Default value: "text".

Response

Example when chosen format is *text*:

Response Body (JSON)	["Certificate: Data: Version: 3 (0x2) Serial Number: 89:0f:d1:1e:d7:79:37:cb Signature Algorithm: sha256WithRSAEncryption Issuer: C=US, ST=Maryland, L=Baltimore, O=Test CA, Limited, OU=Server Research Department, CN=Test CA, emailAddress=test@example.com Validity Not Before: Dec 28 08:26:50 2016 GMT Not After : Sep 24 08:26:50 2019 GMT Subject: C=US, ST=Maryland, L=Baltimore, O=Test CA, Limited, OU=Server Research Department, CN=Test CA/emailAddress=test@example.com Subject Public Key Info: Public Key Algorithm: rsaEncryption Public-Key: (4096 bit) Modulus: 00:a8:cc:51:e8:18:c7:50:68:12:3c:7d:c4:9f:9a: d3:a3:4e:8d:0a:e3:b6:25:88:f6:07:0e:de:09:b3: 96:59:d7:e3:38:2c:2f:1d:50:e5:40:91:4f:29:9d: b6:45:4f:d6:f3:f9:27:09:04:85:13:50:91:6b:e8: 4e:6b:c0:f7:c5:b9:f0:9b:45:9a:90:80:49:5f:3b: ... "]
----------------------	--

Example when chosen format is *base64*:

Response Body (JSON)	["-----BEGIN CERTIFICATE-----" MIIGMzCCBBUGAwIBAgIJAIkP0R7XeTfLMA0GCSqGSIb3DQEBCwUAMIGnMQswCQYD VQQGEwJVUzERMA8GA1UECAwITWYewXhbmQxEjAQBGNVBAcMCUJhbHRpbw9yZTEZ MBcGA1UECgwQVGZzdCBDQSwgTGltaXRlZDEjMCEGA1UECwwaU2VydMvYIFJlc2Vh cmNoIERlcGFydG1lbnQxEDA0BgNVBAMMB1Rlc3QgQ0ExHzAdBgkqhkiG9w0BCQEW EHRlc3RAZXhhbXBsZS5jb20wHhcNMTYxMjI4MDgyNjUwWhcNMTkwOTI0MDgyNjUw WjCBpzELMAKGA1UEBhMCVVMxETAPBgNVBAGMCE1hcnlsYw5kMRIwEAYDVQQHDA1C YXw0aW1vcUxGTAXBGNVBAoMEFRlc3QgQ0EsIExpbl0ZwQxIzAhBgNVBASMG1N1 cnZlciBSZXNlYXJjaCBEZXhcnRtZW50MRAwDgYDVQQDDAdUZXR0IENBMR8wHQYJ KoZIHvcNAQkBFhB0ZXN0QGV4YW1wbGUuY29tMIICIjANBgkqhkiG9w0BAQEFAAOc Ag8AMIICGKCAgEAQmXr6BjHUGgSPH3En5rTo06NCu02JYj2Bw7eCb0Wwdfj0Cww HVD1QJFPKZ22RU/w8/knCQSF1CRA+h0a8D3xbnm0WakIBJXzuLsCAIIV78nDuq NzI6xbuHdT0P60ldZiLUgyqZypb0ScNfGkQnCMoSIdJBUpAgkqG9hGYD/ATpn3/R BzdrOGCPJZ3Zm/90i5qUBKHoQmXdk5/R29kf4bM2HLKw2tqh4+Ba/PJowZ2wASvT AzU39JTKLU+HtKg8F2hEs4CtZ/sE1A+oKSGUzftJPF50mM28xIb4a0HlecTY92i /6rbcdxZS10RnH3Z1VENlHgQCeYf4XXBLI20kL1Bknm5IqqojK1BNP7Z61vEiLhx LqX8XdXyrjzqXK7P0+yc+7jXmwG9mhPxWDW05yvFFM1IhwmNh08uNE+dCo+REmtp jGkmi4gJdzUEDZwYfUXbIRZpdAtCYuIygZ0CX7kzvSoGn2IxG43svKhxZYvR038M xtjjBNW23jMcpMy+48bs04dVMBNYJd9LubI1+tMKqZZmTT8dCRP6woxL05DCVn79 ... Ay8jxzXX93uIKa0a3K+0B25iFT6xwK50ioVSLfaGqfw71lsf/k2vFViqhBTnoLux 2oSiHoEHGGSAMw0pQz9DTdVFYeFieE+BaIfs0yEgmXoJC4sxUrDrpzJydSfjJ6n 5Pc2cZRVkJZoSwXR40NfJCsVpxTDJrN8A+3UqyIW/539shRBqUyxounE25ooYN49 a0RIjMDXm25bz7V7Xm+uHUw7gQeWACLIOhJiqc7QS+0w1b9zBau5pU670NH+W7R LjE17rXska== -----END CERTIFICATE-----"]
----------------------	--

Import CA Certificate

Imports a CA certificate from a remote server to a specific PKI profile on the switch.

Request

Method Type	PUT
Request URI	/nos/api/cfg/pki/ca/<pk_name>
Request Body (JSON)	{ "server_ip": "{server_ip}", "src_file": "{src_file}", "username": "{username}", "passwd": "{password}", "vrf_name": "{vrf_name}" }

where:

Parameter	Description
<i>pk_name</i>	The name of the PKI profile. A string up to 16 characters long. Note: If the specified PKI profile does not exist, then the switch creates a new PKI profile with that name.
<i>server_ip</i>	The IP address of the remote server from where the CA certificate is imported (string).
<i>src_file</i>	The source filepath of the CA certificate on the server. A string representing the filepath of the CA certificate. A string up to 256 characters long.
<i>username</i>	The user name used to log onto the remote server (string).
<i>passwd</i>	The password used to log onto the remote server (string).
<i>vrf_name</i>	The VRF instance used to connect to the remote server (string). Default value: "default".

Response

Response Body (JSON)	<pre>{ "status": "{successful failed}", "details": "{details}", "filename": "{filename}" }</pre>
----------------------	--

where:

Parameter	Description
status	The status of the CA certificate import (string). Valid values: "failed", "import success".
details	The detailed description of the import status (string).
filename	The filename of the CA certificate (string).

Delete CA Certificate

Deletes a CA certificate from a specific PKI profile.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/pki/ca/<pk_name>?subject=<subject>
Request Body (JSON)	

where:

Parameter	Description
<i>pk_name</i>	The name of the PKI profile. A string up to 16 characters long.
<i>subject</i>	The subject of the CA certificate. A string up to 255 characters long. For example: "C=US, ST=Maryland, L=Baltimore, O=Test CA, Limited, OU=Server Research Department, CN=Test CA, emailAddress=test@example.com"

Response

Response Body (JSON)	
----------------------	--

Get Host Certificate

Gets the host certificate stored in a specific PKI profile.

Request

Method Type	GET
Request URI	/nos/api/cfg/pki/hostcert/<pk_name>/<format>
Request Body (JSON)	

where:

Parameter	Description
<i>pk_name</i>	The name of the PKI profile. A string up to 16 characters long.
<i>format</i>	The format for displaying the host certificate (string). Valid values: "text", "base64". Default value: "text".

Response

Example when chosen format is *text*:

Response Body (JSON)	["Certificate: Data: Version: 3 (0x2) Serial Number: 89:0f:d1:1e:d7:79:37:cb Signature Algorithm: sha256WithRSAEncryption Issuer: C=US, ST=Maryland, L=Baltimore, O=Test CA, Limited, OU=Server Research Department, CN=Test CA, emailAddress=test@example.com Validity Not Before: Dec 28 08:26:50 2016 GMT Not After : Sep 24 08:26:50 2019 GMT Subject: C=US, ST=Maryland, L=Baltimore, O=Test CA, Limited, OU=Server Research Department, CN=Test CA/emailAddress=test@example.com Subject Public Key Info: Public Key Algorithm: rsaEncryption Public-Key: (4096 bit) Modulus: 00:a8:cc:51:e8:18:c7:50:68:12:3c:7d:c4:9f:9a: d3:a3:4e:8d:0a:e3:b6:25:88:f6:07:0e:de:09:b3: 96:59:d7:e3:38:2c:2f:1d:50:e5:40:91:4f:29:9d: b6:45:4f:d6:f3:f9:27:09:04:85:13:50:91:6b:e8: 4e:6b:c0:f7:c5:b9:f0:9b:45:9a:90:80:49:5f:3b: ...]
----------------------	---

Example when chosen format is *base64*:

<p>Response Body (JSON)</p>	<pre>["-----BEGIN CERTIFICATE----- MIIGMzCCBbugAwIBAgIJAikP0R7XeTfLMA0GCSqGSIb3DQEBCwUAMIGnMQswCQYD VQQGEwJVUzERMA8GA1UECAwITWFyewXhbmQxEjAQBgNVBAcMCUJhbHRpbW9yZTEZ MBcGA1UECgwQVGZzdCBDQSwGtGltaxRlZDEjMCEGA1UECwwaU2VydMvYIFJlc2Vh cmNoIERlcGFydG11bnQxEQA0BGNVBA0MFEFRlc3QgQ0EsIEExpbw10ZWQxIzAhBGNVBA SMG1N1cnZlc1BSZXN1YXJjaCBEZXBhcncRtZW50MRAwDgYDVQDDAdUZXR0IENBMR8w HQYJKoZIhvcNAQkBFhB0ZXN0QGV4YW1wbGUuY29tMIICIjANBgkqhkiG9w0BAQEFAAOC Ag8AMIICCgKCAgEAqMxR6BjhUGGSPH3En5rTo06NCu02JYj2Bw7eCb0WwdfjOCwv HVD1QJFPKZ22RU/W8/knCSFE1CRa+h0a8D3xbnwm0WakIBJXzuLscAIIV78nDuq NzI6xbuHdT0P601dZiLUgyqZypp0ScnfGkQnCMoSIdJBUpAgkqG9hgYD/ATpn3/R BzdrOGCPJZ3Zm/90i5qUBKHoQmXdk5/R29kf4bM2HLKW2tqh4+Ba/PJowZ2waSvT AzU39JTklU+HtKg8F2hes4CtZ/sE1A+oKSGUzftJPf50mM28xIb4a0H1ecgTY92i /6rbcdxZS10RnH3Z1VEN1HgQCeYf4XXBLI20kL1Bknm5IqqojK1BNP7Z61vEiLhx LqX8XdXyrjzqXK7P0+yc+7jXmwG9mhPxWDW05yvFFM1IhwMnH08uNE+dCo+REmtp jGkmi4gJdzUEDZwYfUXbIRZpdAtCYuIygZ0CX7kzvSoGn2IxG43svKhxZYvR038M xtjjBNW23jMcpMy+48bs04dVMBNYJd9LubI1+tMKqZZmTT8dcrP6woxL05DCvN79 JCAqCVY0vFE1mVSUggF5CVG0n9/dy1TmXIpaiaP0dAqJ3DNjnPbXPcNUYXn3NFIL ... Ay8jxzXX93uIKa0a3K+0B25iFT6xwK50ioVSLfaGqfwf7lsf/k2vFViqhBTnoLux 2oSiHoEHGGSAMw0pQz9DTdVFYeFieE+BaIfs0yEgmXoJC4sxUrDrCpzJydSfjJ6n 5Pc2cZRVkJZoSXR40NfJCsVpxTDJrN8A+3UqyIW/539shRBQUyxounE25ooYN49 a0RIjMDXm25bf7V7Xm+uHUW7gQeWACLiohJiqc7QS+0w1b9zBau5pU670NH+W7R LjE17rXska== -----END CERTIFICATE-----"]</pre>
-----------------------------	--

Import Host Certificate

Imports a host certificate from a remote server to a specific PKI profile on the switch.

Request

Method Type	PUT
Request URI	/nos/api/cfg/pki/hostcert/<pk_name>
Request Body (JSON)	<pre>{ "server_ip": "{server_ip}", "src_file": "{src_file}", "dst_file": "{certificate private-key}", "username": "{username}", "passwd": "{password}", "vrf_name": "{management default}" }</pre>

where:

Parameter	Description
<i>pk_name</i>	The name of the PKI profile. A string up to 16 characters long. Note: If the specified PKI profile does not exist, then the switch creates a new PKI profile with that name.
<i>server_ip</i>	The IP address of the remote server from where the host certificate is imported (string).
<i>src_file</i>	The source file path of the host certificate on the server. A string up to 256 characters long representing the file path of the CA certificate.
<i>dst_file</i>	The destination file path of the host certificate on the switch (string). Valid values: "certificate", "private-key". Note: The host certificate is imported only when both the certificate and the private key are successfully imported.
<i>username</i>	The user name used to log onto the remote server (string).
<i>passwd</i>	The password used to log onto the remote server (string).
<i>vrf_name</i>	The VRF instance used to connect to the remote server (string). Default value: "default".

Response

Response Body (JSON)	<pre>{ "status": "{successful failed}", "details": "{details}", "filename": "{filename}" }</pre>
----------------------	--

where:

Parameter	Description
status	The status of the host certificate import (string). Valid values: "successful", "failed".
details	The detailed description of the import status (string). If only the certificate has been imported, then this variable is "still needs private-key". If only the private key has been imported, the this variable is "still needs certificate".
filename	The filename of the host certificate (string).

Generate Host Certificate

Generates a host certificate for a specific PKI profile.

Request

Method Type	POST
Request URI	/nos/api/cfg/pki/hostcert/<pk_name>
Request Body (JSON)	<pre>{ "CountryName": "{CountryName}", "StateName": "{StateName}", "LocalityName": "{LocalityName}", "OrganizationName": "{OrganizationName}", "OrganizationalUnitName": "{OrganizationalUnitName}", "CommonName": "{CommonName}", "Email": "{Email}", "ValidityPeriod": <Validity Period(days)>, "SAN_Email": "{email address in SAN}", "SAN_DNS": "{domain name in SAN}", "SAN_IP": "{IP address in SAN}", "SAN_RID": "{registered ID in SAN}", "SAN_URI": "{uniform resource indicator in SAN}" }</pre>

where:

Parameter	Description
<i>pk_name</i>	The name of the PKI profile. A string up to 16 characters long. Note: If the specified PKI profile does not exist, then the switch creates a new PKI profile with that name.
CountryName	The code of the country. A string up to 2 characters long. For example: "US".
StateName	The name of the state or province. A string up to 16 characters long. For example: "California".
LocalityName	The name of the locality (for example, a city). A string up to 32 characters long. For example: "Santa Clara".
Organization Name	The name of the organization (for example, a company). A string up to 64 characters long. For example: "Lenovo".
Organizational UnitName	The name of the organizational unit (for example, a department). A string up to 32 characters long. For example: "Network Engineering".
CommonName	The common name. A string up to 64 characters long. For example: "TestHostCert". Note: The name must start with an alphanumeric character and can contain only alphanumeric characters and the underscore (_), dash (-) and point (.) characters.

Parameter	Description
Email	The e-mail address. A string up to 32 characters long. For example: "test@example.com".
ValidityPeriod	The validity period, in days. An integer from 1-1000.
SAN_Email	E-mail in SAN. An e-mail address. A string up to 255 characters long.
SAN_DNS	Domain name in SAN. A string up to 255 characters long.
SAN_IP	IP address in SAN (string). A valid IPv4/IPv6 address.
SAN_RID	Registered ID in SAN. A string up to 255 characters long.
SAN_URI	Uniform resource indicator in SAN. A string up to 255 characters long.

Response

Response Body (JSON)	{ "status": "{generation succeeded generation failed}", }
----------------------	---

where:

Parameter	Description
status	The status of the host certificate generation (string). Valid values: "generation succeeded", "generation failed".

Delete Host Certificate

Deletes the host certificate from a specific PKI profile.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/pki/hostcert/<pk_name>
Request Body (JSON)	

where:

Parameter	Description
<i>pk_name</i>	The name of the PKI profile. A string up to 16 characters long.

Response

Response Body (JSON)	
----------------------	--

Generate CSR

Generates the Certificate Signing Request (CSR) for a specific PKI profile.

Request

Method Type	POST
Request URI	/nos/api/cfg/pki/csr/<pk_name>
Request Body (JSON)	<pre>{ "CountryName": "{CountryName}", "StateName": "{StateName}", "LocalityName": "{LocalityName}", "OrganizationName": "{OrganizationName}", "OrganizationalUnitName": "{OrganizationalUnitName}", "CommonName": "{CommonName}", "Email": "{Email}", "SAN_Email": "{email address in SAN}", "SAN_DNS": "{domain name in SAN}", "SAN_IP": "{IP address in SAN}", "SAN_RID": "{registered ID in SAN}", "SAN_URI": "{uniform resource indicator in SAN}" }</pre>

where:

Parameter	Description
<i>pk_name</i>	The name of the PKI profile. A string up to 16 characters long. Note: If the specified PKI profile does not exist, then the switch creates a new PKI profile with that name.
CountryName	The code of the country. A string up to 2 characters long. For example: "US".
StateName	The name of the state or province. A string up to 16 characters long. For example: "California".
LocalityName	The name of the locality (for example, a city). A string up to 32 characters long. For example: "Santa Clara".
Organization Name	The name of the organization (for example, a company). A string up to 64 characters long. For example: "Lenovo".
OrganizationalUnitName	The name of the organizational unit (for example, a department). A string up to 32 characters long. For example: "Network Engineering".
CommonName	The common name. A string up to 64 characters long. For example: "TestCSR". Note: The name must start with an alphanumeric character and can contain only alphanumeric characters and the underscore (_), dash (-) and point (.) characters.
Email	The e-mail address. A string up to 32 characters long. For example: "test@example.com".

Parameter	Description
SAN_Email	E-mail in SAN. An e-mail address. A string up to 255 characters long.
SAN_DNS	Domain name in SAN. A string up to 255 characters long.
SAN_IP	IP address in SAN (string). A valid IPv4/IPv6 address.
SAN_RID	Registered ID in SAN. A string up to 255 characters long.
SAN_URI	Uniform resource indicator in SAN. A string up to 255 characters long.

Response

Response Body (JSON)	{ "status": "{generation succeeded generation failed}", }
----------------------	---

where:

Parameter	Description
status	The status of the host certificate generation (string). Valid values: "generation succeeded", "generation failed".

Get CSR

Gets the CSR stored in a specific PKI profile.

Request

Method Type	GET
Request URI	/nos/api/cfg/pki/csr/<pk_name>/<format>
Request Body (JSON)	

where:

Parameter	Description
<i>pk_name</i>	The name of the PKI profile. A string up to 16 characters long.
<i>format</i>	(Optional) The format for displaying the CSR (string). Valid values: "text", "base64". Default value: "text".

Response

Example when chosen format is *text*:

Response Body (JSON)	["Certificate Request: Data: Version: 0 (0x0) Subject: C=US, ST=California, L=Santa Clara, 0=Lenovo Networking Operating System, OU=Network Engineering, CN=cccc/emailAddress=cccc@lenovo.com Subject Public Key Info: Public Key Algorithm: rsaEncryption Public-Key: (2048 bit) Modulus: 00:c3:78:73:d2:6b:e6:64:3c:10:8a:63:3d:11:d0: bf:95:56:0b:a1:1c:12:39:6d:d8:5a:45:20:06:90: b4:a9:2f:a6:87:5c:bc:fd:d3:1f:08:e6:31:7c:82: 94:aa:50:20:14:5a:63:19:1e:26:52:b0:35:56:b2: 8c:b6:aa:e1:6e:1c:1b:32:79:08:bd:02:a6:1b:5d: 59:cc:f1:44:12:36:e3:7d:2b:73:7e:5e:70:9e:e2: b9:94:3c:38:5b:fd:30:10:2b:b7:7b:5d:d0:d9:08: ...]
----------------------	--

Example when chosen format is *base64*:

Response Body (JSON)	["-----BEGIN CERTIFICATE REQUEST----- MIIC+DCCAeACAQAwbIx CzAJBgNVBAYTA1VTMRMwEQYDVQQIDApDYWxpZm9ybm1 h MRQwEgYDVQQHDA tTYW50YSBDbGFyYTERMCKGA1UECgwiTGvub3ZvIE5ldHdvcmt p bmcgT3BlcmF0aW5nIFN5c3R1bTEcMBoGA1UECwwTtmV0d29yayBFbmdpbmVlcm1 u ZzENMASGA1UEAwEY2NjYzEeMBwGCSqSIB3DQEJARYPY2NjY0BsZW5vdm8uY29 t MIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEAW3hz0mvmZDwQimM9EdC / lVYLoRwSOW3YwkUgBpC0qS+mh1y8/dMfCOYxfIKUq1AgFFpjGR4mUrA1VrKmtqr h bhwbMnkIvQKmG11ZzPFEEjbjfStzf15wnuK5lDw4W/0wECu3e13Q2QhKlCCu2gG x EQKXOMrC1cnnSEwp20koYSWMYAEGQkjy0uVNAEWxiMdb1EXf5yG2fwnGNMSZ+0f / qFQ+2cWI0WY/7GnyIrnWlWpZoD+oGAZBjn1qrMTR9bZTwaQMvgI99Ry9LeSXxaK 6 KH5xe14cSHM1KqNrv9aht3w+GalEQ1EKUEgTwS40wmMhYfSff81ZexRQNiDWvd2 j SQIDAQABoAAwDQYJKoZIhvcNAQELBQADggEBAL TGf7fktJgKc1LA6Zy8tVj0s2W U kwDGphm/cLV/bBovCTV/nFsmNP4o6qvyffd08t3WAz9PIcfceg7bkJM0uSW8Ii7 c 5cKg59smpuNGNA9rnReB+M90cv3+Ah9SJQGYArbHImP8ApWyPMADREKkwGW8YsA G KqiGXsSs9xJ2ONAPCr/l8+6pvVcAn5L7iyCyNb69X73S8FTbxks+3VRzQv5VwUM Z IwHIZjI6YniZVJjAZqpiqR90EK4KrV4wzeUL2lJL/RLRRdRnRk3QfpJ09GxP+Hp e 1U4B2xvMIk1LXIzUwHlaHq1i34RscYw12mowh8/G125Qqfs0RE1YWXGPw24= -----END CERTIFICATE REQUEST-----"]
----------------------------	--

Export CSR and Import Signed CSR

Exports a CSR or imports a signed CSR.

Request

Method Type	PUT
Request URI	/nos/api/cfg/pki/csr/<pk_name>/<action>
Request Body (JSON)	<pre>{ "server_ip": "{server_ip}", "src_file": "{src_file}", "username": "{username}", "passwd": "{password}", "vrf_name": "{management default}" }</pre>

where:

Parameter	Description
<i>pk_name</i>	The name of the PKI profile. A string up to 16 characters long. Note: If the specified PKI profile does not exist, then the switch creates a new PKI profile with that name.
<i>action</i>	Whether to export a CSR or import a signed CSR (string). Valid values: "export", "import".
<i>server_ip</i>	The IP address of the remote server from where the CA certificate is imported (string).
<i>src_file</i>	The source filepath of the CA certificate on the server. A string up to 256 characters long representing the file path of the CA certificate.
<i>username</i>	The user name used to log onto the remote server (string).
<i>passwd</i>	The password used to log onto the remote server (string).
<i>vrf_name</i>	The VRF instance used to connect to the remote server (string). Default value: "default".

Response

Response Body (JSON)	<pre>{ "status": "{successful failed}", "details": "{details}", "filename": "{filename}" }</pre>
----------------------	--

where:

Parameter	Description
status	The status of the CA certificate import (string). Valid values: "successful", "failed".
details	The detailed description of the import status (string).
filename	The filename of the CA certificate (string).

Get CDP Check Status

Gets the CDP check status for the whole PKI system.

Request

Method Type	GET
Request URI	/nos/api/cfg/pki/cdp_check
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "status": "{enable disable}", "period": <period>, "vrf_name": "{vrf_name}" }</pre>
----------------------	---

where:

Parameter	Description
status	The CDP check status (string). Valid values: "enable", "disable".
period	The period of CDP check, in minutes. An integer from 10~10080.
vrf_name	The VRF name (string).

Set CDP Check Properties

Sets the CDP check properties for the whole PKI system.

Request

Method Type	PUT
Request URI	/nos/api/cfg/pki/cdp_check
Request Body (JSON)	{ "status": "{enable disable}", "period": <period>, "vrf_name": "{vrf_name}" }

where:

Parameter	Description
status	(Optional) The CDP check status (string). Valid values: "enable", "disable". Default value: "disable".
period	(Optional) The period of CDP check, in minutes. An integer from 10~10080. Default value: 480.
vrf_name	(Optional) The VRF name (string). Default value: "default".

Response

Response Body (JSON)	{ "status": "{enable disable}", "period": <period>, "vrf_name": "{vrf_name}" }
----------------------	--

where:

Parameter	Description
status	The CDP check status (string). Valid values: "enable", "disable".
period	The period of CDP check, in minutes. An integer from 10~10080.
vrf_name	The VRF name (string).

Get the CRL Stored in a PKI Profile

Gets the CRL stored in given PKI profile.

Request

Method Type	GET
Request URI	/nos/api/cfg/pki/crl/<pk_i_name>/<format>
Request Body (JSON)	

where

<i>pk_i_name</i>	The name of the PKI profile. A string up to 16 characters long.
<i>format</i>	(Optional) The format for displaying the CRL (string). Valid values: "text", "base64". Default value: text.

Response

Response Body (JSON)	<pre>["-----BEGIN X509 CRL----- MIIGMzCCBBugAwIBAgIJAikP0R7XeTfLMA0GCSqGSIb3DQEBCwUAMIGnMQs wCQYD VQQGEwJVUzERMA8GA1UECAwITWFyewxhbmQxEjAQBgNVBACMCUJhbHRpbW9 yZTEZ -----END X509 CRL----- "] or ["Certificate Revocation List (CRL): Version: 3 (0x2) Signature Algorithm: sha256WithRSAEncryption Issuer: /C=CN/ST=JiangSu/L=WuXi/O=Lenovo/OU=networking/CN=10.240.23 6.115 /emailAddress=cindy@lenovo.com "]</pre>
----------------------	---

Import a CRL to a PKI Profile

Imports CRL to a specified PKI profile.

Request

Method Type	PUT
Request URI	/nos/api/cfg/pki/crl/<pk_name>
Request Body (JSON)	<pre>{ "protocol":"protocol", "URL":"{URL}", "server_ip":"{server_ip}", "src_file":"{src_file}", "username":"{username}", "passwd":"{password}", "vrf_name":"{vrf_name}" }</pre> <p>Example:</p> <pre>{ "protocol":"sftp", "server_ip":"10.240.236.115", "src_file":"cert/root.crl.pem", "username":"abcde", "passwd":"123456", "vrf_name":"management" }</pre> <p>or</p> <pre>{ "protocol":"http", "URL":"http://10.240.236.115/root.crl.pem", "vrf_name":"management" }</pre>

where

<i>pk_name</i>	The name of the PKI profile. A string up to 16 characters long.
<i>server_ip</i>	The server IP address (string). Note: Mandatory when protocol is "sftp".
<i>src_file</i>	The source file. A string up to 256 characters long. Note: Mandatory when protocol is "sftp".
<i>username</i>	The username for the server (string). Note: Mandatory when protocol is "sftp".
<i>passwd</i>	The password for the serve (string). Note: Mandatory when protocol is "sftp".
<i>vrf_name</i>	The VRF name (string). Default value: "default".

protocol	The protocol name (string). Valid values: "http", "ldap", "sftp".
URL	LDAP/HTTP/HTTPS URL (string). Mandatory when protocol is "http" or "ldap".

Response

Response Body (JSON)	{ "status": "{successful failed}", "details": "{details}", "filename": "{filename}" }
----------------------	---

where

status	The status of the import (string). Valid values: "failed", "import success".
details	The detailed description of the status (string).
filename	The source file name (string).

Delete CRL by Issuer

Deletes CRL by issuer in given PKI profile.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/pki/crl/<pk_name> ?issuer=<issuer>
Request Body (JSON)	

where:

Parameter	Description
<i>pk_name</i>	The name of the PKI profile. A string up to 16 characters long.
<i>issuer</i>	The CRL issuer. A string up to 255 characters long.

Response

Response Body (JSON)	
----------------------	--

Get the CRL Auto Update Status

Gets the CRL auto update status for the whole PKI system.

Request

Method Type	GET
Request URI	/nos/api/cfg/pki/crl_auto_update
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "status": "{enable disable}", "period": <period>, "vrf_name": "{vrf_name}", "next_update_time": "{next update time}" }</pre>
----------------------	---

where

status	The CRL auto update status (string). Valid values: "enable", "disable".
period	The period of CRL auto update in minutes. An integer from 10~10080.
vrf_name	The VFR name (string).
next_update_time	The time for next period of CRL auto update (string).

Set the CRL Auto Update Properties

Sets the CRL auto update properties for the whole PKI system.

Request

Method Type	PUT
Request URI	/nos/api/cfg/pki/crl_auto_update
Request Body (JSON)	{ "status": "{enable disable}", "period": <period>, "vrf_name": "{vrf_name}", }

where

status	(Optional) The CRL auto update status (string). Valid values: "enable", "disable". Default value: "disable".
period	(Optional) The period of CRL auto update in minutes. An integer from 10~10080. Default value: 480.
vrf_name	(Optional) The VFR name (string). Default value: "default".

Response

Response Body (JSON)	{ "status": "{enable disable}", "period": <period>, "vrf_name": "{vrf_name}", "next_update_time": "{next update time}" }
----------------------	---

where

status	The CRL auto update status (string). Valid values: "enable", "disable".
period	The period of CRL auto update in minutes. An integer from 10~10080.
vrf_name	The VFR name (string).
next_update_time	The time for next period of CRL auto update (string).

Get the URL of Periodic Update CRL

Gets the periodic update CRL URL to the given PKI profile.

Request

Method Type	GET
Request URI	/nos/api/cfg/pki/crl_url/<pk_name>
Request Body (JSON)	

where:

Parameter	Description
<i>pk_name</i>	The name of the PKI profile. A string up to 16 characters long.

Response

Response Body (JSON)	{ "CRL_period_update_URL": "{CRL period update URL}" }
----------------------	--

where

CRL_period_update_URL	The URL of periodic update CRL. A string up to 255 characters long.
-----------------------	--

Set the URL of Periodic Update CRL

Gets the periodic update CRL URL to the given PKI profile.

Request

Method Type	PUT
Request URI	/nos/api/cfg/pki/crl_url/<pk_name>
Request Body (JSON)	{ "CRL_period_update_URL": "{CRL period update URL}" }

where:

Parameter	Description
<i>pk_name</i>	The name of the PKI profile. A string up to 16 characters long.
CRL_period_update_URL	The periodic update CRL URL. A string up to 255 characters long. Valid values: "HTTP URL", "HTTPS URL", "LDAP URL".

Response

Response Body (JSON)	{ "CRL_period_update_URL": "{CRL period update URL}" }
----------------------	--

where

CRL_period_update_URL	The periodic update CRL URL. A string up to 255 characters long.
-----------------------	---

Delete the URL of Periodic Update CRL

Deletes the periodic update CRL URL to the given PKI profile.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/pki/crl_url/<pk_name>
Request Body (JSON)	

where:

Parameter	Description
<i>pk_name</i>	The name of the PKI profile. A string up to 16 characters long.

Response

Response Body (JSON)	
----------------------	--

Get Key Length Properties

Gets the key length properties which is used to generate CSR and host certificate for the whole PKI system.

Request

Method Type	GET
Request URI	/nos/api/cfg/pki/key_length
Request Body (JSON)	

Response

Response Body (JSON)	{ "key_size": {2048 4096}, "digest": "{sha256 sha512}" }
----------------------	---

where

key_size	The public key length of the generated host certificate or CSR (integer). Valid values: 2048, 4096.
digest	The signature algorithm in the generated host certificate or CSR (string). Valid values: "sha256", "sha512".

Set Key Length Properties

Sets the key length properties which is used to generate CSR and host certificate for the whole PKI system.

Request

Method Type	PUT
Request URI	/nos/api/cfg/pki/key_length
Request Body (JSON)	{ "key_size": {2048 4096}, "digest": "{sha256 sha512}" }

where

key_size	The public key length of the generated host certificate or CSR (integer). Valid values: 2048, 4096.
digest	The signature algorithm in the generated host certificate or CSR (string). Valid values: "sha256", "sha512".

Response

Response Body (JSON)	{ "key_size": {2048 4096}, "digest": "{sha256 sha512}" }
----------------------	---

where

key_size	The public key length of the generated host certificate or CSR (integer). Valid values: 2048, 4096.
digest	The signature algorithm in the generated host certificate or CSR (string). Valid values: "sha256", "sha512".

Get Trust Point

Gets the trust point stored in a given PKI profile.

Request

Method Type	GET
Request URI	/nos/api/cfg/pki/trustpoint/<pk_name>/<format>
Request Body (JSON)	

where

<i>pk_name</i>	The name of the PKI profile. A string up to 16 characters long.
<i>format</i>	(Optional) The format used to display the trust point (string). Valid values: "text", "base64". Default value: text.

Response

Response Body (JSON)	<pre>["-----BEGIN CERTIFICATE----- MIIGMzCCBBUGAwIBAgIJAIkP0R7XeTfLMA0GCSqGSIb3DQEBCwUAMIGnMQs wCQYD VQQGEwJVUzERMA8GA1UECAwITWFyewxhbmQxEjAQBgNVBACMCUJhbHRpbw9 yZTEZ -----END CERTIFICATE----- "] or ["Certificate: Data: Version: 3 (0x2) Serial Number: 89:0f:d1:1e:d7:79:37:cb d1:2e:31:35:ee:b5:ec:90 "]</pre>
----------------------	--

Import Trust Point

Imports a trust point from a remote server to a specific PKI profile on the switch.

Request

Method Type	PUT
Request URI	/nos/api/cfg/pki/trustpoint/<pk_name>
Request Body (JSON)	<pre>{ "server_ip": "{server_ip}", "src_file": "{src_file}", "username": "{username}", "passwd": "{password}", "vrf_name": "{vrf_name}" }</pre>

where

<i>pk_name</i>	The name of the PKI profile. A string up to 16 characters long.
<i>server_ip</i>	The server IP address (string).
<i>src_file</i>	The source file. A string up to 256 characters long.
<i>username</i>	The server username (string).
<i>passwd</i>	The server password (string).
<i>vrf_name</i>	(Optional) The VRF name (string). Default value: "default".

Response

Response Body (JSON)	<pre>{ "status": "{successful failed}", "details": "{details}", "filename": "{filename}" }</pre>
----------------------	--

where:

Parameter	Description
<i>status</i>	The import status (string). Valid values: "failed", "import success".
<i>details</i>	The detailed description of the import status (string).
<i>filename</i>	The source file name (string).

Delete Trust Point

Deletes the trust point in a PKI profile.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/pki/trustpoint/<pk_name>
Request Body (JSON)	

where

<i>pk_name</i>	The name of the PKI profile. A string up to 16 characters long.
----------------	---

Response

Response Body (JSON)	
----------------------	--

Private VLAN

The following Private VLAN-related URIs are available:

- /nos/api/cfg/pvlan GET, POST, DELETE
- /nos/api/cfg/pvlan/interface GET
- /nos/api/cfg/pvlan/<pvlan_type>/<vid> POST, DELETE
- /nos/api/cfg/pvlan/primary/ POST, DELETE
- /nos/api/cfg/pvlan/interface/<if_type> POST, PUT, DELETE
- /nos/api/cfg/pvlan/primary/<primary_pvlan_vid> DELETE

The following PVLAN commands are available:

- [Create a Private VLAN](#)
- [Delete a Private VLAN](#)
- [Create a Private VLAN Association](#)
- [Delete a Private VLAN Association](#)
- [Delete All Private VLAN Associations for a VLAN](#)
- [Apply a Private VLAN Mode on Interface](#)
- [Remove a Private VLAN Mode from Interface](#)
- [Create or Remove a Private VLAN Port Mapping/Association](#)
- [Show Private VLAN Information](#)
- [Show Interface Private VLAN Information](#)
- [Enable Private VLAN Globally](#)
- [Disable Private VLAN Globally](#)

Create a Private VLAN

Creates a private vLAN.

Request

Method Type	POST
Request URI	/nos/api/cfg/pvlan/<vlan_type>/<vid>
Request Body (JSON)	

where:

Parameter	Description
<i>vlan_type</i>	Private VLAN type (string). Valid values: "primary", "isolated", "community".
<i>vid</i>	The VLAN ID. A positive integer from 2-4093.

Response

Response Body (JSON)	
-------------------------	--

Delete a Private VLAN

Deletes a private VLAN.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/pvlan/<pvlan_type>/<vid>
Request Body (JSON)	

where:

Parameter	Description
<i>pvlan_type</i>	Private VLAN type (string.) Valid values: "primary", "isolated", "community".
<i>vid</i>	The VLAN ID. A positive integer from 2-4093.

Response

Response Body (JSON)	
-------------------------	--

Create a Private VLAN Association

Creates a private VLAN association.

Request

Method Type	POST
Request URI	/nos/api/cfg/pvlan/primary/<primary_pvlan_vid>/assoc/ <secondary_vlan_id>
Request Body (JSON)	

where:

Parameter	Description
<i>primary_pvlan_vid</i>	The primary VLAN ID. A positive integer from 2-4093.
<i>secondary_vlan_id</i>	The secondary VLAN ID. A positive integer from 2-4093.

Response

Response Body (JSON)	
-------------------------	--

Delete a Private VLAN Association

Deletes a private VLAN association.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/pvlan/primary/<primary_pvlan_vid>/assoc/ <secondary_vlan_id>
Request Body (JSON)	

where:

Parameter	Description
<i>primary_pvlan_vid</i>	The primary VLAN ID. A positive integer from 2-4093.
<i>secondary_vlan_id</i>	The secondary VLAN ID. A positive integer from 2-4093.

Response

Response Body (JSON)	
-------------------------	--

Delete All Private VLAN Associations for a VLAN

Deletes all private VLAN associations for a VLAN.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/pvlan/primary/<primary_pvlan_vid>/assoc
Request Body (JSON)	

where:

Parameter	Description
<i>primary_pvlan_vid</i>	The primary VLAN ID. A positive integer from 2-4093.

Response

Response Body (JSON)	
-------------------------	--

Apply a Private VLAN Mode on Interface

Applies a private VLAN mode on a specified interface.

Request

Method Type	POST
Request URI	/nos/api/cfg/pvlan/interface/<if_type>/<chassis_number>/<if_number>/<if_sub_number>
Request Body (JSON)	

where:

Parameter	Description
<i>if_type</i>	The interface type (string). Valid values: "ethernet", for Ethernet interfaces, "po" for port-channel interfaces.
<i>chassis_number</i>	The chassis number for the Ethernet interfaces (integer). For example: 1 for Ethernet1/2, or None for port-channel interfaces.
<i>if_number</i>	The interface number for the Ethernet interfaces (integer). An integer from 1 to the maximum number of switch interfaces.
<i>if_sub_number</i>	(Optional) The sub-interface number for the Ethernet interfaces a positive integer from 1-4.

Response

Response Body (JSON)	
----------------------	--

Remove a Private VLAN Mode from Interface

Deletes a private VLAN mode on a specified interface.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/pvlan/interface/<if_type>/<chassis_number>/<if_number>/<is_subnumber>
Request Body (JSON)	

where:

Parameter	Description
<i>if_type</i>	The interface type (string). Valid values: "ethernet", for Ethernet interfaces, "po" for port-channel interfaces.
<i>chassis_number</i>	The chassis number for the Ethernet interfaces (integer). For example: 1 for Ethernet1/2, or None for port-channel interfaces.
<i>if_number</i>	The interface number for the Ethernet interfaces (integer). An integer from 1 to the maximum number of switch interfaces.
<i>if_sub_number</i>	(Optional) The sub-interface number for the Ethernet interfaces a positive integer from 1-4.

Response

Response Body (JSON)	
----------------------	--

Create or Remove a Private VLAN Port Mapping/Association

Creates or deletes a private VLAN port mapping/association.

Note: First, you must enable switch port mode private VLAN on a specified interface.

Request

Method Type	PUT
Request URI	/nos/api/cfg/pvlan/interface/<if_type>/<chassis_number>/<if_number>/<is_subnumber>
Request Body (JSON)	{ "type" : "<type>", "op" : "<op>" "primaryVlanID" : "<pvid>" "secondaryVlanID": "<svid>" }

where:

Parameter	Description
<i>if_type</i>	The interface type (string). Valid values: "ethernet", for Ethernet interfaces, "po" for port-channel interfaces.
<i>chassis_number</i>	The chassis number for the Ethernet interfaces (integer). For example: 1 for Ethernet1/2, or NONE for port-channel interfaces.
<i>if_number</i>	The interface number for the Ethernet interfaces (integer). An integer from 1 to the maximum number of switch interfaces.
<i>if_sub_number</i>	(Optional) The sub-interface number for the Ethernet interfaces. A positive integer from 1-4.
<i>type</i>	PVLAN action type (string).
<i>op</i>	Operation type (string). Valid values: "add", "remove".
<i>primaryVlanID</i>	The primary VLAN ID. A positive integer from 2-4093.
<i>secondaryVlanID</i>	(Optional) The secondary VLAN ID. A positive integer from 2-4093.

Response

Response Body (JSON)	
----------------------	--

Show Private VLAN Information

Displays private VLAN information.

Request

Method Type	GET
Request URI	/nos/api/cfg/pvlan
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "type": "<type>", "vlanID": "<vlanID>", "primaryVlanID": "<primaryVlanID>" }]</pre>
----------------------	---

where:

Parameter	Description
type	Private VLAN type (string). Valid values: "primary", "isolated", "community".
vlanID	The VLAN ID. A positive integer from 2-4093.
primaryVlanID	The primary VLAN ID. A positive integer from 2-4093.

Show Interface Private VLAN Information

Displays the private VLAN interface information.

Request

Method Type	GET
Request URI	/nos/api/cfg/pvlan/interface
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "ifname": "<ifname>", "vlan": ["<vlanID>"], "portMode": "<portMode>" "pvlanPortMode": "<pvlanPortMode>" }]</pre>
----------------------	--

where:

Parameter	Description
ifname	Interface name (string). Valid values: "primary", "isolated", "community".
vlan	The associated private VLAN. A positive integer from 2-4093.
portMode	The port mode (string). Valid values: "access", "trunk".
pvlanPortMode	The private VLAN port mode (string). Valid values: "host", "promiscuous", "configured".

Enable Private VLAN Globally

Globally enables the private VLAN.

Request

Method Type	POST
Request URI	/nos/api/cfg/pvlan
Request Body (JSON)	

Response

Response Body (JSON)	
----------------------	--

Disable Private VLAN Globally

Globally disables the private VLAN.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/pvlan
Request Body (JSON)	

Response

Response Body (JSON)	
----------------------	--

QoS over L3

The following QoS over L3 URI is available:

- /nos/api/cfg/dot1qencaps POST

The following QoS over L3 command is available:

- [QoS over L3 Tag Configuration](#)

QoS over L3 Tag Configuration

Enables or disables DOT1Q encapsulation tag value on routed port.

Request

Method Type	POST
Request URI	/nos/api/cfg/dot1qencaps
Request Body (JSON)	[{ "interface": <if_name>, "dot1q_tag": <tag_value> }]

where:

Parameter	Description
interface	The interface name (string).
dot1q_tag	DOT1Q tag value. An integer from 0-4093. 0 disables the tag value.

Response

True if the operation succeeded; otherwise False.

RADIUS

The following Remote Authentication Dial-In User Service (RADIUS) URIs are available:

- /nos/api/cfg/radius GET, PUT
- /nos/api/cfg/radius/hosts GET, POST, DELETE
- /nos/api/cfg/radius/groups GET, POST, DELETE

The following RADIUS commands are available:

- [Get RADIUS Configuration](#)
- [Update RADIUS Configuration](#)
- [Get RADIUS Server Configuration](#)
- [Add RADIUS Server](#)
- [Delete RADIUS Server](#)
- [Get RADIUS Server Group Configuration](#)
- [Add RADIUS Server Group](#)
- [Delete RADIUS Server Group](#)

Get RADIUS Configuration

Gets the RADIUS configuration.

Request

Method Type	GET
Request URI	nos/api/cfg/radius
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "source_interface": <source_interface>, "retransmit": <retransmit>, "timeout": <timeout>, "global_key": <global_key> }</pre>
----------------------	---

where:

Parameter	Description
source_interface	The name of the global RADIUS source interface (string). Valid values: the interface name, "not configured".
retransmit	The number of retries the switch will make to establish a connection with a RADIUS server after the initial attempt failed. An integer from 0-5.
timeout	The amount of time, in seconds, before a RADIUS server connection attempt is considered to have failed. An integer from 1-60.
global_key	The status of the RADIUS global authentication key (string). Valid values: "configured", "not configured".

Update RADIUS Configuration

Updates the RADIUS configuration.

Request

Method Type	PUT
Request URI	/nos/api/cfg/radius
Request Body (JSON)	<pre>{ "retransmit": <retransmit>, "timeout": <timeout>, "global_key": <global_key>, "global_key_form": <global_key_form>, "source_interface": <source_interface> }</pre>

where:

Parameter	Description
retransmit	The number of retries the switch will make to establish a connection with a RADIUS server after the initial attempt failed. An integer from 0-5.
timeout	The amount of time, in seconds, before a RADIUS server connection attempt is considered to have failed. An integer from 1-60.
global_key	The status of the RADIUS global authentication key (string). Valid values: "configured", "not configured".
global_key_form	The encryption method of the RADIUS global authentication key (integer). Valid values: 0 (clear text), 7 (encrypted).
source_interface	The name of the global RADIUS source interface (string). Valid values: interface name, "default". Note: If the variable is set to "default", then it will reset to not configured.

Response

Response Body (JSON)	<pre>{ "source_interface": <source_interface>, "retransmit": <retransmit>, "timeout": <timeout>, "global_key": <global_key> }</pre>
----------------------	---

where:

Parameter	Description
source_interface	The name of the global RADIUS source interface (string). Valid values: the interface name, "not configured".
retransmit	The number of retries the switch will make to establish a connection with a RADIUS server after the initial attempt failed. An integer from 0-5.
timeout	The amount of time, in seconds, before a RADIUS server connection attempt is considered to have failed. An integer from 1-60.
global_key	The status of the RADIUS global authentication key (string). Valid values: "configured", "not configured".

Get RADIUS Server Configuration

Gets the configuration of a specific configured RADIUS server or of all configured RADIUS servers.

Request

Method Type	GET
Request URI	/nos/api/cfg/radius/hosts/<IP_addr>
Request Body (JSON)	

where:

Parameter	Description
IP_addr	The IP address of the RADIUS server (string). Note: If no IP address is provided, then the command returns the configuration of all configured RADIUS servers.

Response

Response Body (JSON)	<pre>[{ "IP_addr": <IP_addr>, "retransmit": <retransmit>, "timeout": <timeout>, "key": <key>, "auth-port": <auth-port>, "acct-port": <acct-port> }]</pre>
----------------------	---

where:

Parameter	Description
IP_addr	The IP address of the RADIUS server (string).
retransmit	The number of retries the switch will make to establish a connection with a RADIUS server after the initial attempt failed. An integer from 0-5.
timeout	The amount of time, in seconds, before a RADIUS server connection attempt is considered to have failed. An integer from 1-60.
key	The status of the RADIUS server authentication key (string). Valid values: "configured", "not configured".

Parameter	Description
auth-port	The TCP port used for RADIUS server authentication. An integer from 0-65535.
acct-port	The TCP port used for RADIUS server accounting. An integer from 0-65535.

Add RADIUS Server

Configures a RADIUS server.

Request

Method Type	POST
Request URI	/nos/api/cfg/radius/hosts
Request Body (JSON)	<pre>{ "IP_addr": <IP_addr>, "retransmit": <retransmit>, "timeout": <timeout>, "key": <key>, "key_form": <key_form> "auth-port": <auth-port>, "acct-port": <acct-port> }</pre>

where:

Parameter	Description
IP_addr	The IP address of the RADIUS server (string).
retransmit	The number of retries the switch will make to establish a connection with a RADIUS server after the initial attempt failed. An integer from 0-5.
timeout	The amount of time, in seconds, before a RADIUS server connection attempt is considered to have failed. An integer from 1-60.
key	The RADIUS server authentication key (string).
key_form	The encryption method of the RADIUS server authentication key (integer). Valid values: 0 (clear text), 7 (encrypted).
auth-port	The TCP port used for RADIUS server authentication. An integer from 0-65535.
acct-port	The TCP port used for RADIUS server accounting. An integer from 0-65535.

Response

Response Body (JSON)	<pre>{ "IP_addr": <IP_addr>, "retransmit": <retransmit>, "timeout": <timeout>, "key": <key>, "auth-port": <auth-port>, "acct-port": <acct-port> }</pre>
----------------------	---

where:

Parameter	Description
IP_addr	The IP address of the RADIUS server (string).
retransmit	The number of retries the switch will make to establish a connection with a RADIUS server after the initial attempt failed. An integer from 0-5.
timeout	The amount of time, in seconds, before a RADIUS server connection attempt is considered to have failed. An integer from 1-60.
key	The status of the RADIUS server authentication key (string). Valid values: "configured", "not configured".
auth-port	The TCP port used for RADIUS server authentication. An integer from 0-65535.
acct-port	The TCP port used for RADIUS server accounting. An integer from 0-65535.

Delete RADIUS Server

Removes a configured RADIUS server.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/radius/hosts/<IP_addr>
Request Body (JSON)	

where:

Parameter	Description
<i>IP_addr</i>	The IP address of the RADIUS server (string).

Response

Response Body (JSON)	
----------------------	--

Get RADIUS Server Group Configuration

Gets the configuration of a specific configured RADIUS server group or of all configured RADIUS server groups.

Request

Method Type	GET
Request URI	/nos/api/cfg/radius/groups/<group_name>
Request Body (JSON)	

where:

Parameter	Description
<i>group_name</i>	The name of the RADIUS server group. A string up to 127 characters long. Note: If no group name is provided, then the command returns the configuration of all configured RADIUS server groups.

Response

Response Body (JSON)	<pre>[{ "group_name": <group_name>, "vrf_name": <vrf_name>, "source_interface": <source_interface>, "hosts": [{ "IP_addr": <IP_addr>, "retransmit": <retransmit>, "timeout": <timeout>, "key": <key>, "auth-port": <auth-port>, "acct-port": <acct-port> }] }]</pre>
----------------------	--

where:

Parameter	Description
group_name	The name of the RADIUS server group. A string up to 127 characters long.
vrf_name	The VRF instance for the RADIUS server group (string). Valid value: the VRF instance name.
source_interface	The name of the RADIUS group source interface (string). Valid values: interface name, "not configured".
hosts	The list of servers members of the RADIUS server group.
IP_addr	The IP address of the RADIUS server (string).
retransmit	The number of retries the switch will make to establish a connection with a RADIUS server after the initial attempt failed. An integer from 0-5.
timeout	The amount of time, in seconds, before a RADIUS server connection attempt is considered to have failed. An integer from 1-60.
key	The status of the RADIUS server authentication key (string). Valid values: "configured", "not configured".
auth-port	The TCP port used for RADIUS server authentication. An integer from 0-65535.
acct-port	The TCP port used for RADIUS server accounting. An integer from 0-65535.

Add RADIUS Server Group

Configures a RADIUS server group.

Request

Method Type	POST
Request URI	/nos/api/cfg/radius/groups
Request Body (JSON)	<pre>{ "group_name": <group_name>, "vrf_name": <vrf_name>, "source_interface": <source_interface>, "hosts": [<IP_addr>] }</pre>

where:

Parameter	Description
group_name	The name of the RADIUS server group. A string up to 127 characters long.
vrf_name	The VRF instance for the RADIUS server group (string). Valid value: the VRF instance name.
source_interface	The name of the RADIUS group source interface (string). Valid values: interface name, "default". Note: If the variable is set to "default", then it will reset to not configured.
hosts	The list of servers members of the RADIUS server group.
IP_addr	The IP address of the RADIUS server to be added to the group (string).

Response

Response Body (JSON)	<pre> { "group_name": <group_name>, "vrf_name": <vrf_name>, "source_interface": <source_interface>, "hosts": [{ "IP_addr": <IP_addr>, "retransmit": <retransmit>, "timeout": <timeout>, "key": <key>, "auth-port": <auth-port>, "acct-port": <acct-port> }] } </pre>
----------------------	--

where:

Parameter	Description
group_name	The name of the RADIUS server group. A string up to 127 characters long.
vrf_name	The VRF instance for the RADIUS server group (string). Valid value: the VRF instance name.
source_interface	The name of the RADIUS group source interface (string). Valid values: interface name, "not configured".
hosts	The list of servers members of the RADIUS server group.
IP_addr	The IP address of the RADIUS server (string).
retransmit	The number of retries the switch will make to establish a connection with a RADIUS server after the initial attempt failed. An integer from 0-5.
timeout	The amount of time, in seconds, before a RADIUS server connection attempt is considered to have failed. An integer from 1-60.
key	The status of the RADIUS server authentication key (string). Valid values: "configured", "not configured".
auth-port	The TCP port used for RADIUS server authentication. An integer from 0-65535.
acct-port	The TCP port used for RADIUS server accounting. An integer from 0-65535.

Delete RADIUS Server Group

Removes a configured RADIUS server group.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/radius/groups/<group_name>
Request Body (JSON)	

where:

Parameter	Description
<i>group_name</i>	The name of the RADIUS server group. A string up to 127characters long.

Response

Response Body (JSON)	
----------------------	--

REST

The following REST URI is available:

- /nos/api/cfg/rest/server GET, PUT

The following REST commands are available:

- [Get REST Server](#)
- [Set REST Server](#)

Get REST Server

Gets the REST server status.

Request

Method Type	GET
Request URI	/nos/api/cfg/rest/server
Request Body (JSON)	

Response

Response Body (JSON)	{ "status": <status>, "protocol": <protocol> }
-------------------------	---

where:

Parameter	Description
status	The REST server status (string). Valid vlaues: "enable", "disable".
protocol	The REST server protocol (string). Valid values: "http", "https".

Set REST Server

Sets the REST server status.

Request

Method Type	PUT
Request URI	/nos/api/cfg/rest/server
Request Body (JSON)	{ "status": <status>, "protocol": <protocol> }

where:

Parameter	Description
status	The REST server status (string). Valid vlaues: "enable", "disable".
protocol	The REST server protocol (string). Valid values: "http", "https".

Response

Response Body (JSON)	
-------------------------	--

RIB

The following RIB URIs are available:

- [/nos/api/info/route](#) GET
- [/nos/api/cfg/static_route_entry](#) GET, PUT, DELETE

The following RIB commands are available:

- [Get Route Entries for a Specified VRF](#)
- [Get Static Route Entries](#)
- [Get Static Route](#)
- [Get a Specified Static Route Entry](#)
- [Update Static Route](#)
- [Delete Static Route](#)

Get Route Entries for a Specified VRF

Gets route entries from the specified VRF.

Request

Method Type	GET
Request URI	/nos/api/info/route/<vrf_name>/<ip_dest>/<ip_prefix_len>
Request Body (JSON)	

where:

Parameter	Description
<i>vrf_name</i>	The VRF name (string).
<i>ip_dest</i>	The destination IP network gateway. A valid IP address (string). Default value: "0.0.0.0".
<i>ip_prefix_len</i>	The IP gateway prefix length. An integer from 0-32. Default value: 0.

Response

Response Body (JSON)	<pre>[{ "vrf_name": "<vrf_name>", "ip_dest": "<ip_dest>", "ip_prefix_len": "<ip_prefix_len>", "ip_gw": "<ip_gw>", "if_name": "<if_name>", "dist": "<dist>", "desc": "<desc>", "tag": "<tag>" }]</pre>
-------------------------	---

where:

Parameter	Description
<i>vrf_name</i>	The VRF name (string).
<i>ip_dest</i>	The destination IP network gateway. A valid IP address (string). Default value: "0.0.0.0".
<i>ip_prefix_len</i>	The IP gateway prefix length. An integer from 0-32. Default value: 0.
<i>ip_gw</i>	(Optional) The gateway IP address. A valid IP address (string).

Parameter	Description
if_name	(Optional) The interface name (string). Note: The interface named must exist.
dist	(Optional) The distance value for the route. An integer from 1-255. Default value: 1.
desc	(Optional) The description of the static route (string).
tag	(Optional) The tag value. An integer from 0-4294967295.

Get Static Route Entries

Gets the static route entries from the specified VRF.

Request

Method Type	GET
Request URI	/nos/api/cfg/static_route_entry/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>vrf_name</i>	The VRF name (string).

Response

Response Body (JSON)	[{ "vrf_name": "<vrf_name>", "ip_dest": "<ip_dest>", "ip_prefix_len": "<ip_prefix_len>", "ip_gw": "<ip_gw>", "if_name": "<if_name>", "dist": "<dist>", "desc": "<desc>", "tag": "<tag>" }]
-------------------------	---

where:

Parameter	Description
<i>vrf_name</i>	VRF name (string).
<i>ip_dest</i>	(Optional) The destination IP network gateway. A valid IP address (string). Default value: "0.0.0.0".
<i>ip_prefix_len</i>	(Optional) The IP gateway prefix length. An integer from 0-32. Default value: 0.
<i>ip_gw</i>	(Optional) The gateway IP address. A valid IP address (string).
<i>if_name</i>	(Optional) The interface name (string). Note: The interface named must exist.
<i>dist</i>	(Optional) The distance value for the route. An integer from 1-255. Default value: 1.

Parameter	Description
desc	(Optional) The description of the static route (string).
tag	(Optional) The tag value. An integer from 0-4294967295.

Get Static Route

Gets a static route from the specified VRF.

Request

Method Type	GET
Request URI	/nos/api/cfg/static_route_entry/<vrf_name>/<ip_dest>/<ip_prefix_len>
Request Body (JSON)	

where:

Parameter	Description
<i>vrf_name</i>	The VRF name (string).
<i>ip_dest</i>	The destination IP network gateway. A valid IP address (string). Default value: "0.0.0.0".
<i>ip_prefix_len</i>	The IP gateway prefix length. An integer from 0-32. Default value: 0.

Response

Response Body (JSON)	{ "vrf_name": "<vrf_name>", "ip_dest": "<ip_dest>", "ip_prefix_len": "<ip_prefix_len>", "ip_gw": "<ip_gw>", "if_name": "<if_name>", "dist": "<dist>", "desc": "<description>", "tag": "<tag>" }
-------------------------	--

where:

Parameter	Description
<i>vrf_name</i>	The VRF name (string). Note: The named VRF must exist.
<i>ip_dest</i>	The destination IP network gateway. A valid IP address (string). Default value: "0.0.0.0".
<i>ip_prefix_len</i>	The IP prefix length. An integer from 0-32.
<i>ip_gw</i>	The gateway IP address (string).

Parameter	Description
if_name	Interface name used for communication (string). Note: The interface must exist.
dist	The distance value for the route. An integer from 1-255. Default value: 1.
desc	(Optional) Description of the static route (string).
tag	(Optional) The tag value. An integer from 0-4294967295.

Get a Specified Static Route Entry

Gets a static route entry from a VRF by specifying the prefix and prefix length.

Request

Method Type	GET
Request URI	/nos/api/cfg/static_route_entry/<vrf_name>/<ip_dest>/<ip_prefix_len>
Request Body (JSON)	

where:

Parameter	Description
<i>vrf_name</i>	VRF name (string).
<i>ip_dest</i>	The destination IP network gateway. A valid IP address (string). Default value: "0.0.0.0".
<i>ip_prefix_len</i>	The IP gateway prefix length. An integer from 0-32. Default value: 0.

Response

Response Body (JSON)	[{ "vrf_name": "<vrf_name>", "ip_dest": "<ip_dest>", "ip_prefix_len": "<ip_prefix_len>", "ip_gw": "<ip_gw>", "if_name": "<if_name>", "dist": "<dist>", "desc": "<desc>", "tag": "<tag>" }]
-------------------------	---

where:

Parameter	Description
<i>vrf_name</i>	VRF name (string).
<i>ip_dest</i>	The destination IP network gateway. A valid IP address (string). Default value: "0.0.0.0".
<i>ip_prefix_len</i>	The IP gateway prefix length. An integer from 0-32. Default value: 0.
<i>ip_gw</i>	(Optional) The gateway IP address. A valid IP address (string).

Parameter	Description
if_name	(Optional) The interface name (string). Note: The interface named must exist.
dist	(Optional) The distance value for the route. An integer from 1-255. Default value: 1.
desc	(Optional) The description of the static route (string).
tag	(Optional) The tag value. An integer from 0-4294967295.

Update Static Route

Updates a static route in the specified VRF.

Request

Method Type	PUT
Request URI	/nos/api/cfg/static_route_entry/<vrf_name>/<ip_dest>/<ip_prefix_len>
Request Body (JSON)	{ "vrf_name": "<vrf_name>", "ip_dest": "<ip_dest>", "ip_prefix_len": "<ip_prefix_len>", "ip_gw": "<ip_gw>", "if_name": "<if_name>", "dist": "<dist>", "desc": "<desc>", "tag": "<tag>" }

where:

Parameter	Description
vrf_name	The VRF name (string). Note: The named VRF must exist.
ip_dest	The destination IP network gateway. A valid IP address (string). Default value: "0.0.0.0".
ip_prefix_len	The IP prefix length. An integer from 0-32, with 0 being the default gateway.
ip_gw	The gateway IP address (string).
if_name	Interface name used for communication (string). Note: The interface must exist.
dist	(Optional) The distance value for the route. An integer from 1-255. Default value: 1.
desc	(Optional) Description of the static route (string).
tag	(Optional) The tag value. An integer from 0-4294967295.

Response

Response Body (JSON)	<pre>{ "vrf_name": "<vrf_name>", "ip_dest": "<ip_dest>", "ip_prefix_len": "<ip_prefix_len>", "ip_gw": "<ip_gw>", "if_name": "<if_name>", "dist": "<dist>", "desc": "<description>", "tag": "<tag>" }</pre>
-------------------------	--

where:

Parameter	Description
vrf_name	The VRF name (string). Note: The named VRF must exist.
ip_dest	The destination IP network gateway. A valid IP address (string). Default value: "0.0.0.0".
ip_prefix_len	The IP prefix length. An integer from 0-32.
ip_gw	The gateway IP address (string).
if_name	Interface name used for communication (string). Note: The interface must exist.
dist	The distance value for the route. An integer from 1-255. Default value: 1.
desc	(Optional) Description of the static route (string).
tag	(Optional) The tag value. An integer from 0-4294967295.

Delete Static Route

Deletes a static route in the specified VRF.

Note: If the specified *ip_dest* is **all**, all static routes entries in the specified interface will be deleted.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/static_route_entry/<vrf_name>/<ip_dest>/<ip_prefix_len>
Request Body (JSON)	

where:

Parameter	Description
<i>vrf_name</i>	The VRF name (string).
<i>ip_dest</i>	The destination IP network gateway. A valid IP address (string). Default value: "0.0.0.0".
<i>ip_prefix_len</i>	The IP gateway prefix length. An integer from 0-32. Default value: 0.

Response

Response Body (JSON)	
-------------------------	--

Route Maps

The following route map URI is available:

- /nos/api/info/routemap GET

The following route map command is available:

- [Get Route Maps](#)

Get Route Maps

Gets route maps property information.

Request

Method Type	GET
Request URI	/nos/api/info/routemap
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "rmapName": "<rmapName>", "matchAction": "<matchAction>", "seqNum": "<seqNum>", "matchList": [{ "cmd": "<matchList_cmd>" }], "applyList": [{ "cmd": "<applyList_cmd>" }] }]</pre>
-------------------------	---

where:

Parameter	Description
rmapName	Route map name (string).
matchAction	Match action (integer).
seqnum	Sequence number (integer).
matchList_cmd	Match list command (string).
applyList_cmd	Apply list command (string).

Security Mode

The following security mode URI is available:

- /nos/api/cfg/secmode GET, PUT

The following security mode commands are available:

- [Get Security Mode Configuration](#)
- [Update Security Mode Configuration](#)

Get Security Mode Configuration

Gets the current security mode configuration.

Request

Method Type	GET
Request URI	/nos/api/cfg/secmode
Request Body (JSON)	

Response

Response Body (JSON)	{ "current": "{legacy_mode secure_mode}", "setting": "{legacy_mode secure_mode}" }
----------------------	---

where:

Parameter	Description
current	The currently configured security mode (string). Valid values: "legacy_mode", "secure_mode".
setting	The security mode that takes effect after switch reload (string). Valid values: "legacy_mode", "secure_mode".

Update Security Mode Configuration

Updates the security mode configuration.

Request

Method Type	PUT
Request URI	/nos/api/cfg/secmode
Request Body (JSON)	{ "setting": "{legacy_mode secure_mode}" }

where:

Parameter	Description
setting	The security mode that takes effect after switch reload (string). Valid values: "legacy_mode", "secure_mode".

Response

Response Body (JSON)	{ "current": "{legacy_mode secure_mode}", "setting": "{legacy_mode secure_mode}" }
----------------------	---

where:

Parameter	Description
current	The currently configured security mode (string). Valid values: "legacy_mode", "secure_mode".
setting	The security mode that takes effect after switch reload (string). Valid values: "legacy_mode", "secure_mode".

sFlow

The following sFlow URIs are available:

- /nos/api/cfg/sflow GET, PUT
- /nos/api/cfg/sflow/interface/<if_name> PUT
- /nos/api/info/sflow/stats GET, DELETE

The following sFlow commands are available:

- [Get sFlow Configuration](#)
- [Update sFlow Global Configuration](#)
- [Update sFlow Interface Configuration](#)
- [Get sFlow Statistics](#)
- [Clear sFlow Statistics](#)

Get sFlow Configuration

Gets the current sFlow configuration.

Request

Method Type	GET
Request URI	nos/api/cfg/sflow
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "enabled": <enabled>, "sampling-rate": <sampling-rate>, "max-sampled-size": <max-sampled-size>, "polling-interval": <polling-interval>, "max-datagram-size": <max-datagram-size>, "collector": { "ip": <collector-ip>, "port": <collector-port>, "vrf": <collector-vrf> }, "interfaces": [<interface-name>, ...] }</pre>
----------------------	---

where:

Parameter	Description
enabled	The status of sFlow on the switch. Valid values: "enabled", "disabled".
sampling-rate	The sFlow sampling rate, in packets per sample. An integer from 4096-1000000000. Default value: 4096.
max-sampled-size	The maximum sFlow sampling size of packets. An integer from 64-256. Default value: 128.
polling-interval	The sFlow polling interval, in seconds. An integer from 0-86400. Note: Setting this variable to 0 disables sFlow polling.
max-datagram-size	The maximum sFlow datagram size. An integer from 200-9000. Default value: 1500
collector	The sFlow collector configuration.
ip	The IP address of the sFlow server.

Parameter	Description
port	The UDP port of the sFlow server. An integer from 1-65535. Default value: 6343
vrf	The VRF instance used by the sFlow server (string). Valid value: the VRF instance name.
interfaces	The interfaces on which sFlow sampling is enabled (string). Valid value: the interface name. For example, "Ethernet1/12".

Update sFlow Global Configuration

Updates the global sFlow configuration on the switch.

Request

Method Type	PUT
Request URI	nos/api/cfg/sflow
Request Body (JSON)	<pre>{ "enabled": <enabled>, "sampling-rate": <sampling-rate>, "max-sampled-size": <max-sampled-size>, "polling-interval": <polling-interval>, "max-datagram-size": <max-datagram-size>, "collector": { "ip": <collector-ip>, "port": <collector-port>, "vrf": <collector-vrf> } }</pre>

where:

Parameter	Description
enabled	The status of sFlow on the switch. Valid values: "enabled", "disabled".
sampling-rate	The sFlow sampling rate, in packets per sample. An integer from 4096-1000000000. Default value: 4096.
max-sampled-size	The maximum sFlow sampling size of packets. An integer from 64-256. Default value: 128.
polling-interval	The sFlow polling interval, in seconds. An integer from 0-86400. Note: Setting this variable to 0 disables sFlow polling.
max-datagram-size	The maximum sFlow datagram size. An integer from 200-9000. Default value: 1500.
collector	The sFlow collector configuration.
ip	The IP address of the sFlow server.
port	The UDP port of the sFlow server (integer). Valid value: 1-65535. Default value: 6343.
vrf	The VRF instance used by the sFlow server (string). Valid value: the VRF instance name.

Response

Response Body (JSON)	
-------------------------	--

Update sFlow Interface Configuration

Updates the sFlow configuration for a specific switch interface.

Request

Method Type	GET
Request URI	/nos/api/cfg/sflow/interface/<if_name>
Request Body (JSON)	{ enabled: [enabled disabled] }

where:

Parameter	Description
<i>if_name</i>	The name of the switch interface (string). For example: "Ethernet1%2F1".
enabled	The status of sFlow on the switch (string). Valid values: "enabled", "disabled".

Response

Response Body (JSON)	
----------------------	--

Get sFlow Statistics

Gets sFlow statistics.

Request

Method Type	GET
Request URI	nos/api/info/sflow/stats
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ processed_samples: <processed_samples>, dropped_samples: <dropped_samples>, sent_datagrams: <sent_datagrams>, dropped_datagrams: <dropped_datagrams> }</pre>
----------------------	---

where:

Parameter	Description
processed_samples	The number of processed sFlow samples (integer).
dropped_samples	The number of dropped sFlow samples (integer).
sent_datagrams	The number of sent sFlow datagrams (integer).
dropped_datagrams	The number of dropped sFlow datagrams (integer).

Response

Response Body (JSON)	
----------------------	--

Clear sFlow Statistics

Resets sFlow statistics.

Request

Method Type	DELETE
Request URI	/nos/api/info/sflow/stats/clear
Request Body (JSON)	

Response

Response Body (JSON)	
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SNMP

The following SNMP-related URIs are available:

- /nos/api/cfg/snmp/hosuser GET, PUT, DELETE
- /nos/api/hostraphost GET, PUT, DELETE

Note: These URIs and commands are necessary for XClarity support.

The following SNMP commands are available:

- [Get the SNMPv3 Account for XClarity](#)
- [Set the SNMPv3 Account for XClarity](#)
- [Delete the SNMPv3 Account for XClarity](#)
- [Get the SNMPv3 Trap Host IP Address for XClarity](#)
- [Set the SNMPv3 Trap Host IP Address for XClarity](#)
- [Delete the SNMPv3 Trap Host IP Address for XClarity](#)

Get the SNMPv3 Account for XClarity

Gets the special SNMPv3 user account for XClarity.

Request

Method Type	GET
Request URI	/nos/api/cfg/snmp/hosuser
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "user_name": <user_name>, "group_name":<group_name>, "auth_type":<auth_type>, "auth_passwd":<password>, "priv_type": " <priv_type>, "priv_passwd":<password> "xclarity_id": <identifier> }</pre>
-------------------------	---

where:

Parameter	Description
user_name	User name. A string from 5-32 characters long.
group_name	Group name (string). Valid values: "network_operator", "network_admin". Default value: "network_operator".
auth_type	Authentication type (string). Valid values: "invalid", "md5", "sha".
auth_passwd	Authentication password. A string from 8-32 characters long.
priv_type	Privilege type (string). Valid values: "invalid", "des", "aes".
priv_passwd	Privilege password. A string from 8-32 characters long.
xclarity_id	XClarity instance identifier (string).

Note: If the user account does not exist, the request will return the error message "404 Resource not available: Snmp Hos User instance not present in DUT".

Set the SNMPv3 Account for XClarity

Sets the special SNMPv3 user account for XClarity.

Note: This account is only for XClarity support and differs from SNMPv3 user accounts in the following ways:

- It cannot be set from the command line interface.
- It does not appear in any command.
- This information must be included in any tech support dump.

Request

Method Type	PUT
Request URI	/nos/api/cfg/snmp/hosuser
Request Body (JSON)	{ "user_name": <user_name>, "group_name": <group_name>, "auth_type": <auth_type>, "auth_passwd": <password>, "priv_type": " <priv_type>, "priv_passwd": <password> "xclarity_id": <identifier> }

where:

Parameter	Description
user_name	User name. A string from 5-32 characters long.
group_name	Group name (string). Valid values: "network_operator", "network_admin". Default value: "network_operator".
auth_type	Authentication type (string). Valid values: "invalid", "md5", "sha".
auth_passwd	Authentication password. A string from 8-32 characters long.
priv_type	Privilege type (string). Valid values: "invalid", "des", "aes".
priv_passwd	Privilege password. A string from 8-32 characters long.
xclarity_id	XClarity instance identifier (string).

Response

Response Body (JSON)	<pre>{ "user_name": <user_name>, "group_name":<group_name>, "auth_type":<auth_type>, "auth_passwd":<password>, "priv_type": " <priv_type>, "priv_passwd":<password> "xclarity_id": <identifier> }</pre>
-------------------------	---

where:

Parameter	Description
user_name	User name. A string from 5-32 characters long.
group_name	Group name (string). Valid values: "network_operator", "network_admin". Default value: "network_operator".
auth_type	Authentication type (string). Valid values: "invalid", "md5", "sha".
auth_passwd	Authentication password. A string from 8-32 characters long.
priv_type	Privilege type (string). Valid values: "invalid", "des", "aes".
priv_passwd	Privilege password. A string from 8-32 characters long.
xclarity_id	XClarity instance identifier (string).

Delete the SNMPv3 Account for XClarity

Deletes the special SNMPv3 user account for XClarity.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/snmp/hosuser
Request Body (JSON)	

Response

True if the operation succeeded; otherwise False.

Get the SNMPv3 Trap Host IP Address for XClarity

Gets the IP address of the special SNMPv3 trap host for XClarity.

Request

Method Type	GET
Request URI	/nos/api/cfg/snmp/hostraphost
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "host_name": <host_name>, "security_level":<security_level>, "username":<username>, "message_type": " <message_type>, "port":<port> }</pre>
-------------------------	--

where:

Parameter	Description
host_name	Trap host name. A valid IPv4 or IPv6 address (string).
security_level	Security level (string). Valid values: "auth", "authpriv", "noauth".
username	Username. A text string 5-32 characters long.
message_type	Message type (string). Valid values: "trap", "inform". Default value: "trap".
port	Host UDP port. An integer from 1-65535. Default value: 162.

Note: If the user name does not exist, the request will return the error message "404 Resource not available: Snmp Hos User instance not present in DUT".

Set the SNMPv3 Trap Host IP Address for XClarity

Sets the IP address of the special SNMPv3 trap host for XClarity.

Note: The trap destination IP address is only for XClarity and differs from a standard SNMPv3 trap host in the following ways:

- It cannot be set from the command line interface.
- It does not appear in any command.
- This information must be included in any tech support dump.

Request

Method Type	PUT
Request URI	/nos/api/cfg/snmp/hostraphost
Request Body (JSON)	{ "host_name": <host_name>, "security_level":<security_level>, "username":<username>, "message_type": " <message_type>, "port":<port> }

where:

Parameter	Description
host_name	Trap host name. A valid IPv4 or IPv6 address (string).
security_level	Security level (string). Valid values: "auth", "authpriv", "noauth".
username	Username. A text string 5-32 characters long.
message_type	Message type (string). Valid values: "trap", "inform". Default value: "trap".
port	Host UDP port. An integer from 1-65535. Default value: 162.

Response

Response Body (JSON)	<pre>{ "host_name": <host_name>, "security_level":<security_level>, "username":<username>, "message_type": " <message_type>, "port":<port> }</pre>
-------------------------	--

where:

Parameter	Description
host_name	Trap host name. A valid IPv4 or IPv6 address (string).
security_level	Security level (string). Valid values: "auth", "authpriv", "noauth".
username	Username. A text string 5-32 characters long.
message_type	Message type (string). Valid values: "trap", "inform". Default value: "trap".
port	Host UDP port. An integer from 1-65535. Default value: 162.

Delete the SNMPv3 Trap Host IP Address for XClarity

Deletes the special SNMPv3 trap host IP address for XClarity.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/snmp/hostraphost
Request Body (JSON)	

Response

True if the operation succeeded; otherwise False.

SSH

The following Secure Shell (SSH) URI is available:

- /nos/api/cfg/ssh/server GET, PUT

The following SSH commands are available:

- [Get SSH Server](#)
- [Set SSH Server](#)

Get SSH Server

Gets the SSH server status.

Request

Method Type	GET
Request URI	nos/api/cfg/ssh/server
Request Body (JSON)	

Response

Response Body (JSON)	{ "status": <status> }
-------------------------	------------------------------

where:

Parameter	Description
status	The SSH server status (string). Valid values: "enable", "disable".

Set SSH Server

Sets the SSH server status.

Request

Method Type	PUT
Request URI	nos/api/cfg/ssh/server
Request Body (JSON)	{ "status": <status> }

where:

Parameter	Description
status	The SSH server status (string). Valid values: "enable", "disable".

Response

Response Body (JSON)	{ "status": <status> }
-------------------------	------------------------------

where:

Parameter	Description
status	The SSH server status (string). Valid values: "enable", "disable".

Startup Information

The following startup information URIs are available:

- /nos/api/startup GET
- /nos/api/startup/ztp GET, PUT
- /nos/api/startup/software GET, PUT

The following startup commands are available:

- [Get System Startup Information](#)
- [Put System ZTP Interface](#)
- [Get System ZTP Setting](#)
- [Put System Startup Image](#)
- [Get System Startup Image](#)

Get System Startup Information

Gets system boot information.

Note: This is required for XClarity support.

Request

Method Type	GET
Request URI	/nos/api/startup
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "ztp" : <ztp>, "active image" : <active image>, "standby image" : <standby image>, "Uboot" : <uboot>, "ONIE" : <onie>, "boot software" : <boot software>, "scheduled reboot" : <scheduled reboot>, "port mode" : <port mode> }</pre>
-------------------------	---

where:

Parameter	Description
ztp	Current zero touch provisioning setting (string).
active image	Active image information.
standby image	Standby image information.
Uboot	Uboot image information.
ONIE	ONIE image information (string).
boot software	Next boot image setting (string).
scheduled reboot	Scheduled reboot setting (string).
port mode	Current port mode.

Put System ZTP Interface

Updates the system Zero Touch Provisioning setting.

Request

Method Type	PUT
Request URI	/nos/api/startup/ztp/<enable>
Request Body (JSON)	{ "ztp" : <setting> }

where:

Parameter	Description
ztp	The ZTP provisioning setting (string). Valid values: "Enable", "Forcedly Enabled", "Forcedly Disabled".

Response

Response Body (JSON)	{ "ztp" : <setting> }
-------------------------	-----------------------------

where:

Parameter	Description
ztp	The ZTP provisioning setting (string). Valid values: "Enable", "Forcedly Enabled", "Forcedly Disabled".

Get System ZTP Setting

Gets the current system Zero Touch Provisioning setting.

Request

Method Type	GET
Request URI	/nos/api/startup/ztp
Request Body (JSON)	

Response

Response Body (JSON)	{ "ztp" : <setting> }
-------------------------	-----------------------------

where:

Parameter	Description
ztp	Current ZTP provisioning setting (string).

Put System Startup Image

Updates the system startup image.

Note: This request is required for XClarity support.

Request

Method Type	PUT
Request URI	/nos/api/startup/software
Request Body (JSON)	{ "boot software" : <setting> }

where:

Parameter	Description
boot software	Next startup image setting (string). Valid values: "active", "standby".

Response

Response Body (JSON)	{ "boot software" : <setting> }
-------------------------	---------------------------------------

where:

Parameter	Description
boot software	Next startup image setting (string). Valid values: "active", "standby".

Get System Startup Image

Gets the system boot image.

Note: This request is required for XClarity support.

Request

Method Type	GET
Request URI	/nos/api/startup/software
Request Body (JSON)	

Response

Response Body (JSON)	{ "boot software" : <setting> }
-------------------------	---------------------------------------

where:

Parameter	Description
boot software	Boot image setting (string). Valid values: "active", "standby".

STP

The following STP URIs are available:

- /nos/api/cfg/stp_interface GET
- /nos/api/cfg/stp_interface/<if_name> GET, PUT
- /nos/api/cfg/stp/vlan/<vid> GET, PUT
- /nos/api/cfg/stp/interface/<if_name> GET, PUT
- /nos/api/cfg/stp/interface/<if_name>/vlan/<vlan_id> GET, PUT

The following STP interface property commands are available:

- [Get STP Properties for All Interfaces](#)
- [Get STP Interface Properties](#)
- [Update STP Interface Properties](#)
- [Get STP Properties Per VLAN](#)
- [Set STP Properties Per VLAN](#)
- [Get STP Interface Properties](#)
- [Update STP Interface Properties](#)
- [Get STP Interface VLAN Properties](#)
- [Update STP Interface VLAN Properties](#)

Get STP Properties for All Interfaces

Gets STP properties of all interfaces. These properties are supported by all STP modes.

Request

Method Type	GET
Request URI	/nos/api/cfg/stp/interface
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "if_name": "<if_name>", "edge_port": "<edge_port>", "bpdu_guard": "<bpdu_guard>", "loop_guard": "<loop_guard>", "root_guard": "<root_guard>" }</pre>
-------------------------	---

where:

Parameter	Description
if_name	The IP interface name (string). Note: The interface must exist.
edge_port	Whether the interface is configured as an edge port, which allows the port to automatically transition to the STP forwarding state (string). Valid values: "yes", "no". Default value: "yes".
bpdu_guard	(Optional) Whether BPDU guard is enabled on a port, which automatically shuts down the interface upon receipt of a BPDU (string). Valid values: "enable", "disable". Default value: "disable".
loop_guard	(Optional) Whether loop guard is enabled on a port for additional checks for preventing STP looping (string). Valid values: "enable", "disable". Default value: "disable".
root_guard	(Optional) Whether guard mode is set to root guard on interface (string).

Get STP Interface Properties

Gets STP properties of one interface. These properties are supported by all STP modes.

Request

Method Type	GET
Request URI	/nos/api/cfg/stp/interface/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The IP interface name (string). For example: "Ethernet1%2F1". Note: The interface must exist.

Response

Response Body (JSON)	{ "if_name": "<if_name>", "edge_port": "<edge_port>", "bpdu_guard": "<bpdu_guard>", "loop_guard": "<loop_guard>", "root_guard": "<root_guard>" }
-------------------------	--

where:

Parameter	Description
<i>if_name</i>	The IP interface name (string). Note: The interface must exist.
<i>edge_port</i>	Whether the interface is configured as an edge port, which allows the port to automatically transition to the STP forwarding state (string). Valid values: "yes", "no". Default value: "yes".
<i>bpdu_guard</i>	(Optional) Whether BPDU guard is enabled on a port, which automatically shuts down the interface upon receipt of a BPDU (string). Valid values: "enable", "disable". Default value: "disable".
<i>loop_guard</i>	(Optional) Whether loop guard is enabled on a port for additional checks for preventing STP looping (string). Valid values: "enable", "disable". Default value: "disable".
<i>root_guard</i>	(Optional) Whether guard mode is set to root guard on interface (string).

Update STP Interface Properties

Updates STP properties of one interface. These properties are supported by all STP modes.

Note: If an element is not specified in a PUT request, no update for that element will be performed.

Request

Method Type	PUT
Request URI	/nos/api/cfg/stp/interface/<if_name>
Request Body (JSON)	{ "if_name": "<if_name>", "edge_port": "<edge_port>", "bpdu_guard": "<bpdu_guard>", "loop_guard": "<loop_guard>", "root_guard": "<root_guard>" }

where:

Parameter	Description
if_name	The IP interface name (string). For example: "Ethernet1%2F1". Note: The interface must exist.
edge_port	Whether the interface is configured as an edge port, which allows the port to automatically transition to the STP forwarding state (string). Valid values: "yes", "no". Default value: "yes".
bpdu_guard	(Optional) Whether BPDU guard is enabled on a port, which automatically shuts down the interface upon receipt of a BPDU (string). Valid values: "enable", "disable". Default value: "disable".
loop_guard	(Optional) Whether loop guard is enabled on a port for additional checks for preventing STP looping (string). Valid values: "enable", "disable". Default value: "disable".
root_guard	(Optional) Whether guard mode is set to root guard on interface (string).

Response

Response Body (JSON)	<pre>{ "if_name": "<if_name>", "edge_port": "<edge_port>", "bpdu_guard": "<bpdu_guard>", "loop_guard": "<loop_guard>", "root_guard": "<root_guard>" }</pre>
-------------------------	---

where:

Parameter	Description
if_name	The IP interface name (string). Note: The interface must exist.
edge_port	Whether the interface is configured as an edge port, which allows the port to automatically transition to the STP forwarding state (string). Valid values: "yes", "no". Default value: "yes".
bpdu_guard	(Optional) Whether BPDU guard is enabled on a port, which automatically shuts down the interface upon receipt of a BPDU (string). Valid values: "enable", "disable". Default value: "disable".
loop_guard	(Optional) Whether loop guard is enabled on a port for additional checks for preventing STP looping (string). Valid values: "enable", "disable". Default value: "disable".
root_guard	(Optional) Whether guard mode is set to root guard on interface (string).

Get STP Properties Per VLAN

Gets STP parameters for each VLAN.

Note: This is designed only for rapid Per VLAN Spanning Tree (PVST) mode.

Request

Method Type	GET
Request URI	/nos/api/cfg/stp/vlan/<vlan_ID>
Request Body (JSON)	

where:

Parameter	Description
<i>vlan_ID</i>	VLAN ID. An integer from 2-3999.

Response

Response Body (JSON)	{ "forward-time": "<forward-time>", "hello-time": "<hello-time>", "max-age" : "<max-age>", "priority" : "<priority>" }
-------------------------	---

where:

Parameter	Description
<i>forward-time</i>	The forward delay for the spanning tree. An integer from 4-30.
<i>hello-time</i>	The hello interval for the spanning tree. An integer from 1-10.
<i>max-age</i>	The maximum age interval for the spanning tree. An integer from 6-40.
<i>priority</i>	The bridge priority for the spanning tree. An integer from 0-61440.

Set STP Properties Per VLAN

Sets STP parameters for each VLAN.

Note: This is designed only for rapid Per VLAN Spanning Tree (PVST) mode.

Request

Method Type	PUT
Request URI	/nos/api/cfg/stp/vlan/<vlan_ID>
Request Body (JSON)	{ "forward-time": "<forward-time>", "hello-time": "<hello-time>", "max-age" : "<max-age>", "priority" : "<priority>" }

where:

Parameter	Description
vlan_ID	VLAN number. An integer from 2-3999.
forward-time	The forward delay for the spanning tree. An integer from 4-30.
hello-time	The hello interval for the spanning tree. An integer from 1-10.
max-age	The maximum age interval for the spanning tree. An integer from 6-40.
priority	The bridge priority for the spanning tree. An integer from 0-61440.

Response

Response Body (JSON)	{ "forward-time": "<forward-time>", "hello-time": "<hello-time>", "max-age" : "<max-age>", "priority" : "<priority>" }
-------------------------	---

where:

Parameter	Description
forward-time	(Optional) The forward delay for the spanning tree. An integer from 4-30.
hello-time	(Optional) The hello interval for the spanning tree. An integer from 1-10.

Parameter	Description
max - age	(Optional) The maximum age interval for the spanning tree. An integer from 6-40.
priority	(Optional) The bridge priority for the spanning tree. An integer from 0-61440.

Get STP Interface Properties

Gets the STP properties of the specified interface.

Note: These properties are supported by all STP modes.

Request

Method Type	GET
Request URI	/nos/api/cfg/stp/interface/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The IP interface name (string). For example: "Ethernet1%2F1". Note: The interface must exist.

Response

Response Body (JSON)	<pre>{ "if_name": "<if_name>", "edge_port": "<edge_port>", "bpdu_guard": "<bpdu_guard>", "loop_guard": "<loop_guard>", "root_guard": "<root_guard>" }</pre>
-------------------------	---

where:

Parameter	Description
<i>if_name</i>	The IP interface name (string). Note: The interface must exist.
<i>edge_port</i>	Whether the interface is configured as an edge port, which allows the port to automatically transition to the STP forwarding state (string). Valid values: "yes", "no". Default value: "yes".
<i>bpdu_guard</i>	(Optional) Whether BPDU guard is enabled on a port, which automatically shuts down the interface upon receipt of a BPDU (string). Valid values: "enable", "disable". Default value: "disable".
<i>loop_guard</i>	(Optional) Whether look guard is enabled on a port for additional checks for preventing STP looping (string). Valid values: "enable", "disable". Default value: "disable".
<i>root_guard</i>	(Optional) Whether guard mode is set to root guard on interface (string).

Update STP Interface Properties

Updates the STP properties of the specified interface.

Note: These properties are supported by all STP modes.

Request

Method Type	PUT
Request URI	/nos/api/cfg/stp/interface/<if_name>
Request Body (JSON)	{ "if_name": "<if_name>", "edge_port": "<edge_port>", "bpdu_guard": "<bpdu_guard>", "loop_guard": "<loop_guard>", "root_guard": "<root_guard>" }

where:

Parameter	Description
<i>if_name</i>	The IP interface name (string). For example: "Ethernet1%2F1". Note: The interface must exist.
edge_port	Whether the interface is configured as an edge port, which allows the port to automatically transition to the STP forwarding state (string). Valid values: "yes", "no". Default value: "yes".
bpdu_guard	(Optional) Whether BPDU guard is enabled on a port, which automatically shuts down the interface upon receipt of a BPDU (string). Valid values: "enable", "disable". Default value: "disable".
loop_guard	(Optional) Whether loop guard is enabled on a port for additional checks for preventing STP looping (string). Valid values: "enable", "disable". Default value: "disable".
root_guard	(Optional) Whether guard mode is set to root guard on interface (string).

Response

Response Body (JSON)	
-------------------------	--

Get STP Interface VLAN Properties

Gets the STP interface VLAN properties of the specified interface and VLAN.

Note: This is designed only for rapid Per VLAN Spanning Tree (PVST) mode.

Request

Method Type	GET
Request URI	/nos/api/cfg/stp/interface/<if_name>/vlan/<vlan_id>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The IP interface name (string). For example: "Ethernet1%2F1". Note: The interface must exist.
<i>vlan_ID</i>	VLAN ID. An integer from 2-3999.

Response

Response Body (JSON)	{ "cost": "<cost>", "priority": "<priority>", }
-------------------------	--

where:

Parameter	Description
<i>cost</i>	The interface's spanning-tree port path cost; one of auto (based on port speed). An integer from 1-200000000.
<i>priority</i>	The interface's spanning-tree port path priority, in increments of 32. An integer from 0-224 that is a multiple of 32. Default value: 128.

Update STP Interface VLAN Properties

Updates the STP interface VLAN properties of the specified interface and VLAN.

Note: This is designed only for rapid Per VLAN Spanning Tree (PVST) mode.

Request

Method Type	PUT
Request URI	/nos/api/cfg/stp/interface/<if_name>/vlan/<vlan_id>
Request Body (JSON)	{ "cost": "<cost>", "priority": "<priority>", }

where:

Parameter	Description
<i>if_name</i>	The IP interface name (string). For example: "Ethernet1%2F1". Note: The interface must exist.
<i>vlan_ID</i>	VLAN ID. An integer from 2-3999.
<i>cost</i>	The interface's spanning-tree port path cost; one of <code>auto</code> (based on port speed). An integer from 1-200000000.
<i>priority</i>	The interface's spanning-tree port path priority, in increments of 32. An integer from 0-224 that is a multiple of 32. Default value: 128.

Response

Response Body (JSON)	{ "if_name": "<if_name>", "edge_port": "<edge_port>", "bpdu_guard": "<bpdu_guard>", }
-------------------------	---

where:

Parameter	Description
<i>if_name</i>	The IP interface name (string). Note: The interface must exist.
<i>edge_port</i>	Whether the interface is configured as an edge port, which allows the port to automatically transition to the STP forwarding state (string). Valid values: "yes", "no". Default value: "yes".
<i>bpdu_guard</i>	(Optional) Whether BPDU guard is enabled on a port, which automatically shuts down the interface upon receipt of a BPDU (string). Valid values: "enable", "disable". Default value: "disable".

System

The following system URI is available:

- /nos/api/system GET

The following system interface property command is available:

- [Get System Properties](#)

Get System Properties

Gets basic properties of the system. All properties are version-independent.

Request

Request URI	nos/api/system
Request Body (JSON)	

Response

Response Body (JSON)	{ "switch_type": <switch_type>, "fw_version": <fw_version> }
----------------------	---

where:

Parameter	Description
switch_type	Switch platform type (string).
fw_version	The version number of the firmware running on the switch (string).

System Configuration

The following system configuration-related URIs are available:

- /nos/api/cfg/hostname GET, PUT
- /nos/api/cfg/clock GET, PUT
- /nos/api/cfg/clock/format PUT
- /nos/api/cfg/clock/protocol PUT
- /nos/api/cfg/clock/timezone PUT
- /nos/api/cfg/clock/summertime PUT
- /nos/api/cfg/syscontact GET, PUT
- /nos/api/cfg/sysdescr GET, PUT
- /nos/api/cfg/rack_prop GET, PUT

Note: These requests are required for XClarity support.

The following system configuration commands are available:

- [Get Hostname](#)
- [Set Hostname](#)
- [Get Clock Date](#)
- [Set Clock Date](#)
- [Set Clock Format](#)
- [Set Clock Protocol](#)
- [Set Clock Timezone](#)
- [Set Clock Summer Time](#)
- [Get Device Contact](#)
- [Update Device Contact](#)
- [Get Device Description](#)
- [Update Device Description](#)
- [Get Rack Properties](#)
- [Update Rack Properties](#)

Get Hostname

Gets the hostname of the system.

Request

Method Type	GET
Request URI	/nos/api/cfg/hostname
Request Body (JSON)	

Response

Response Body (JSON)	{ "hostname": "<hostname>", }
-------------------------	-------------------------------------

where:

Parameter	Description
host name	The hostname of the system. A string from 1-64 characters long.

Set Hostname

Sets the hostname of the system.

Request

Method Type	PUT
Request URI	/nos/api/cfg/hostname
Request Body (JSON)	

Response

Response Body (JSON)	{ "hostname": "<hostname>", }
-------------------------	-------------------------------------

where:

Parameter	Description
hostname	The hostname of the system. A string from 1-64 characters long.

Get Clock Date

Gets the system date.

Request

Method Type	GET
Request URI	/nos/api/cfg/clock
Request Body (JSON)	

Response

Response Body (JSON)	{ "date": "<date>", }
-------------------------	-----------------------------

where:

Parameter	Description
date	System date in the following format: "HH:MM:SS xM ZZZ Wkd Mon Dy YEAR" where: <ul style="list-style-type: none">● HH - hour● MM - minutes● SS - seconds● xM - one of "AM", "PM"● ZZZ - name of the time zone● Wkd - three-letter weekday abbreviation● Mon - three-letter month abbreviation● Dy - one or two-digit day● YEAR - four-digit year For example: "10:55:58 AM UTC Mon Jul 4 2016"

Set Clock Date

Sets the system date and time.

Request

Method Type	PUT
Request URI	/nos/api/cfg/clock
Request Body (JSON)	<pre>{ "time": "<HH:MM:SS>" , "day": <day>, "month": <month> , "year": <year> }</pre>

where:

Parameter	Description
time	System time in the following format: "HH:MM:SS".
day	The day of the month. An integer from 1-31.
month	The month; one of the following case-insensitive strings: <ul style="list-style-type: none">• "January"• "February"• "March"• "April"• "May"• "June"• "July"• "August"• "September"• "October"• "November"• "December"
year	The year. An integer from 2000-2030.

Response

Response Body (JSON)	<pre>{ "date": "<date>", }</pre>
-------------------------	--

where:

Parameter	Description
date	<p>System date in the following format: "HH:MM:SS xM ZZZ Wkd Mon Dy YEAR"</p> <p>where:</p> <ul style="list-style-type: none">● HH - hour● MM - minutes● SS - seconds● xM - one of "AM", "PM"● ZZZ - name of the time zone● Wkd - three-letter weekday abbreviation● Mon - three-letter month abbreviation● Dy - one or two-digit day● YEAR - four-digit year <p>For example: "10:55:58 AM UTC Mon Jul 4 2016"</p>

Set Clock Format

Sets the system clock format to 12 hour or 24 hour format.

Request

Method Type	PUT
Request URI	/nos/api/cfg/clock/format/
Request Body (JSON)	{ "format": <format>, }

where:

Parameter	Description
format	System clock format. Valid values: <ul style="list-style-type: none">● 12 (12 hour format)● 24 (24 hour format)

Response

Response Body (JSON)	{ "format": <format>, }
-------------------------	-------------------------------

where:

Parameter	Description
format	System clock format. Valid values: <ul style="list-style-type: none">● 12 (12 hour format)● 24 (24 hour format)

Set Clock Protocol

Sets the clock protocol to either manual or Network Time Protocol (NTP).

Request

Method Type	PUT
Request URI	/nos/api/cfg/clock/protocol/
Request Body (JSON)	{ "protocol": "<protocol>", }

where:

Parameter	Description
protocol	System clock protocol. Valid values: <ul style="list-style-type: none">• "none" - the clock is manually configured• "ntp" - the clock is configured through NTP Default value: "ntp".

Response

Response Body (JSON)	{ "protocol": "<protocol>", }
-------------------------	-------------------------------------

where:

Parameter	Description
protocol	System clock protocol. Valid values: <ul style="list-style-type: none">• "none" - the clock is manually configured• "ntp" - the clock is configured through NTP Default value: "ntp".

Set Clock Timezone

Sets the clock time zone for the switch.

Request

Method Type	PUT
Request URI	/nos/api/cfg/clock/timezone
Request Body (JSON)	{ "timezone": "<timezone>", "offsethour": "<offsethour>", "offsetmin": "<lag_mode>", }

where:

Parameter	Description
timezone	One to five letter string denoting the local system time zone.
offsethour	Hours offset from UTC. An integer from -23 through 23.
offsetmin	Minutes offset from UTC. An integer from 0-59.

Response

Response Body (JSON)	{ "date": "<date>", }
-------------------------	-----------------------------

where:

Parameter	Description
date	System date in the following format: "HH:MM:SS xM ZZZ Wkd Mon Dy YEAR" where: <ul style="list-style-type: none">● HH - hour● MM - minutes● SS - seconds● xM - one of "AM", "PM"● ZZZ - name of the time zone● Wkd - three-letter weekday abbreviation● Mon - three-letter month abbreviation● Dy - one or two-digit day● YEAR - four-digit year For example: "10:55:58 AM UTC Mon Jul 4 2016"

Set Clock Summer Time

Sets the transition to and from a summer time zone adjustment.

Request

Method Type	PUT
Request URI	/nos/api/cfg/clock/summertime
Request Body (JSON)	<pre>{ "timezone": <time_zone>, "startweek": <start_week>, "startweekday": <start_weekday>, "startmonth": <start_month>, "starttime" : "<HH:MM>", "endweek" : <end_week>, "endweekday": <end_weekday>, "endmonth" : <end_month>, "endtime" : "<HH:MM>", "offsetmin" : <minutes> }</pre>

where:

Parameter	Description
timezone	Local time zone of the system. A three to five character string. Valid values: "PST", "MST", "CST", "EST".
startweek	Week number in the month in which to start Daylight Saving time. An integer from 1-5 (first week=1, last week=5).
startweekday	Weekday on which to start DST. A case-insensitive string: <ul style="list-style-type: none">• "monday"• "tuesday"• "wednesday"• "thursday"• "friday"• "saturday"• "sunday"

Parameter	Description
startmonth	Month to start DST. A case-insensitive string: <ul style="list-style-type: none"> • "january" • "february" • "march" • "april" • "may" • "june" • "july" • "august" • "september" • "october" • "november" • "december"
starttime	Time to start DST. A string in the following format: "HH:MM".
endweek	Week number in which to end DST. An integer from 1-5 (first week=1, last week=5).
endweekday	Weekday on which to end DST. A case-insensitive string: <ul style="list-style-type: none"> • "monday" • "tuesday" • "wednesday" • "thursday" • "friday" • "saturday" • "sunday"
endmonth	Month in which DST ends. A case-insensitive string: <ul style="list-style-type: none"> • "january" • "february" • "march" • "april" • "may" • "june" • "july" • "august" • "september" • "october" • "november" • "december"
endtime	Time to end DST. A string in the following format: "HH:MM".
offsetmin	Offset to add, in minutes. An integer from 1-1440.

Response

Response Body (JSON)	<pre>{ "date": "<date>", }</pre>
-------------------------	--

where:

Parameter	Description
date	<p>System date in the following format: "HH:MM:SS xM ZZZ Wkd Mon Dy YEAR"</p> <p>where:</p> <ul style="list-style-type: none">● HH - hour● MM - minutes● SS - seconds● xM - one of "AM", "PM"● ZZZ - name of the time zone● Wkd - three-letter weekday abbreviation● Mon - three-letter month abbreviation● Dy - one or two-digit day● YEAR - four-digit year <p>For example: "10:55:58 AM UTC Mon Jul 4 2016"</p>

Get Device Contact

Gets the device contact.

Request

Method Type	GET
Request URI	/nos/api/cfg/contact
Request Body (JSON)	{ "contact": <contact>, }

where:

Parameter	Description
contact	Device contact. A string up to 256 characters long.

Response

Response Body (JSON)	{ "contact": <contact>, }
-------------------------	---------------------------------

where:

Parameter	Description
contact	Device contact. A string up to 256 characters long.

Update Device Contact

Updates the device contact.

Request

Method Type	PUT
Request URI	/nos/api/cfg/contact
Request Body (JSON)	{ "contact": <contact>, }

where:

Parameter	Description
contact	Device contact. A string up to 256 characters long.

Response

Response Body (JSON)	{ "contact": <contact>, }
-------------------------	---------------------------------

where:

Parameter	Description
contact	Device contact. A string up to 256 characters long.

Get Device Description

Gets the device description.

Request

Method Type	GET
Request URI	/nos/api/cfg/descr
Request Body (JSON)	{ "descr": <descr>, }

where:

Parameter	Description
descr	Device description. A string up to 256 characters long.

Response

Response Body (JSON)	{ "descr": <descr>, }
-------------------------	-----------------------------

where:

Parameter	Description
descr	Device description. A string up to 256 characters long.

Update Device Description

Updates the device description.

Request

Method Type	PUT
Request URI	/nos/api/cfg/descr
Request Body (JSON)	{ "descr": <descr>, }

where:

Parameter	Description
descr	Device description. A string up to 256 characters long.

Response

Response Body (JSON)	{ "descr": <descr>, }
-------------------------	-----------------------------

where:

Parameter	Description
descr	Device description. A string up to 256 characters long.

Get Rack Properties

Gets the rack properties for the switch.

Request

Method Type	GET
Request URI	/nos/api/cfg/rack_prop
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "location": "<location>", "room": "<room>", "rack": "<rack>", "lru": "<lru>" }</pre>
-------------------------	---

where:

Parameter	Description
location	Device location. A string up to 256 characters long.
room	Device room ID. A string up to 256 characters long.
rack	Device Rack. A string up to 256 characters long.
lru	Device lowest rack unit. A string up to 256 characters long.

Update Rack Properties

Updates the rack properties for the switch.

Request

Method Type	PUT
Request URI	/nos/api/cfg/rack_prop
Request Body (JSON)	<pre>{ "location": "<location>", "room": "<room>", "rack": "<rack>", "lru": "<lru>" }</pre>

where:

Parameter	Description
location	(Optional) Device location. A string up to 256 characters long.
room	(Optional) Device room ID. A string up to 256 characters long.
rack	(Optional) Device Rack. A string up to 256 characters long.
lru	(Optional) Device lowest rack unit. A string up to 256 characters long.

Response

Response Body (JSON)	<pre>{ "location": "<location>", "room": "<room>", "rack": "<rack>", "lru": "<lru>" }</pre>
-------------------------	---

where:

Parameter	Description
location	Device location. A string up to 256 characters long.
room	Device room ID. A string up to 256 characters long.
rack	Device Rack. A string up to 256 characters long.
lru	Device lowest rack unit. A string up to 256 characters long.

System Information

The following system information URIs are available:

- /nos/api/sysinfo GET
- /nos/api/sysinfo/<fans> GET
- /nos/api/sysinfo/<power> GET
- /nos/api/sysinfo/<temperature> GET
- /nos/api/sysinfo/<inventory> GET
- /nos/api/sysinfo/serial_number GET
- /nos/api/sysinfo/panic_dump GET
- /nos/api/sysinfo/<globalhealthstatus> GET
- /nos/api/sysinfo/resources GET

The following system information commands are available:

- [Get All System Information](#)
- [Get System Fan Information](#)
- [Get System Power Information](#)
- [Get System Temperature Information](#)
- [Get System Inventory](#)
- [Get System Serial Number](#)
- [Get Panic Dump Information](#)
- [Get Global Health Status](#)
- [Get System Resource Statistics](#)

Get All System Information

Gets information about the system hardware.

Request

Request URI	/nos/api/sysinfo
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "Fans": { "Fan 1": { "Module" : "1" "Air-flow" : " Front-to-Back", "Speed-percent" : "0", "Speed-rpm" : "4205" }, "Fan 2": { "Module" : "1" "Air-flow" : " Front-to-Back", "Speed-percent" : "24", "Speed-rpm" : "4402" } } },</pre>
----------------------	---

```
"Power":
{
  "power1":
  {
    "Name" : "Power Supply 1"
    "Manufacturer" : " DELTA",
    "Model" : "XXXXXXXXXX",
    "State" : "Normal ON"
  },
  "power2":
  {
    "Name" : "Power Supply 2"
    "Manufacturer" : " DELTA",
    "Model" : "XXXXXXXXXX",
    "State" : "12V Output Fault"
  }
},
"Temperature" :
{
  "cpu":
  {
    "Temp" : "31"
    "State" : "OK"
  },
  "Ambient":
  {
    "Temp" : "30",
    "State" : "OK"
  },
  "Hot Spot" :
  {
    "Temp" : "46",
    "State": "OK"
  }
  "Temperature threshold" :
  {
    "System Warning" : 85,
    "System Shutdown" : 95,
    "System Set Point" : 70
  }
},
"Inventory" :
{
  "Name" : "8272",
  "Description" : "G8272 (48x10GE + 6x40GE)",
  "Model" : "LENOVO G8272",
  "Manufacture Date": "1452",
  "Serial Number" : "Y052MV4CT00J",
  "PCB Assembly" : "00CJ067",
  "Electronic Serial Number": "MM01267",
  "Firmware Revision" : "0.0.0.0",
  "Software Revision" : "0.0.0.0",
  "Uuid" : "A48CDB33B600Y052MV4CT00J",
  "Last reset Reason" : "Reset by CLI reload
command",
  "Service Led" : "enabled"
},
```

	<pre> "Panic Dump": { "File 3" : { "Name" : "nsm.gz", "Date" : "2016-05-31 22:38:03" }, "File 2" : { "Name" : "hsl.gz", "Date" : "2016-05-31 22:38:10" }, "File 1" : { "Name" : "imish.gz", "Date" : "2016-05-31 22:38:34" } } } </pre>
--	---

where:

Parameter	Description
Fans	System fan information.
Powers	System power information.
Temperature	System temperature information.
Inventory	System inventory.
Panic Dump	Panic dump information.

Get System Fan Information

Gets information about the system fans.

Request

Request URI	/nos/api/sysinfo/fans
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "Fan 1": { "Module" : "1" "Air-flow" : " Front-to-Back", "Speed-percent" : "0", "Speed-rpm" : "4205" }, "Fan 2": { "Module" : "1" "Air-flow" : " Front-to-Back", "Speed-percent" : "24", "Speed-rpm" : "4402" } }</pre>
----------------------	--

where:

Parameter	Description
Module	Module number (integer).
Air - flow	Air flow type (string).
Speed - percent	Speed percentage (integer).
Speed - rpm	Speed in RPM (integer).

Get System Power Information

Gets information about the system power supplies.

Request

Request URI	/nos/api/sysinfo/power
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "power1": { "Name" : "Power Supply 1" "Manufacturer" : " DELTA", "Model" : "XXXXXXXXXX", "State" : "Normal ON" }, "power2": { "Name" : "Power Supply 2" "Manufacturer" : " DELTA", "Model" : "XXXXXXXXXX", "State" : "12V Output Fault" } },</pre>
----------------------	---

where:

Parameter	Description
name	Power supply name (string).
manufacturer	Power supply manufacturer (string).
model	Power supply model (string).
state	Power supply state (string).

Get System Temperature Information

Gets information about the system temperature.

Request

Request URI	/nos/api/sysinfo/temperatures
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "Cpu Local": { "Temp" : "31" "State" : "OK" }, "Ambient": { "Temp" : "30", "State" : "OK" }, "Hot Spot" : { "Temp" : "46", "State": "OK" } "Temperature threshold" : { "System Warning" : 85, "System Shutdown" : 95, "System Set Point" : 70 } },</pre>
----------------------	---

where:

Parameter	Description
temp	The temperature (string).
state	The state (string).
System warning	Temperature at which a system warning is issued (string).
System shutdown	The temperature at which the system shuts down (string).
System set point	The system set point temperature (string).

Get System Inventory

Gets information about the system inventory.

Request

Request URI	/nos/api/sysinfo/inventory
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "Name" : "8272", "Description" : "G8272 (48x10GE + 6x40GE)", "Model" : "LENOVO G8272", "Manufacture Date": "1452", "Serial Number" : "Y052MV4CT00J", "PCB Assembly" : "00CJ067", "Electronic Serial Number" : "MM01267", "Firmware Revision" : "0.0.0.0", "Software Revision" : "0.0.0.0", "Uuid" : "A48CDB33B600Y052MV4CT00J", "Last reset Reason" : "Reset by CLI reload command", "Service Led" : "enabled" },</pre>
----------------------	---

where:

Parameter	Description
name	System name (string).
description	System description (string).
model	System model (string).
Manufacture Date	System Manufacture Date (string).
Serial Number	System Serial Number (string).
PCB Assembly	System PCB Assembly (string).
Electronic Serial Number	System Electronic Serial Number (string).
Firmware Revision	System Firmware Revision (string).
Software Revision	System Software Revision (string).
Uuid	System UUID (string).
Last reset Reason	System last reset reason (string).
Service Led	Whether or not the Service LED is enabled (string).

Get System Serial Number

Gets the system serial number.

Request

Request URI	/nos/api/sysinfo/serial_number
Request Body (JSON)	

Response

Response Body (JSON)	{ "Serial Number" : "Y052MV4CT00J", }
----------------------	---

where:

Parameter	Description
Serial Number	System Serial Number (string).

Get Panic Dump Information

Gets information about system panic dumps.

Request

Request URI	/nos/api/sysinfo/panic_dump
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ { "File 3" : { "Name" : "nsm.gz", "Date" : "2016-05-31 22:38:03" }, "File 2" : { "Name" : "hsl.gz", "Date" : "2016-05-31 22:38:10" }, "File 1" : { "Name" : "imish.gz", "Date" : "2016-05-31 22:38:34" } } }</pre>
----------------------	---

where:

Parameter	Description
Name	File name (string).
Date	Date and time when the file was created (string).

Get Global Health Status

Gets information about system global health.

Request

Request URI	nos/api/sysinfo/globalhealthstatus
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "status": <status>, "description": <description> }</pre>
----------------------	---

where:

Parameter	Description
status	System global health status (string). Valid values: <ul style="list-style-type: none">• "OK"• "Noncritical"• "Critical"
description	Detailed description of the status. Valid values: <ul style="list-style-type: none">• "OK":<ul style="list-style-type: none">- All temperature sensors are below the warning threshold;- All fans are running at ≥ 100 RPMs;- All power supplies are on;- No panic dump exists in flash.• "Noncritical":<ul style="list-style-type: none">- One or more temperature sensors is in the warning range;- A panic dump exists in flash.• "Critical":<ul style="list-style-type: none">- One or more temperature sensors is in the failure range;- One or more fans are running < 100 RPM;- One power supply is off.

Get System Resource Statistics

Gets system resource statistics, such as CPU statistics, memory statistics, tasks and load average.

Request

Method Type	GET
Request URI	/nos/api/sysinfo/resources
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "cpu(s)": { "idle": "88.4", "hardware_interrupt": "0.0", "stolen_time": "0.0", "software_interrupt": "0.0", "io_wait": "0.1", "system": "2.9", "user_nice": "0.0", "user_un_nice": "8.7" }, "Mem": { "total": "4000796", "buffers": "355260", "free": "3159012", "used": "486524" }, "tasks": { "zombie": "0", "running": "1", "total": "108", "stopped": "0", "sleeping": "107" }, "load average": { "5 min": "0.36", "15 min": "0.35", "1 min": "0.26" } }</pre>
----------------------	---

TACACS+

The following Terminal Access Controller Access-Control System Plus (TACACS+) URIs are available:

- /nos/api/cfg/tacacs GET, PUT
- /nos/api/cfg/tacacs/hosts GET, POST, DELETE
- /nos/api/cfg/tacacs/groups GET, POST, DELETE

The following TACACS+ commands are available:

- [Get TACACS+ Configuration](#)
- [Update TACACS+ Configuration](#)
- [Get TACACS+ Server Configuration](#)
- [Add TACACS+ Server](#)
- [Delete TACACS+ Server](#)
- [Get TACACS+ Server Group Configuration](#)
- [Add TACACS+ Server Group](#)
- [Delete TACACS+ Server Group](#)

Get TACACS+ Configuration

Gets the TACACS+ configuration.

Request

Method Type	GET
Request URI	/nos/api/cfg/tacacs
Request Body (JSON)	

Response

Response Body (JSON)	{ "status": <status>, "global_key" : <global_key> }
----------------------	--

where:

Parameter	Description
status	The status of the TACACS+ service on the switch (string). Valid values: "enable", "disable".
global_key	The status of the global TACACS+ encryption/decryption key (string). Valid values: "configured", "not configured".

Update TACACS+ Configuration

Updates the TACACS+ configuration.

Request

Method Type	PUT
Request URI	/nos/api/cfg/tacacs
Request Body (JSON)	{ "status": <status>, "global_key" : <global_key>, "global_key_form": <global_key_form> }

where:

Parameter	Description
status	The status of the TACACS+ service on the switch (string). Valid values: "enable", "disable".
global_key	The status of the global TACACS+ encryption/decryption key (string). Valid values: "configured", "not configured".
global_key_form	The encryption method for the global TACACS+ key (integer). Valid values: 0 (clear text), 7 (encrypted).

Response

Response Body (JSON)	{ "status": <status>, "global_key" : <global_key> }
----------------------	--

where:

Parameter	Description
status	The status of the TACACS+ service on the switch (string). Valid values: "enable", "disable".
global_key	The status of the global TACACS+ encryption/decryption key (string). Valid values: "configured", "not configured".

Get TACACS+ Server Configuration

Gets the configuration of a specific configured TACACS+ server or of all configured TACACS+ servers.

Request

Method Type	GET
Request URI	/nos/api/cfg/tacacs/hosts/<IP_addr>
Request Body (JSON)	

where:

Parameter	Description
<i>IP_addr</i>	(Optional) The IP address of the configured TACACS+ server (string). If no IP address is provided, then the command returns the configuration of all configured TACACS+ servers.

Response

Response Body (JSON)	[{ "IP_addr": <ip_addr>, "port": <port>, "key": <key> }]
----------------------	--

where:

Parameter	Description
<i>IP_addr</i>	The IP address of the configured TACACS+ server (string).
<i>port</i>	The TCP port used to connect to the TACACS+ server. An integer from 1-65535.
<i>key</i>	The status of the TACACS+ server encryption/decryption key (string). Valid values: "configured", "not configured".

Add TACACS+ Server

Configures a TACACS+ server.

Request

Method Type	POST
Request URI	/nos/api/cfg/tacacs/hosts
Request Body (JSON)	<pre>{ "IP_addr": <ip_addr>, "port": <port>, "key": <key>, "key_form": <key_form> }</pre>

where:

Parameter	Description
IP_addr	The IP address of the TACACS+ server (string).
port	The TCP port used to connect to the TACACS+ server. An integer from 1-65535.
key	The TACACS+ server encryption/decryption key. A string up to 63 characters long.
key_form	The encryption method for the TACACS+ server key (integer). Valid values: 0 (clear text), 7 (encrypted).

Response

Response Body (JSON)	<pre>{ "IP_addr": <ip_addr>, "port": <port>, "key": <key> }</pre>
----------------------	---

where:

Parameter	Description
IP_addr	The IP address of the TACACS+ server (string).
port	The TCP port used to connect to the TACACS+ server. An integer from 1-65535.
key	The TACACS+ server encryption/decryption key. A string up to 63 characters long.

Delete TACACS+ Server

Removes a configured TACASC+ server.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/tacacs/hosts/<IP_addr>
Request Body (JSON)	

where:

Parameter	Description
<i>IP_addr</i>	The IP address of the TACACS+ server (string).

Response

Response Body (JSON)	
----------------------	--

Get TACACS+ Server Group Configuration

Gets the configuration of a specific configured TACACS+ server group or of all configured TACACS+ server groups.

Request

Method Type	GET
Request URI	/nos/api/cfg/tacacs/groups/<group_name>
Request Body (JSON)	

where:

Parameter	Description
group_name	(Optional) The name of the TACACS+ server group. A string up to 127 characters long. Note: If no group name is provided, then the command returns the configuration of all configured TACACS+ server groups.

Response

Response Body (JSON)	<pre>[{ "group_name": <group_name>, "vrf_name": <vrf_name>, "hosts": [{ "IP_addr": <ip_addr>, "port": <port>, "key": <key> }] }]</pre>
----------------------	--

where:

Parameter	Description
group_name	The name of the TACACS+ server group. A string up to 127 characters long.
vrf_name	The VRF instance for the TACACS+ server group (string). Valid value: the VRF instance name.
hosts	The list of servers members of the TACACS+ server group.
IP_addr	The IP address of the TACACS+ server (string).

Parameter	Description
port	The TCP port used to connect to the TACACS+ server. An integer from 1-65535.
key	The status of the TACACS+ server encryption/decryption key (string). Valid values: "configured", "not configured".

Add TACACS+ Server Group

Configures a TACACS+ server group.

Request

Method Type	POST
Request URI	/nos/api/cfg/tacacs/groups
Request Body (JSON)	<pre>{ "group_name": <group_name>, "vrf_name": <vrf_name>, "hosts": ["IP_addr": <ip_addr>] }</pre>

where:

Parameter	Description
group_name	The name of the TACACS+ server group. A string up to 127 characters long.
vrf_name	The VRF instance for the TACACS+ server group (string). Valid value: the VRF instance name.
hosts	The list of servers members of the TACACS+ server group.
IP_addr	The IP address of the TACACS+ server to be added to the group (string).

Response

Response Body (JSON)	<pre>[{ "group_name": <group_name>, "vrf_name": <vrf_name>, "hosts": [{ "IP_addr": <ip_addr>, "port": <port>, "key": <key> }] }]</pre>
----------------------	--

where:

Parameter	Description
group_name	The name of the TACACS+ server group. A string up to 127 characters long.
vrf_name	The VRF instance for the TACACS+ server group (string). Valid value: the VRF instance name.
hosts	The list of servers members of the TACACS+ server group.
IP_addr	The IP address of the TACACS+ server (string).
port	The TCP port used to connect to the TACACS+ server. An integer from 1-65535.
key	The status of the TACACS+ server encryption/decryption key (string). Valid values: "configured", "not configured".

Delete TACACS+ Server Group

Removes a configured TACACS+ server group.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/tacacs/groups/<group_name>
Request Body (JSON)	

where:

Parameter	Description
<i>group_name</i>	The name of the TACACS+ server group. A string up to 127characters long.

Response

Response Body (JSON)	
----------------------	--

Telemetry

The following telemetry configuration-related URIs are available:

- /nos/api/info/telemetry/switch-properties GET
- /nos/api/cfg/telemetry/feature GET, PUT
- /nos/api/cfg/telemetry/bst/tracking GET, PUT
- /nos/api/cfg/telemetry/bst/feature GET, PUT
- /nos/api/info/telemetry/bst/report POST
- /nos/api/info/telemetry/bst/congestion-drop-counters POST
- /nos/api/cfg/telemetry/bst/threshold PUT, POST
- /nos/api/cfg/telemetry/bst/limits GET
- /nos/api/cfg/telemetry/bst/clear/threshold GET
- /nos/api/cfg/telemetry/bst/clear/statistics GET
- /nos/api/cfg/telemetry/cancel-request PUT
- /nos/api/cfg/telemetry/clear-cgsn-drop-counters GET
- /nos/api/cfg/telemetry/fwd/clear/statistics GET
- /nos/api/cfg/telemetry/fwd/clear/threshold GET
- /nos/api/cfg/telemetry/fwd/feature GET, PUT
- /nos/api/info/telemetry/fwd/report GET
- /nos/api/cfg/telemetry/fwd/threshold GET, PUT
- /nos/api/cfg/telemetry/intf/clear/statistics GET
- /nos/api/cfg/telemetry/intf/clear/threshold GET
- /nos/api/cfg/telemetry/intf/feature GET, PUT
- /nos/api/info/telemetry/intf/report GET
- /nos/api/cfg/telemetry/intf/threshold GET, PUT
- /nos/api/cfg/telemetry/sys/clear/statistics GET
- /nos/api/cfg/telemetry/sys/clear/threshold GET
- /nos/api/cfg/telemetry/sys/feature GET, PUT
- /nos/api/info/telemetry/sys/report GET
- /nos/api/cfg/telemetry/sys/threshold GET, PUT

The following telemetry configuration commands are available:

- [Get Switch Properties](#)
- [Set System Feature](#)
- [Get System Feature](#)
- [Set BST Tracking](#)
- [Get BST Tracking](#)
- [Set BST Feature](#)
- [Get BST Feature](#)
- [Get BST Limits](#)
- [Get BST Report](#)
- [Get BST Congestion Drop Counters](#)
- [Set BST Threshold](#)
- [Get BST Threshold](#)
- [Clear BST Threshold](#)
- [Clear BST Statistics](#)
- [Cancel BST Request](#)
- [Clear All Congestion Drop Counters](#)
- [Clear All Congestion Drop Counters](#)
- [Clear All Forwarding Table Utilization Counters](#)
- [Clear All Forwarding Table Utilization Thresholds](#)
- [Get Forwarding Table Utilization Parameters](#)
- [Set Forwarding Table Utilization Parameters](#)
- [Get the Valid Table Utilization Counters](#)
- [Get the Valid Forwarding Table Utilization Thresholds](#)
- [Set the Valid Forwarding Table Utilization Thresholds](#)
- [Clear Interface Statistic Counters](#)
- [Clear Interface Statistic Thresholds](#)
- [Get Interface Statistic Configuration Parameters](#)
- [Set Interface Statistic Configuration Parameters](#)
- [Get the Valid Interface Statistics Counters](#)
- [Get the Valid Interface Statistics Thresholds](#)
- [Set the Valid Interface Statistics Thresholds](#)
- [Clear System Statistics Counters](#)
- [Clear System Statistics Thresholds](#)
- [Get the System Statistics Configuration Parameters](#)
- [Set the System Statistics Configuration Parameters](#)

- [Get All System Statistics Counters](#)
- [Get the System Statistics Threshold for all Realms](#)
- [Set the System Statistics Threshold for all Realms](#)

Get Switch Properties

Gets system switch properties.

Request

Method Type	GET
Request URI	nos/api/info/telemetry/switch-properties
Request Body (JSON)	

Response

Response Body (JSON)	<pre>"time-stamp": "2015-10-18 - 00:15:04", { "number-of-asics": 1, "asic-info": [["1", "BCM56850", 78]], "supported-features": ["BST"], "network-os": "CNOS", "uid": "0000d80bb99bbbb", "agent-ip": "192.168.1.2", "agent-port": "8080", "agent-sw-version": "3.0.0.1" }</pre>
-------------------------	---

where:

Parameter	Description
number-of-asics	Number of asics in the switch (string).
asic-info	List of dictionaries; one of: <ul style="list-style-type: none">asic-id: ASIC identifier (string)chip-id: part number of the silicon (string)num-ports: Number of ports available on the switch and managed by this ASIC (integer)
supported-features	A list of strings indicating the features supported by the Agent.
network-os	The Network Operating system currently used on the switch (string).
uid	Unique identifier for this switch. This unique ID is the key for the SDN controller to map the switch to the nodes existing in their discovery database (string).
agent-ip	IP address of the switch where the Agent is running (string).

Parameter	Description
agent - port	TCP port number of the switch, at which the Agent is listening (string).
agent - sw - version	Software version number for the Agent (string).

Set System Feature

Sets system feature.

Request

Method Type	PUT
Request URI	nos/api/cfg/telemetry/feature
Request Body (JSON)	{ "heartbeat-enable": <heartbeat-enable>, "msg-interval": <msg-interval> }

where:

Parameter	Description
heartbeat-enable	When enabled, the Agent asynchronously sends the registration and heartbeat message to the collector (integer). Valid values: <ul style="list-style-type: none">● 0: disable heartbeat● 1: enable heartbeat Default values: 1.
msg-interval	Determines the interval with which the registration and heartbeat messages are sent to the collector, in seconds. An integer from 1-600. Default value: 5 seconds.

Response

Response Body (JSON)	
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Get System Feature

Gets system feature.

Request

Method Type	GET
Request URI	/nos/api/cfg/telemetry/feature
Request Body (JSON)	

Response

Response Body (JSON)	{ "heartbeat-enable": <heartbeat-enable>, "msg-interval": <msg-interval> }
-------------------------	---

where:

Parameter	Description
heartbeat-enable	When enabled, the Agent asynchronously sends the registration and heartbeat message to the collector (integer). Valid values: <ul style="list-style-type: none">● 0: disable heartbeat● 1: enable heartbeat Default value: 1.
msg-interval	Determines the interval with which the registration and heartbeat messages are sent to the collector, in seconds. An integer from 1-600. Default value: 5 seconds.

Set BST Tracking

Sets the BST trackers and the tracking-mode on the ASIC.

Request

Method Type	PUT
Request URI	/nos/api/cfg/telemetry/bst/tracking
Request Body (JSON)	<pre>{ "track-peak-stats": <track-peak-stats>, "track-ingress-port-priority-group": <track-ingress-port-priority-group>, "track-ingress-port-service-pool": <track-ingress-port-service-pool>, "track-ingress-service-pool": <track-ingress-service-pool>, "track-egress-port-service-pool": <track-egress-port-service-pool>, "track-egress-service-pool": <track-egress-service-pool>, "track-egress-rqe-queue": <track-egress-rqe-queue>, "track-egress-cpu-queue": <track-egress-cpu-queue>, "track-egress-uc-queue": <track-egress-uc-queue>, "track-egress-mc-queue": <track-egress-mc-queue>, "track-device": <track-device> }</pre>

where:

Parameter	Description
track-peak-stats	Set to 1 to peak statistics tracking, 0 to disable this feature.
track-ingress-port-priority-group	Set to 1 to enable ingress port priority group tracking, 0 to disable this feature.
track-ingress-port-service-pool	Set to 1 to enable ingress port service pool tracking, 0 to disable this feature.
track-ingress-service-pool	Set to 1 to enable ingress service pool tracking, 0 to disable this feature.
track-egress-port-service-pool	Set to 1 to enable egress port service pool tracking, 0 to disable this feature.
track-egress-service-pool	Set to 1 to enable egress service pool tracking, 0 to disable this feature.
track-egress-rqe-queue	Set to 1 to enable egress RQE queue tracking, 0 to disable this feature.
track-egress-cpu-queue	Set to 1 to enable egress CPU queue tracking, 0 to disable this feature.
track-egress-uc-queue	Set to 1 to enable egress unicast queue tracking, 0 to disable this feature.

Parameter	Description
track-egress-mc-queue	Set to 1 to enable egress multicast queue tracking, 0 to disable this feature.
track-device	Set to 1 to enable tracking of this device, 0 to disable this feature.

Response

Response Body (JSON)	
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Get BST Tracking

Gets the BST trackers and the tracking-mode on the ASIC.

Request

Method Type	GET
Request URI	nos/api/cfg/telemetry/bst/tracking
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "track-peak-stats": <track-peak-stats>, "track-ingress-port-priority-group": <track-ingress-port-priority-group>, "track-ingress-port-service-pool": <track-ingress-port-service-pool>, "track-ingress-service-pool": <track-ingress-service-pool>, "track-egress-port-service-pool": <track-egress-port-service-pool>, "track-egress-service-pool": <track-egress-service-pool>, "track-egress-rqe-queue": <track-egress-rqe-queue>, "track-egress-cpu-queue": <track-egress-cpu-queue>, "track-egress-uc-queue": <track-egress-uc-queue>, "track-egress-mc-queue": <track-egress-mc-queue>, "track-device": <track-device> }</pre>
-------------------------	---

where:

Parameter	Description
track-peak-stats	1 to peak statistics tracking, 0 to disable this feature.
track-ingress-port-priority-group	1 to enable ingress port priority group tracking, 0 to disable this feature.
track-ingress-port-service-pool	1 to enable ingress port service pool tracking, 0 to disable this feature.
track-ingress-service-pool	1 to enable ingress service pool tracking, 0 to disable this feature.
track-egress-port-service-pool	1 to enable egress port service pool tracking, 0 to disable this feature.
track-egress-service-pool	1 to enable egress service pool tracking, 0 to disable this feature.

Parameter	Description
track-egress-rqe-queue	1 to enable egress RQE queue tracking, 0 to disable this feature.
track-egress-cpu-queue	Set to 1 to enable egress CPU queue tracking, 0 to disable this feature.
track-egress-uc-queue	Set to 1 to enable egress unicast queue tracking, 0 to disable this feature.
track-egress-mc-queue	Set to 1 to enable egress multicast queue tracking, 0 to disable this feature.
track-device	Set to 1 to enable tracking of this device, 0 to disable this feature.

Set BST Feature

Sets BST feature.

Request

Method Type	PUT
Request URI	/nos/api/cfg/telemetry/bst/feature
Request Body (JSON)	<pre>{ "<bst-enable>": <bst-enable>, "<send-async-reports>": <send-async-reports>, "<collection-interval>": <collection-interval>, "<trigger-rate-limit>": <trigger-rate-limit>, "<trigger-rate-limit-interval>": <trigger-rate-limit-interval>, "<send-snapshot-on-trigger>": <send-snapshot-on-trigger>, "<async-full-reports>": <async-full-reports>, }</pre>

where:

Parameter	Description
bst-enable	Set to 1 to enable BST, 0 to disable it. Enabling BST allows the switch to track buffer utilization statistics.
send-async-reports	Set to 1 to enable the transmission of periodic asynchronous reports, 0 to disable this feature.
collection-interval	The collection interval, in seconds. This defines how frequently periodic reports will be sent to the configured controller. An integer from 10-3600, or 0 for no periodic collection. Default value: 60.
trigger-rate-limit	The trigger rate limit, which defines the maximum number of threshold-driven triggered reports that the agent is allowed to send to the controller per trigger-rate-limit-interval. An integer from 1-5.
trigger-rate-limit-interval	The trigger rate limit interval, in seconds. An integer from 10-60.

Parameter	Description
send-snapshot-on-trigger	Set to 1 to enable sending a complete snapshot of all buffer statistics counters when a trigger happens, 0 to disable this feature.
async-full-report	Set to 1 to enable the async full report feature, 0 to disable it. When this feature is enabled, the agent sends full reports containing data related to all counters. When the feature is disabled, the agent sends incremental reports containing only the counters that have changed since the last report.

Response

Response Body (JSON)	
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Get BST Feature

Gets BST information.

Request

Method Type	GET
Request URI	/nos/api/cfg/telemetry/bst/feature
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "stat-units-in-cells": 0, "stats-in-percentage": 1, "collection-interval": 60, "send-async-reports": 0, "send-snapshot-on-trigger": 1, "trigger-rate-limit": 1, "async-full-report": 0, "trigger-rate-limit-interval": 10, "bst-enable": 0 }</pre>
-------------------------	---

where:

Parameter	Description
bst-enable	Set to 1 to enable BST, 0 to disable it. Enabling BST allows the switch to track buffer utilization statistics.
send-async-reports	Set to 1 to enable the transmission of periodic asynchronous reports, 0 to disable this feature.
collection-interval	The collection interval, in seconds. This defines how frequently periodic reports will be sent to the configured controller. An integer from 10-3600, or 0 for no periodic collection. Default value: 60.
trigger-rate-limit	The trigger rate limit, which defines the maximum number of threshold-driven triggered reports that the agent is allowed to send to the controller per trigger-rate-limit-interval. An integer from 1-5.
trigger-rate-limit-interval	The trigger rate limit interval, in seconds. An integer from 10-60.

Parameter	Description
send-snapshot-on-trigger	Set to 1 to enable sending a complete snapshot of all buffer statistics counters when a trigger happens, 0 to disable this feature.
async-full-report	Set to 1 to enable the async full report feature, 0 to disable it. When this feature is enabled, the agent sends full reports containing data related to all counters. When the feature is disabled, the agent sends incremental reports containing only the counters that have changed since the last report.
stat-units-in-cells	Whether the buffer statistics are reported in units of bytes or cells. Note: This value is always set to 0. It cannot be modified and it is always ignored because stats-in-percentage is always set to 1.
stats-in-percentage	When set to 1, the buffer usage statistics are reported as percentages. When this variable is set to 1, the parameter stat-units-in-cells is ignored while reporting the statistics. This variable is applicable for statistics and threshold reporting. Note: This variable is always set to 1 and cannot be modified. The percentage values in the BST/trigger report are an approximation of buffer utilization, not an exact value.

Get BST Limits

Gets BST limit information for BST parameters.

Request

Method Type	GET
Request URI	nos/api/cfg/telemetry/bst/limits
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "cpu-queue": <cpu-queue-range>, "multicast-queue": <multicast-queue-range>, "priority-group": <priority-group-range>, "queue-group": <queue-group-range>, "rqe-queue": <rqe-queue-range>, "service-pool": <service-pool-range>, "unicast-queue": <unicast-queue-range>, "user-queue": <user-queue-range> }</pre>
-------------------------	---

The range of the following parameters depends on the hardware configuration. For example, the service-pool and priority-group ranges are different when Converged Ethernet Mode is enabled on the switch:

Parameter	Description
cpu-queue	Cpu-queue minimum and maximum values.
multicast-queue	Multicast-queue minimum and maximum values.
priority-group	Priority-group minimum and maximum values.
queue-group	Queue-group minimum and maximum values.
rqe-queue	Rqe-queue minimum and maximum values.
service-pool	Service-pool minimum and maximum values.
unicast-queue	Unicast-queue minimum and maximum values.
user-queue	User-queue minimum and maximum values.

Get BST Report

Gets BST information.

Request

Method Type	POST
Request URI	nos/api/info/telemetry/bst/report
Request Body (JSON)	<pre>{ "include-ingress-port-priority-group" : 1, "include-ingress-port-service-pool" : 0, "include-ingress-service-pool" : 0, "include-egress-port-service-pool" : 0, "include-egress-service-pool" : 1, "include-egress-rqe-queue" : 0, "include-egress-uc-queue" : 1, "include-egress-mc-queue" : 1, "include-egress-cpu-queue": 0, "include-device" : 0 }</pre>

where:

Parameter	Description
include-ingress-port-priority-group	Ingress port priority group. 1 to enable, 0 to disable.
include-ingress-port-service-pool	Ingress port service pool. 1 to enable, 0 to disable.
include-ingress-service-pool	Ingress service pool. 1 to enable, 0 to disable.
include-egress-port-service-pool	Egress port service pool. 1 to enable, 0 to disable.
include-egress-service-pool	Egress service pool. 1 to enable, 0 to disable.
include-egress-rqe-queue	Egress RQE queue. 1 to enable, 0 to disable.
include-egress-uc-queue	Egress unicast queue buffers. Set to 1 to enable in BST report, 0 to disable it.
include-egress-cpu-queue	Egress CPU queue buffers. Set to 1 to enable in BST report, 0 to disable it.
include-egress-mc-queue	Egress multicast queue buffers. Set to 1 to enable in BST report, 0 to disable it.
include-device	Device. 1 to enable, 0 to disable.

Response

Response Body (JSON)	<pre>{ { "time-stamp": "2014-11-14 - 00:15:04 ", "report": [{ "realm": "device", "data": "46" }, { "realm": "ingress-port-priority-group", "data": [{ "interface": " Ethernet1/2", "data": [[5, "100", "100"]] }, { "interface": " Ethernet1/3", "data": [[5, "100", "100"]] }] }, { "realm": "ingress-port-service-pool", "data": [{ "interface": "Ethernet1/2", "data": [[5, "100"]] }, { "interface ": "Ethernet1/3", "data": [[6, "100"]] }] }, { "realm": "ingress-service-pool", "data": [[1, "100"], [2, "100"]] }, { "realm": "egress-cpu-queue", "data": [[3, "100"]] }, { "realm": "egress-uc-queue", "data": [[3, "100"]] }, { "realm": "egress-mc-queue", "data": [[3, "100"]] }, { "realm": "egress-port-service-pool", " port-service-pool-ctr": [{ "interface": " Ethernet1/2", "data": [["5", "10", "10", "30"]] }, { "interface": " Ethernet1/3", "data": [["60", "30", "36", "45"]] }] }, { "realm": "egress-rqe-queue", "data": [[2, "33"], [5, "25"]] }, { "realm": "egress-service-pool", "data": [[1, "20", "10", "10", "32"], [3, "3660", 0, 0]] },], }</pre>
----------------------------	---

where:

Realm	Index # 1	Index # 2	Statistics
ingress-port-priority-group	<i>interface</i> (such as Ethernet1/7)	priority-group	um-share-buffer-count um-headroom-buffer-count
ingress-port-service-pool	<i>interface</i> (such as Ethernet1/7)	service-pool	um-share-buffer-count
ingress-service-pool	service-pool		um-share-buffer-count
egress-port-service-pool	<i>interface</i> (such as Ethernet1/7)	service-pool	uc-share-buffer-count, um-share-buffer-count, mc-share-buffer-count,
egress-cpu-queue	queue		cpu-buffer-count
egress-uc-queue	queue		uc-buffer-count
egress-mc-queue	queue		mc-buffer-count
egress-service-pool	service-pool		um-share-buffercount, mc-share-buffer-count
egress-rqe-queue	queue		rqe-buffer-count
device			data

Note: For more information on realm parameters and indexes, see the *CNOS Application Guide*.

Get BST Congestion Drop Counters

Gets BST congestion drop counters information.

Request

Method Type	POST
Request URI	nos/api/info/telemetry/bst/congestion-drop-counters
Request Body (JSON)	<pre>{ "req-id": <req-id>, "request-type": <request-type>, "request-params": { "count": <count>, "queue-type": <queue-type>, "queue-list" : [<queue>, ...] "interface-list": [<interface>, ...], }, "collection-interval": <collection-interval> }</pre>

where:

Parameter	Description
req-id	The request ID (integer).
request-type	One of the following strings: <ul style="list-style-type: none">“top-drops”: Show ports with maximum congestion on the switch and their drop-counters“top-port-queue-drops”: Show top port-queue level drop-counters on the switch“port-queue-drops”: Show per port-queue level drop-counters on the switch“port-drops”: Show per-port total drop counters on the switch

Parameter	Description
request - params	<p>Request parameters. One of the following strings:</p> <ul style="list-style-type: none"> ● count: Number of ports required in the report. The ports are sorted with the port suffering maximum congestion at the top (integer) <p>Note: This parameter is configurable only if request - type is top - drops or top - port - queue - drops</p> <ul style="list-style-type: none"> ● queue - type: Filters the report on the queue type. One of the following strings: <ul style="list-style-type: none"> – “ucast”: Unicast queues – “mcast”: Multicast queues – “all”: All supported queues ● interface - list: Comma-separated list of ports for the congestion drop counter report. An array. A value of all requests all the ports, applicable for port-queue and port-queue-drops request-type only. ● queue - list: An array of queue numbers to be considered for the drop report. ● collection - interval: (Optional) The period in which the counters are collected from ASIC. An integer from 1-60. Default value: 0

Response

Request Body (JSON)	<pre>{ "time-stamp": "2017-01-02 - 14:54:22 ", "report-type": "port-drops", "congestion-ctr": [{"interface": "Ethernet1/1", "ctr": "56776 "}, {"interface": "Ethernet1/2", "ctr": "56767"}, {"interface": "Ethernet1/3", "ctr": " 76654"}] }</pre>
---------------------	--

where:

Parameter	Description
time - stamp	Time of the report generation (string).

Parameter	Description
report - type	<p>One of the following strings:</p> <ul style="list-style-type: none"> ● "top-drops": Show ports with maximum congestion on the switch and their drop-counters ● "top-port-queue-drops": Show top port-queue level drop-counters on the switch ● "port-queue-drops": Show per port-queue level drop-counters on the switch ● "port-drops": Show per-port total drop counters on the switch
congestion-ctr	<p>Congestion counters contents. A list of dictionaries. Depending on the configuration, each dictionary may contain the following values:</p> <ul style="list-style-type: none"> ● interface: Interface name (string) ● ctr: Counter value (string) ● queue-type (string). Valid values: "ucast", "mcast" ● queue-drop-ctr: Valid values: <ul style="list-style-type: none"> - queue number: An integer from 1-8 - counter value: The 64-bit counter value (string)

Port Drop Report Example

Request

Method Type	POST
Request URI	/nos/api/info/telemetry/bst/congestion-drop-counters
Request Body (JSON)	<pre>{ "req_id " : 1 "request-type" : "port-drops" "request-params": { "interface-list" : ["Ethernet1/1", "Ethernet1/2", "Ethernet1/3"] } }</pre>

Response

Response Body (JSON)	<pre>{ "time-stamp": "2017-01-02 - 14:54:22 ", "report-type": "port-drops", "congestion-ctr": [{"interface": "Ethernet1/1", "ctr": "56776 "}, {"interface": "Ethernet1/2", "ctr": "56767"}, {"interface": "Ethernet1/3", "ctr": " 76654"}] }</pre>
-------------------------	--

Top Drop Report Example

Request

Method Type	POST
Request URI	/nos/api/info/telemetry/bst/congestion-drop-counters
Request Body (JSON)	<pre>{ "req-id" : 2, "request-type" : "top-drops", "request-params": { "count":3 } }</pre>

Response

Response Body (JSON)	<pre>{ "time-stamp": "2017-01-02 - 14:54:22 ", "report-type": "top-drops", "congestion-ctr": [{"interface": "Ethernet1/1", "ctr": " 1234 "}, {"interface": "Ethernet1/2", "ctr": " 3234"}, {"interface": "Ethernet1/3", "ctr": " 3455"}] }</pre>
-------------------------	--

Port Queue Drops Report Example

Request

Method Type	POST
Request URI	/nos/api/info/telemetry/bst/congestion-drop-counters
Request Body (JSON)	<pre>{ "req-id" : 4, "request-type" : "port-queue-drops", "request-params": { "interface-list": ["Ethernet1/1", "Ethernet1/2"], "queue-type": "mcast", "queue-list" : [1,2] } }</pre>

Response

Response Body (JSON)	<pre>{ "time-stamp": "2017-01-02 - 14:40:01 ", "report-type": "port-queue-drops", "congestion-ctr": [{ "interface": "Ethernet1/1", "queue-type": "mcast", "queue-drop-ctr": [[1, "0 "], [2, " 0 "]] }, { "interface": "Ethernet1/2", "queue-type": "mcast", "queue-drop-ctr": [[1, "0 "], [2, " 0 "]] }] }</pre>
-------------------------	--

Top Port Queue Drops Report Example

Request

Method Type	POST
Request URI	/nos/api/info/telemetry/bst/congestion-drop-counters
Request Body (JSON)	<pre>{ "req-id" : 3, "request-type" : "top-port-queue-drops", "request-params": { { "count":5 , "queue-type": "ucast" } } }</pre>

Response

Response Body (JSON)	<pre>{ { "time-stamp": "2017-01-02 - 14:43:39 ", "report-type": "top-port-queue-drops", "congestion-ctr": [{ "interface": "Ethernet1/1", "queue-type": "ucast", "queue-drop-ctr": [[1, "0"], [2, "0"], [3, "0"], [4,"0"], [5, "0"]] }] }</pre>
----------------------------	--

Set BST Threshold

Sets BST threshold to trigger BST reports. Use the following REST APIs to set thresholds for each realm.

Request

Method Type	PUT
Request URI	nos/api/cfg/telemetry/bst/threshold
Request Body (JSON)	{ "realm": <realm>, "service-pool": <service-pool>, "um-share-threshold": <um-share-threshold> }

where:

Realm	Index # 1	Index # 2	Thresholds
ingress-port-priority-group	<i>interface</i> (such as Ethernet1/7)	priority-group	um-share-threshold
ingress-port-service-pool	<i>interface</i> (such as Ethernet1/7)	service-pool	um-share-threshold
ingress-service-pool	service-pool		um-share-threshold
egress-port-service-pool	service-pool		uc-share-threshold, um-share-threshold
egress-service-pool	service-pool		um-share-threshold mc-share-threshold
egress-rqe-queue	queue		rqe-threshold
egress-cpu-queue	queue		cpu-threshold
egress-uc-queue	queue		uc-threshold
	interface	user-queue	uc-threshold
egress-mc-queue	queue		mc-threshold
	interface	user-queue	mc-threshold
include-device			threshold

Note: For more information on realm parameters and indexes, see the *CNOS Application Guide*.

Response

Response Body (JSON)	
----------------------------	--

Get BST Threshold

Retrieves BST threshold.

Request

Method Type	POST
Request URI	nos/api/cfg/telemetry/bst/threshold
Request Body (JSON)	<pre>{ "include-ingress-port-priority-group" : 1, "include-ingress-port-service-pool" : 1, "include-ingress-service-pool" : 1, "include-egress-port-service-pool" : 1, "include-egress-service-pool" : 1, "include-egress-cpu-queue":1, "include-egress-uc-queue":1, "include-egress-mc-queue":1 }</pre>

where:

Parameter	Description
include-ingress-port-priority-group	Ingress port priority group. 1 to enable, 0 to disable.
include-ingress-port-service-pool	Ingress port service pool. 1 to enable, 0 to disable.
include-ingress-service-pool	Ingress service pool. 1 to enable, 0 to disable.
include-egress-port-service-pool	Egress port service pool. 1 to enable, 0 to disable.
include-egress-service-pool	Egress service pool. 1 to enable, 0 to disable.
include-egress-cpu-queue	Egress CPU queue buffers. Set to 1 to enable in BST threshold report, 0 to disable it.
include-egress-uc-queue	Egress unicast queue buffers. Set to 1 to enable in BST threshold report, 0 to disable it.
include-egress-mc-queue	Egress multicast queue buffers. Set to 1 to enable in BST threshold report, 0 to disable it.

Response

Response Body (JSON)	<pre> { "report": [{ "realm": "ingress-port-service-pool", "data": [{ "interface": "Ethernet1/40", "data": [[0, "100"]] }, { "interface": "Ethernet1/1", "data": [[0, "100"]] }, ...], "realm": "ingress-service-pool", "data": [[0, "100"]] }, ...] } </pre>
-------------------------	---

where:

Realm	Index # 1	Index # 2	Thresholds
ingress-port-priority-group	<i>interface</i> (such as Ethernet1/7)	priority-group	um-share-threshold um-head room-threshold
ingress-port-service-pool	<i>interface</i> (such as Ethernet1/7)	service-pool	um-share-threshold
ingress-service-pool	service-pool		um-share-threshold
egress-port-service-pool	<i>interface</i> (such as Ethernet1/7)	service-pool	uc-share-threshold, um-share-threshold mc-share-threshold
egress-service-pool	service-pool		um-share-threshold mc-share-threshold
egress-rqe-queue	queue		rqe-threshold
egress-cpu-queue	queue		cpu-threshold

Realm	Index # 1	Index # 2	Thresholds
egress-uc-queue	queue		uc-threshold
egress-mc-queue	queue		mc-threshold
device			threshold

Note: For more information on realm parameters and indexes, see the *CNOS Application Guide*.

Clear BST Threshold

Clears BST threshold.

Request

Method Type	GET
Request URI	nos/api/cfg/telemetry/bst/clear/threshold
Request Body (JSON)	

Response

Response Body (JSON)	
-------------------------	--

Clear BST Statistics

Clears BST statistics.

Request

Method Type	GET
Request URI	nos/api/cfg/telemetry/bst/clear/statistics
Request Body (JSON)	

Response

Response Body (JSON)	
-------------------------	--

Cancel BST Request

Cancels BST request.

Request

Method Type	PUT
Request URI	nos/api/cfg/telemetry/cancel-request
Request Body (JSON)	{ "req-id": <req-id>, "cancel-req-id": <cancel-req-id> }

where:

Parameter	Description
req-id	The unique request ID. An integer from 1-10,000.
cancel-req-id	The request ID of the periodic report to cancel. An integer from 1-10,000.

Response

On success, a HTTP 200 OK response is sent with no JSON body.

Response Body (JSON)	
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Clear All Congestion Drop Counters

Resets the congestion drop counters.

Request

Method Type	GET
Request URI	nos/api/cfg/telemetry/clear-cgsn-drop-counters
Request Body (JSON)	

Response

Response Body (JSON)	
----------------------	--

Clear All Forwarding Table Utilization Counters

Resets all forwarding table utilization counters.

Request

Method Type	GET
Request URI	nos/api/cfg/telemetry/fwd/clear/statistics
Request Body (JSON)	

Response

Response Body (JSON)	
----------------------	--

Clear All Forwarding Table Utilization Thresholds

Resets all forwarding table utilization thresholds.

Request

Method Type	GET
Request URI	nos/api/cfg/telemetry/fwd/clear/threshold
Request Body (JSON)	

Response

Response Body (JSON)	
----------------------	--

Get Forwarding Table Utilization Parameters

Gets all forwarding table utilization feature configuration parameters.

Request

Method Type	GET
Request URI	nos/api/cfg/telemetry/fwd/feature
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "feature-enabled": <feature-enable>, "collection-interval": <collection-interval>, "trigger-rate-limit-interval": <trigger-rate-limit-interval> }</pre>
----------------------	--

where:

Parameter	Description
feature-enable	Enable or disable the feature (integer). Valid values: 0 for disable, 1 for enable. Default value: 0.
collection-interval	The collecting statistics frequency, in seconds (integer). Valid values: 0 for no periodic collection or an integer from 10-3600. Default value: 60.
trigger-rate-limit-interval	The interval in seconds to perform rate limiting for trigger reports. An integer from 10-60. Default value: 10.

Set Forwarding Table Utilization Parameters

Sets the forwarding table utilization feature configuration parameters.

Request

Method Type	PUT
Request URI	nos/api/cfg/telemetry/fwd/feature
Request Body (JSON)	{ "feature-enabled": <feature-enable>, "collection-interval": <collection-interval>, "trigger-rate-limit-interval": <trigger-rate-limit-interval> }

where:

Parameter	Description
feature-enable	Enable or disable the feature (integer). Valid values: 0 for disable, 1 for enable. Default value: 0.
collection-interval	The collecting statistics frequency, in seconds (integer). Valid values: 0 for no periodic collection or an integer from 10-3600. Default value: 60.
trigger-rate-limit-interval	The interval in seconds to perform rate limiting for trigger reports. An integer from 10-60. Default value: 10.

Response

Response Body (JSON)	
----------------------	--

Get the Valid Table Utilization Counters

Gets the valid (greater than zero) forwarding table utilization counters for all counter groups (realms).

Request

Method Type	GET
Request URI	nos/api/info/telemetry/fwd/report
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "method": <method>, "time-stamp": <time-stamp>, "feature": <feature>, "switch-ip": <switch-ip>, "host-name": <host-name>, "report": [<dict_realm_data>, ...] }</pre> <pre>{ "realm": <realm>, "data": {"usage": <usage>, "max": <max>, "percent": <percent>} }</pre>
----------------------	---

dict_report contains the following elements:

Parameter	Description
method	The method used to deliver information (string). Valid values: "on-demand", "periodic-report", "trigger-report".
time-stamp	The collection time stamp. A string containing the date and time in 24-hour format.
feature	The telemetry feature associated to the counters (string). Valid values: "fwd-table-utilization".
switch-ip	The IP address of device (string).
host-name	The system's network name. A string up to 64 characters long.
report	A list of counters per counter group.

dict_realm_data contains the following elements:

Parameter	Description
realm	Counter group (realm) to which the report refers (string). Valid values: "acl", "arp", "ipv4-rt", "ipv6-rt", "mac", "mc-grp", "nd".
usage	The absolute value of current resource utilization for the specific counter group (integer).
max	The absolute value of maximum resource utilization supported for the specific counter group (integer).
percent	The percentage value of resource utilization. An integer from 1-100.

Get the Valid Forwarding Table Utilization Thresholds

Gets the valid (greater than zero) forwarding table utilization thresholds for all counter groups (realms).

Request

Method Type	GET
Request URI	nos/api/cfg/telemetry/fwd/threshold
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "report": [<dict_realm_threshold>, ...] } { "realm": <realm>, "threshold": <threshold> }</pre>
----------------------	--

dict_report contains the following elements:

Parameter	Description
report	A list of thresholds per counter group.

dict_realm_threshold contains the following elements:

Parameter	Description
realm	Counter group (realm) to which the report refers (string). Valid values: "acl", "arp", "ipv4-rt", "ipv6-rt", "mac", "mc-grp", "nd".
threshold	The configured threshold value to be used for generating triggered reports. An integer from 1-100.

Set the Valid Forwarding Table Utilization Thresholds

Sets the forwarding table utilization feature thresholds.

Request

Method Type	PUT
Request URI	nos/api/cfg/telemetry/fwd/threshold
Request Body (JSON)	{ "realm": <realm>, "threshold": <threshold> }

where:

Parameter	Description
realm	Counter group (realm) for which the threshold is configured (string). Valid values: "all", "acl", "arp", "ipv4-rt", "ipv6-rt", "mac", "mc-grp", "nd".
threshold	The threshold value to be used for generating triggered reports. An integer from 1-100. Default value: 0.

Response

Response Body (JSON)	
----------------------	--

Clear Interface Statistic Counters

Clears all interface statistics counters.

Request

Method Type	GET
Request URI	nos/api/cfg/telemetry/intf/clear/statistics
Request Body (JSON)	

Response

Response Body (JSON)	
----------------------	--

Clear Interface Statistic Thresholds

Clears all interface statistics thresholds.

Request

Method Type	GET
Request URI	nos/api/cfg/telemetry/intf/clear/threshold
Request Body (JSON)	

Response

Response Body (JSON)	
----------------------	--

Get Interface Statistic Configuration Parameters

Gets the interface statistics configuration parameters.

Request

Method Type	GET
Request URI	nos/api/cfg/telemetry/intf/feature
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "feature-enabled": <feature-enable>, "collection-interval": <collection-interval>, "trigger-rate-limit-interval": <trigger-rate-limit-interval> }</pre>
----------------------	--

where:

Parameter	Description
feature-enable	Enable or disable the feature (integer). Valid values: 0 for disable, 1 for enable. Default value: 0.
collection-interval	The collecting statistics frequency, in seconds (integer). Valid values: 0 for no periodic collection or an integer from 10-3600. Default value: 60.
trigger-rate-limit-interval	The interval in seconds to perform rate limiting for trigger reports. An integer from 10-60. Default value: 10.

Set Interface Statistic Configuration Parameters

Sets the interface statistics feature parameters.

Request

Method Type	PUT
Request URI	nos/api/cfg/telemetry/intf/feature
Request Body (JSON)	{ "feature-enabled": <feature-enable>, "collection-interval": <collection-interval>, "trigger-rate-limit-interval": <trigger-rate-limit-interval> }

where:

Parameter	Description
feature-enable	Enable or disable the feature (integer). Valid values: 0 for disable, 1 for enable. Default value: 0.
collection-interval	The collecting statistics frequency, in seconds (integer). Valid values: 0 for no periodic collection or an integer from 10-3600. Default value: 60.
trigger-rate-limit-interval	The interval in seconds to perform rate limiting for trigger reports. An integer from 10-60. Default value: 10.

Response

Response Body (JSON)	
----------------------	--

Get the Valid Interface Statistics Counters

Gets the valid (greater than zero) interface statistics counters for all counter groups (realms).

Request

Method Type	GET
Request URI	nos/api/info/telemetry/intf/report
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "method": <method>, "time-stamp": <time-stamp>, "feature": <feature>, "switch-ip": <switch-ip>, "host-name": <host-name>, "report": [<dict_realm_data>, ...] } { "realm": <realm>, "data": <data> }</pre>
----------------------	---

dict_report contains the following elements:

Parameter	Description
method	The method used to deliver information (string). Valid values: "on-demand", "periodic-report", "trigger-report".
time-stamp	The collection time stamp. A string containing the date and time in 24-hour format.
feature	The telemetry feature associated to the counters (string). Valid values: "intf-utilization".
switch-ip	The IP address of device (string).
host-name	The system's network name. A string up to 64 characters long.
report	A list of counters per counter group.

dict_realm_data contains the following elements:

Parameter	Description
realm	Counter group (realm) to which the report refers (string). Valid values: "interface-status", "traffic-utilization".
data	A dictionary or list of utilization data containing interface status or traffic utilization descriptions.

dict_interface_status contains the following elements:

Parameter	Description
inactive-interfaces	The total number of down interface (integer). Valid values: any value between 0 and the maximum number of interfaces.
total-interfaces	The total number of interfaces configured on the switch (integer).
percent	The percentage value of resource utilization. An integer from 1-100.

dict_traffic_utilization contains the following elements:

Parameter	Description
interface	The switch interface (string). Valid values: "Ethernet1/1", "Vlan10", "mgmt0", "loopback0", "po2".
speed	The counter of packets received (integer). Valid values: <ul style="list-style-type: none"> ● 10000 ● 100000 ● 25000 ● 40000 ● 50000 ● auto ● NA
rx-packets	The packets received (integer).
rx-bytes	The bytes received (integer).
rx-unicast-packets	The unicast packets received (integer).
rx-multicast-packets	The multicast packets received (integer).
rx-broadcast-packets	The broadcast packets received (integer).
rx-trunk-frames	The tagged frames received (integer).

Parameter	Description
rx-discard-errors	The received packets discarded due to errors (integer).
rx-errors	The received packets with errors (integer).
rx-drop-events	The total count of received packets dropped (integer).
rx-down-drops	The received packets discarded due to interface down (integer).
rx-packets-from-0-to-64-bytes	The packets with sizes between 0 and 64 bytes received (integer).
rx-packets-from-65-to-127-bytes	The packets with sizes between 65 and 127 bytes received (integer).
rx-packets-from-128-to-255-bytes	The packets with sizes between 128 and 255 bytes received (integer).
rx-packets-from-256-to-511-bytes	The packets with sizes between 256 and 511 bytes received (integer).
rx-packets-from-512-to-1023-bytes	The packets with sizes between 512 and 1023 bytes received (integer).
rx-packets-from-1024-to-1518-bytes	The packets with sizes between 1024 and 1518 bytes received (integer).
rx-packets-from-1519-to-1548-bytes	Packets with sizes between 1519 and 1548 bytes received (integer).
tx-packets	The packets transmitted (integer).
tx-bytes	The bytes transmitted (integer).
tx-unicast-packets	The unicast packets transmitted (integer).
tx-multicast-packets	The multicast packets transmitted (integer).
tx-broadcast-packets	The broadcast packets transmitted (integer).
tx-trunk-frames	The trunk frames transmitted (integer).
tx-errors	The outbound packets that could not be transmitted because of errors (integer).

Parameter	Description
tx-dropped	The packets dropped at tx for any reason (integer).
tx-packets-from-0-to-64-bytes	The packets with sizes between 0 and 64 bytes transmitted (integer).
tx-packets-from-65-to-127-bytes	The packets with sizes between 65 and 127 bytes transmitted (integer).
tx-packets-from-128-to-255-bytes	The packets with sizes between 128 and 255 bytes transmitted (integer).
tx-packets-from-256-to-511-bytes	The packets with sizes between 256 and 511 bytes transmitted (integer).
tx-packets-from-512-to-1023-bytes	The packets with sizes between 512 and 1023 bytes transmitted (integer).
tx-packets-from-1024-to-1518-bytes	The packets with sizes between 1024 and 1518 bytes transmitted (integer).
tx-packets-from-1519-to-1548-bytes	The packets with sizes between 1519 and 1548 bytes transmitted (integer).

Get the Valid Interface Statistics Thresholds

Gets the valid (greater than zero) interface statistic thresholds for all counter groups (realms).

Request

Method Type	GET
Request URI	nos/api/cfg/telemetry/intf/threshold
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "report": [<dict_realm_threshold>, ...] } { "realm": <realm>, "threshold": <threshold> }</pre>
----------------------	--

dict_report contains the following elements:

Parameter	Description
report	A list of thresholds per counter group.

dict_realm_threshold contains the following elements:

Parameter	Description
realm	Counter group (realm) to which the report refers (string). Valid values: "all", "status".
threshold	The configured threshold value to be used for generating triggered reports. An integer from 1-100.

Set the Valid Interface Statistics Thresholds

Sets the interface feature thresholds.

Request

Method Type	PUT
Request URI	nos/api/cfg/telemetry/intf/threshold
Request Body (JSON)	{ "realm": <realm>, "threshold": <threshold> }

where:

Parameter	Description
realm	Counter group (realm) for which the threshold is configured (string). Valid values: "all", "status".
threshold	The configured threshold value to be used for generating triggered reports. An integer from 1-100. Default value: 0.

Response

Response Body (JSON)	
----------------------	--

Clear System Statistics Counters

Clears all system statistics counters.

Request

Method Type	GET
Request URI	nos/api/cfg/telemetry/sys/clear/statistics
Request Body (JSON)	

Response

Response Body (JSON)	
----------------------	--

Clear System Statistics Thresholds

Clears all system statistics thresholds.

Request

Method Type	GET
Request URI	nos/api/cfg/telemetry/sys/clear/threshold
Request Body (JSON)	

Response

Response Body (JSON)	
----------------------	--

Get the System Statistics Configuration Parameters

Gets the system statistics configuration parameters.

Request

Method Type	GET
Request URI	nos/api/cfg/telemetry/sys/feature
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "feature-enabled": <feature-enable>, "collection-interval": <collection-interval>, "trigger-rate-limit-interval": <trigger-rate-limit-interval> }</pre>
----------------------	--

where:

Parameter	Description
feature-enable	Enable or disable the feature (integer). Valid values: 0 for disable, 1 for enable. Default value: 0.
collection-interval	The collecting statistics frequency, in seconds (integer). Valid values: 0 for no periodic collection or an integer from 10-3600. Default value: 60.
trigger-rate-limit-interval	The interval in seconds to perform rate limiting for trigger reports. An integer from 10-60. Default value: 10.

Set the System Statistics Configuration Parameters

Sets the system statistics configuration parameters.

Request

Method Type	PUT
Request URI	nos/api/cfg/telemetry/sys/feature
Request Body (JSON)	{ "feature-enabled": <feature-enable>, "collection-interval": <collection-interval>, "trigger-rate-limit-interval": <trigger-rate-limit-interval> }

where:

Parameter	Description
feature-enable	Enable or disable the feature (integer). Valid values: 0 for disable, 1 for enable. Default value: 0.
collection-interval	The collecting statistics frequency, in seconds (integer). Valid values: 0 for no periodic collection or an integer from 10-3600. Default value: 60.
trigger-rate-limit-interval	The interval in seconds to perform rate limiting for trigger reports. An integer from 10-60. Default value: 10.

Response

Response Body (JSON)	
----------------------	--

Get All System Statistics Counters

Gets the valid (greater than zero) system statistics counters for all counter groups (realms).

Request

Method Type	GET
Request URI	nos/api/info/telemetry/sys/report
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "method": <method>, "time-stamp": <time-stamp>, "feature": <feature>, "switch-ip": <switch-ip>, "host-name": <host-name>, "report": [<dict_realm_data>, ...] } { "realm": <realm>, "data": <data> }</pre>
----------------------	---

dict_report contains the following elements:

Parameter	Description
method	The method used to deliver information (string). Valid values: "on-demand", "periodic-report", "trigger-report".
time-stamp	The collection time stamp. A string containing the date and time in 24-hour format.
feature	The telemetry feature associated to the counters (string). Valid values: "sys-utilization".
switch-ip	The IP address of device (string).
host-name	The system's network name. A string up to 64 characters long.
report	A list of counters per counter group.

dict_realm_data contains the following elements:

Parameter	Description
realm	Counter group (realm) to which the report refers (string). Valid values: "cpu", "fan", "memory", "power", "system-memory", "process-memory", "temperature".
data	A list containing utilization data.

dict_fan contains the following elements:

Parameter	Description
active-fans	The number of fans that are in operation (integer). Valid values: 0, -1.
total-fans	The total number of fans (integer).
percent	The percentage value of resource utilization. An integer from 1-100.
average-fan-speed	The average fan speed value in RPM percent (integer).
average-percent-speed	The average RPM percent value (integer).

dict_temp_thresh contains the following elements:

Parameter	Description
warning	The temperature over which an warning event is generated (integer). Default value: 85.
shutdown	The temperature over which an alert event is generated. The switch is turned off after three alerts (integer). Default value: 95.
set-point	The temperature below which the switch is considered to work optimally after a warning or shutdown event has occurred (integer). Default value: 70.

dict_temp_val contains the following elements:

Parameter	Description
val	The temperature sensor values, in Celsius. An integer from 0-100.
state	The temperature sensor status (string). Valid values: "Ok", "Fault".

dict_power contains the following elements:

Parameter	Description
power1-name	The name of power supply one (string). Default value: "Power Supply 1".
power1-manufacturer	The name of the manufacturer for power supply one (string).
power1-model	The name of the model for power supply one (string).
power1-state	The state of the power supply one (string). Valid values: "Normal ON", "12V Output Fault".
power1-voltage	The voltage of the power supply one. An integer from 0-12.
power1-watts	The power consumed by power supply one (integer).
power2-name	The name of power supply two (string). Default value: "Power Supply 2".
power2-manufacturer	The name of the manufacturer for power supply two (string).
power2-model	The name of the model for power supply two (string).
power2-state	The state of the power supply two (string). Valid values: "Normal ON", "12V Output Fault".
power2-voltage	The voltage of the power supply two. An integer from 0-12.
power2-watts	The power consumed by power supply two (integer).

dict_cpu contains the following elements:

Parameter	Description
load-1-min	The system CPU load in the last minute, a value from 0-100.
load-5-min	The system CPU load in the last five minutes, a value from 0-100.
load-15-min	The system CPU load in the last 15 minutes, a value from 0-100.
number-of-cores	The number of cores per processor. An integer from 0-4.
percent	The percentage value of CPU load. An integer from 1-100.

dict_sys_memory contains the following elements:

Parameter	Description
memory-usage	The memory used (integer). Valid values: 0, -1.
total-memory	The the total memory of the device (integer).
percent	The percentage value of memory utilization. An integer from 1-100.

dict_process_memory contains the following elements:

Parameter	Description
process	The process name (string).
pid	The process identifier (integer).
mem-alloc	The memory allocated for this process (integer).
stk-size	The stack size in Kilobytes for this process (integer).
rss-mem	The resident set size memory allocated for the process in kilobytes. An accurate representation of how much actual physical memory a process is consuming (integer).

Get the System Statistics Threshold for all Realms

Gets the valid (i.e. greater than zero) system statistics thresholds for all counter groups (realms).

Request

Method Type	GET
Request URI	nos/api/cfg/telemetry/sys/threshold
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "report": [<dict_realm_threshold>, ...] } { "realm": <realm>, "threshold": <threshold> }</pre>
----------------------	--

dict_report contains the following elements:

Parameter	Description
report	A list of thresholds per counter group.

dict_realm_threshold contains the following elements:

Parameter	Description
realm	Counter group (realm) to which the report refers (string). Valid values: "cpu", "memory".
threshold	The configured threshold value to be used for generating triggered reports. An integer from 1-100.

Set the System Statistics Threshold for all Realms

Sets the system statistics feature thresholds.

Request

Method Type	PUT
Request URI	nos/api/cfg/telemetry/sys/threshold
Request Body (JSON)	<pre>{ "report": [<dict_realm_threshold>, ...] } { "realm": <realm>, "threshold": <threshold> }</pre>

where:

Parameter	Description
realm	Counter group (realm) to which the report refers (string). Valid values: "all", "cpu", "memory".
threshold	The configured threshold value to be used for generating triggered reports. An integer from 1-100.

Response

Response Body (JSON)	
----------------------	--

Telnet

The following Telnet URI is available:

- [/nos/api/cfg/telnet/server](#) GET, PUT

The following Telnet commands are available:

- [Get Telnet Server](#)
- [Set Telnet Server](#)

Get Telnet Server

Gets the Telnet server status.

Request

Method Type	GET
Request URI	nos/api/cfg/telnet/server
Request Body (JSON)	

Response

Response Body (JSON)	{ "status": <status> }
-------------------------	------------------------------

where:

Parameter	Description
status	The Telnet server status (string). Valid values: "enable", "disable".

Set Telnet Server

Sets the Telnet server status.

Request

Method Type	PUT
Request URI	/nos/api/cfg/telnet/server
Request Body (JSON)	{ "status": <status> }

where:

Parameter	Description
status	The Telnet server status (string). Valid values: "enable", "disable".

Response

Response Body (JSON)	{ "status": <status> }
-------------------------	------------------------------

where:

Parameter	Description
status	The Telnet server status (string). Valid values: "enable", "disable".

UFP

The following Unified Fabric Port (UFP) URIs are available:

- /nos/api/info/ufp/cap_receive GET
- /nos/api/info/ufp/cap_transmit GET
- /nos/api/info/ufp/cdcp_receive GET
- /nos/api/info/ufp/cdcp_transmit GET
- /nos/api/info/ufp/ecp GET
- /nos/api/cfg/ufp GET, PUT
- /nos/api/info/ufp GET
- /nos/api/cfg/ufp/interface GET, PUT
- /nos/api/info/ufp/interface GET
- /nos/api/info/ufp/linkdown_receive GET
- /nos/api/info/ufp/linkdown_transmit GET
- /nos/api/info/ufp/linkup_transmit GET
- /nos/api/info/ufp/prop_receive GET
- /nos/api/info/ufp/prop_transmit GET
- /nos/api/info/ufp/qos GET
- /nos/api/info/ufp/vlan GET
- /nos/api/info/ufp/virtual-interface GET
- /nos/api/cfg/ufp/virtual_interface GET, POST, PUT, DELETE
- /nos/api/info/ufp/vport GET

The following UFP commands are available:

- [Get UFP Receive Capability Discovery TLV Information](#)
- [Get UFP Transmit Capability Discovery TLV Information](#)
- [Get UFP CDCP Receive Information](#)
- [Get UFP CDCP Transmit Information](#)
- [Get UFP ECP Information](#)
- [Get UFP Global Operation](#)
- [Get UFP Global Information](#)
- [Get UFP Interface Configuration](#)
- [Set UFP Interface Configuration](#)
- [Get UFP Interface Information and Status](#)
- [Get UFP Linkdown Receive Information](#)

- Get UFP Linkdown Transmit Information
- Get UFP Linkup Receive Information
- Get UFP Linkup Transmit Information
- Get UFP Received NIC PROPS TLV Information
- Get UFP Transmit NIC PROPS TLV Information
- Get UFP QoS Information
- Get UFP VLAN Information
- Get UFP Virtual Interface Information
- Get UFP Virtual Interface Configuration
- Create UFP Virtual Interface Configuration
- Set UFP Virtual Interface Configuration
- Delete UFP Virtual Interface Configuration
- Get UFP vPort Information

Get UFP Receive Capability Discovery TLV Information

Gets received UFP Capability Discovery TLV information.

Request

Method Type	GET
Request URI	/nos/api/info/ufp/cap_receive/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The Ethernet interface name (string). For example: "Ethernet1%2F1". Note: If <i>if_name</i> is not specified, the information for all interfaces is displayed.

Response

Response Body (JSON)	[{ "if_name": <if_name>, "type": <type>, "len": <len>, "oui": <oui>, "subtype": <subtype>, "max_ver": <max_ver>, "oper_ver": <oper_ver>, "cna_req": <cna_req>, "cna_oper": <cna_oper>, "switch_cap": <switch_cap>, "switch_oper": <switch_oper> }]
-------------------------	--

where:

Parameter	Description
<i>if_name</i>	The Ethernet interface name (string). Note: The interface must exist.
<i>type</i>	The UFP Capability Discovery TLV type in LLDP (integer). Valid values: 127. Default value: 127.
<i>len</i>	The UFP Capability Discovery TLV length (integer). Valid values: 7. Default value: 7.

Parameter	Description
oui	Organizationally Unique ID of UFP Capability Discovery (string). Valid values: "00-18-b1". Default value: "00-18-b1".
subtype	The Organizationally Defined Subtype of UFP Capability Discovery (integer). Valid values: 1. Default value: 1.
max_ver	The maximum version supported by host (integer). Valid values: 1. Default value: 1.
oper_ver	The operation version (integer). Valid values: 0 for disable, 1 for enable. Default value: 1.
cna_req	Indicates CNA in UFP mode (integer). Valid values: 0 for disable, 1 for enable. Default value: 1.
cna_oper	The UFP operational state of CNA (integer). Valid values: 0 for disable, 1 for enable.
switch_cap	Whether the switch is in UFP mode or not (integer). Valid values: 0 for disable, 1 for enable.
switch_oper	The UFP operational state of switch (integer). Valid values: 0 for disable, 1 for enable.

Get UFP Transmit Capability Discovery TLV Information

Gets transmitted UFP Capability Discovery TLV information.

Request

Method Type	GET
Request URI	/nos/api/info/ufp/cap_transmit/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The Ethernet interface name (string). For example: "Ethernet1%2F1". Note: If <i>if_name</i> is not specified, the information for all interfaces is displayed.

Response

Response Body (JSON)	[{ "if_name": <if_name>, "type": <type>, "len": <len>, "oui": <oui>, "subtype": <subtype>, "max_ver": <max_ver>, "oper_ver": <oper_ver>, "cna_req": <cna_req>, "cna_oper": <cna_oper>, "switch_cap": <switch_cap>, "switch_oper": <switch_oper> }]
-------------------------	--

where:

Parameter	Description
<i>if_name</i>	The Ethernet interface name (string). Note: The interface must exist.
<i>type</i>	The UFP Capability Discovery TLV type in LLDP (integer). Valid values: 127. Default value: 127.
<i>len</i>	The UFP Capability Discovery TLV length (integer). Valid values: 7. Default value: 7.

Parameter	Description
oui	Organizationally Unique ID of UFP Capability Discovery (string). Valid values: "00-18-b1". Default value: "00-18-b1".
subtype	The Organizationally Defined Subtype of UFP Capability Discovery (integer). Valid values: 1. Default value: 1.
max_ver	The maximum version supported by host (integer). Valid values: 1. Default value: 1.
oper_ver	The operation version (integer). Valid values: 0 for disable, 1 for enable. Default value: 1.
cna_req	Indicates CNA in UFP mode (integer). Valid values: 0 for disable, 1 for enable. Default value: 1.
cna_oper	The UFP operational state of CNA (integer). Valid values: 0 for disable, 1 for enable.
switch_cap	Whether the switch is in UFP mode or not (integer). Valid values: 0 for disable, 1 for enable.
switch_oper	The UFP operational state of switch (integer). Valid values: 0 for disable, 1 for enable.

Get UFP CDCP Receive Information

Gets received UFP CDCP TLV information.

Request

Method Type	GET
Request URI	/nos/api/info/ufp/cdcp_receive/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The Ethernet interface name (string). For example: "Ethernet1%2F1". Note: If <i>if_name</i> is not specified, the information for all interfaces is displayed.

Response

Response Body (JSON)	<pre>[{ "if_name": <if_name>, "type": <type>, "len": <len>, "oui": <oui>, "subtype": <subtype>, "role": <role>, "scomp": <scomp>, "chn_cap": <chn_cap>, [{ "scid": <scid>, "svid": <svid> }] }]</pre>
-------------------------	---

where:

Parameter	Description
<i>if_name</i>	The Ethernet interface name (string). Note: The interface must exist.
<i>type</i>	The UFP Capability Discovery TLV type in LLDP (integer). Valid values: 127. Default value: 127.

Parameter	Description
len	The UFP Capability Discovery TLV length (integer). Valid values: 7.
oui	Organizationally Unique ID of UFP Capability Discovery (string). Valid values: "00-18-b1". Default value: "00-18-b1".
subtype	The Organizationally Defined Subtype of CDCP (integer). Valid values: 14. Default value: 14.
role	The sender role (integer). Valid values: 0 for switch, 1 for NIC. Default value: 1.
scomp	The S-Component as Port-mapping S-VLAN component (integer). Valid values: 0 for disable, 1 for enable. Default value: 1.
chn_cap	The number of S-channels. An integer from 0-8.
scid	The S-channel identifier. An integer from 1-9. Default value: 1.
svid	The S-channel default VLAN ID. An integer from 2-3999 or 4002-4009. Default value: 1.

Get UFP CDCP Transmit Information

Gets transmitted UFP CDCP TLV information.

Request

Method Type	GET
Request URI	/nos/api/info/ufp/cdcp_transmit/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The Ethernet interface name (string). For example: "Ethernet1%2F1". Note: If <i>if_name</i> is not specified, the information for all interfaces is displayed.

Response

Response Body (JSON)	<pre>[{ "if_name": <if_name>, "type": <type>, "len": <len>, "oui": <oui>, "subtype": <subtype>, "role": <role>, "scomp": <scomp>, "chn_cap": <chn_cap>, [{ "scid": <scid>, "svid": <svid> }] }]</pre>
-------------------------	---

where:

Parameter	Description
<i>if_name</i>	The Ethernet interface name (string). Note: The interface must exist.
<i>type</i>	The UFP CDCP TLV type in LLDP (integer). Valid values: 127. Default value: 127.
<i>len</i>	The UFP CDCP TLV string length. An integer from 8-32.

Parameter	Description
oui	Organizationally Unique ID of UFP Capability Discovery (string). Valid values: "00-18-b1". Default value: "00-18-b1".
subtype	The Organizationally Defined Subtype of CDCP (integer). Valid values: 14. Default value: 14.
role	The sender role (integer). Valid values: 0 for switch, 1 for NIC. Default value: 0.
scomp	The S-Component as Port-mapping S-VLAN component (integer). Valid values: 0 for disable, 1 for enable. Default value: 1.
chn_cap	The number of S-channels. An integer from 0-8.
scid	The S-channel identifier. An integer from 1-9. Default value: 1.
svid	The S-channel default VLAN ID. An integer from 2-3999 or 4002-4009. Default value: 1.

Get UFP ECP Information

Gets UFP ECP information.

Request

Method Type	GET
Request URI	/nos/api/info/ufp/ecp/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The Ethernet interface name (string). For example: "Ethernet1%2F1". Note: If <i>if_name</i> is not specified, the information for all interfaces is displayed.

Response

Response Body (JSON)	[{ "if_name": <if_name>, "state": <state>, "ulpid": <ulpid>, "chnl_id": <chnl_id> }]
-------------------------	---

where:

Parameter	Description
<i>if_name</i>	The Ethernet interface name (string). Note: The interface must exist.
<i>state</i>	The current link state of ECP (string). Valid values: "up", "down". Default value: "down".
<i>ulpid</i>	The Upper Level Protocol ID in ECP. A positive integer.
<i>chnl_id</i>	The Channel ID of ECP in the given interface. A positive integer.

Get UFP Global Operation

Gets UFP global operation.

Request

Method Type	GET
Request URI	/nos/api/cfg/ufp
Request Body (JSON)	

Response

Response Body (JSON)	{ "ena": "<ena>" }
-------------------------	--------------------------

where:

Parameter	Description
ena	The UFP global operation (string). Valid values: "yes", "no". Default value: "no".

Set UFP Global Operation

Sets UFP global operation.

Request

Method Type	PUT
Request URI	/nos/api/cfg/ufp/
Request Body (JSON)	{ "ena": "<ena>" }

where:

Parameter	Description
ena	The UFP global operation (string). Valid values: "yes", "no". Default value: "no".

Response

Response Body (JSON)	
-------------------------	--

Get UFP Global Information

Gets UFP global information.

Request

Method Type	GET
Request URI	/nos/api/info/ufp
Request Body (JSON)	

Response

Response Body (JSON)	{ "ena": "<ena>" }
-------------------------	--------------------------

where:

Parameter	Description
ena	The UFP global operation (string). Valid values: "yes", "no". Default value: "no".

Get UFP Interface Configuration

Gets UFP configurations on Ethernet interfaces.

Request

Method Type	GET
Request URI	/nos/api/cfg/ufp/interface/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The Ethernet interface name (string). For example: "Ethernet1%2F1".

Response

Response Body (JSON)	[{ "if_name": <if_name>, "ena": <ena>, "qos_mode": <qos_mode> }]
-------------------------	--

where:

Parameter	Description
<i>if_name</i>	The Ethernet interface name (string). Note: The interface must exist.
<i>ena</i>	The UFP global operation (string). Valid values: "yes", "no". Default value: "no".
<i>qos_mode</i>	The UFP QoS mode (string). Valid values: "bw" for Bandwidth mode, "ets" for ETS mode. Default value: "bw".

Set UFP Interface Configuration

Sets UFP configurations on Ethernet interfaces.

Request

Method Type	PUT
Request URI	/nos/api/cfg/ufp/interface/<if_name>
Request Body (JSON)	{ "if_name": <if_name>, "ena": <ena>, "qos_mode": <qos_mode> }

where:

Parameter	Description
if_name	The Ethernet interface name (string). For example: "Ethernet1%2F1". Note: The interface must exist.
ena	The UFP global operation (string). Valid values: "yes", "no". Default value: "no".
qos_mode	The UFP QoS mode (string). Valid values: "bw" for Bandwidth mode, "ets" for ETS mode. Default value: "bw".

Response

Response Body (JSON)	{ "if_name": <if_name>, "ena": <ena>, "qos_mode": <qos_mode> }
-------------------------	--

where:

Parameter	Description
if_name	The Ethernet interface name (string). Note: The interface must exist.
ena	The UFP global operation (string). Valid values: "yes", "no". Default value: "no".
qos_mode	The UFP QoS mode (string). Valid values: "bw" for Bandwidth mode, "ets" for ETS mode. Default value: "bw".

Get UFP Interface Information and Status

Gets UFP interface information and status.

Request

Method Type	GET
Request URI	/nos/api/info/ufp/interface/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The Ethernet interface name (string). For example: "Ethernet1%2F1". Note: If <i>if_name</i> is not specified, the information for all interfaces is displayed.

Response

Response Body (JSON)	<pre>[{ "if_name": <if_name>, "state": <state>, "vports": <vports>, [{ "vpid": <vpid>, "status": <status> }] }]</pre>
-------------------------	---

where:

Parameter	Description
<i>if_name</i>	The Ethernet interface name (string). Note: The interface must exist.
<i>state</i>	The current state of the UFP interface (string). Valid values: "enabled", "disabled". Default value: "disabled".
<i>vports</i>	The number of enabled vPorts. An integer from 0-8. Default value: 0.

Parameter	Description
vpidx	The UFP virtual port index. An integer from 1-8.
status	The current status of vPort (string). Valid values: "linkup", "linkdown", "mismatch", "failover".

Get UFP Linkdown Receive Information

Gets UFP received UFP linkdown TLV information.

Request

Method Type	GET
Request URI	/nos/api/info/ufp/linkdown_receive/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The Ethernet interface name (string). For example: "Ethernet1%2F1". Note: If <i>if_name</i> is not specified, the information for all interfaces is displayed.

Response

Response Body (JSON)	<pre>[{ "if_name": <if_name>, "type": <type>, "len": <len>, "flags": <flags>, "status": <status>, [{ "scid": <scid> }] }]</pre>
-------------------------	---

where:

Parameter	Description
<i>if_name</i>	The Ethernet interface name (string). Note: The interface must exist.
<i>type</i>	The UFP Control TLV type of linkdown message (integer). Valid values: 2. Default value: 2.
<i>len</i>	The UFP linkdown TLV string length. An integer from 1-13. Default value: 1.

Parameter	Description
flags	Whether it's a request or an acknowledgment (integer). Valid values: 0 for request, 1 for acknowledgement. Default value: 1.
status	Whether it's a success or failure (integer). Valid values: 0 for success, 1-6 for failure. Default value: 0.
scid	The linkdown S-channel identifier. An integer from 2-9. Default value: 1.

Get UFP Linkdown Transmit Information

Gets UFP transmitted UFP linkdown TLV information.

Request

Method Type	GET
Request URI	/nos/api/info/ufp/linkdown_transmit/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The Ethernet interface name (string). For example: "Ethernet1%2F1". Note: If <i>if_name</i> is not specified, the information for all interfaces is displayed.

Response

Response Body (JSON)	<pre>[{ "if_name": <if_name>, "type": <type>, "len": <len>, "flags": <flags>, "status": <status>, [{ "scid": <scid> }] }]</pre>
-------------------------	---

where:

Parameter	Description
<i>if_name</i>	The Ethernet interface name (string). Note: The interface must exist.
<i>type</i>	The UFP Control TLV type of linkdown message (integer). Valid values: 2. Default value: 2.
<i>len</i>	The UFP linkdown TLV string length. An integer from 1-13. Default value: 1.

Parameter	Description
flags	Whether it's a request or an acknowledgment (integer). Valid values: 0 for request, 1 for acknowledgement. Default value: 0.
status	Whether it's a success or failure (integer). Valid values: 0 for success, 1-6 for failure. Default value: 0.
scid	The linkdown S-channel identifier. An integer from 2-9.

Get UFP Linkup Receive Information

Gets UFP received UFP Linkup TLV information.

Request

Method Type	GET
Request URI	/nos/api/info/ufp/linkup_receive/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The Ethernet interface name (string). For example: "Ethernet1%2F1". Note: If <i>if_name</i> is not specified, the information for all interfaces is displayed.

Response

Response Body (JSON)	<pre>[{ "if_name": <if_name>, "type": <type>, "len": <len>, "flags": <flags>, "status": <status>, [{ "scid": <scid> }] }]</pre>
-------------------------	---

where:

Parameter	Description
<i>if_name</i>	The Ethernet interface name (string). Note: The interface must exist.
<i>type</i>	The UFP Control TLV type of linkup message (integer). Valid values: 3. Default value: 3.
<i>len</i>	The UFP linkdown TLV string length. An integer from 1-13. Default value: 1.

Parameter	Description
<code>flags</code>	Whether it's a request or an acknowledgment (integer). Valid values: 0 for request, 1 for acknowledgement. Default value: 1.
<code>status</code>	Whether it's a success or failure (integer). Valid values: 0 for success, 1-6 for failure. Default value: 0.
<code>scid</code>	The linkdown S-channel identifier. An integer from 2-9.

Get UFP Linkup Transmit Information

Gets UFP transmitted UFP Linkup TLV information.

Request

Method Type	GET
Request URI	/nos/api/info/ufp/linkup_transmit/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The Ethernet interface name (string). For example: "Ethernet1%2F1". Note: If <i>if_name</i> is not specified, the information for all interfaces is displayed.

Response

Response Body (JSON)	<pre>[{ "if_name": <if_name>, "type": <type>, "len": <len>, "flags": <flags>, "status": <status>, [{ "scid": <scid> }] }]</pre>
-------------------------	---

where:

Parameter	Description
<i>if_name</i>	The Ethernet interface name (string). Note: The interface must exist.
<i>type</i>	The UFP Control TLV type of linkup message (integer). Valid values: 3. Default value: 3.
<i>len</i>	The UFP linkdown TLV string length. An integer from 1-13. Default value: 1.

Parameter	Description
flags	Whether it's a request or an acknowledgment (integer). Valid values: 0 for request, 1 for acknowledgement. Default value: 0.
status	Whether it's a success or failure (integer). Valid values: 0 for success, 1-6 for failure. Default value: 0.
scid	The linkdown S-channel identifier. An integer from 2-9.

Get UFP Received NIC PROPS TLV Information

Gets UFP received UFP NIC-PROPS TLV information.

Request

Method Type	GET
Request URI	/nos/api/info/ufp/prop_receive/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The Ethernet interface name (string). For example: "Ethernet1%2F1". Note: If <i>if_name</i> is not specified, the information for all interfaces is displayed.

Response

Response Body (JSON)	<pre>[{ "if_name": <if_name> "type": <type> "len": <len> "flags": <flags> "status": <status> "chnl_type": <chnl_type> "sched_type": <sched_type> "num_vlan": <num_vlan> [{ "scid": <scid>, "svid": <svid>, "iscsi": <iscsi>, "host_pri": <host_pri>, "fcoe": <fcoe>, "minbw": <minbw>, "maxbw": <maxbw> }] }]</pre>
-------------------------	---

where:

Parameter	Description
if_name	The Ethernet interface name (string). Note: The interface must exist.
type	The UFP Control TLV type of NIC-PROPS message (integer). Valid values: 1. Default value: 1.
len	The UFP NIC-PROPS TLV string length. An integer from 3-59. Default value: 3.
flags	Whether it's a request or an acknowledgment (integer). Valid values: 0 for request, 1 for acknowledgement. Default value: 1.
status	Whether it's a success or failure (integer). Valid values: <ul style="list-style-type: none"> ● 0 for success ● 1 for unsupported ● 2 for invalid request ● 3 for invalid state ● 4 for insufficient resource ● 5 for unspecified error ● 6 for configuration mismatch
chnl_type	Whether the channel type is VLAN Partition or S-Tagged (integer). Valid values: 0 for VLAN Partition, 1 for S-Tagged. Default value: 1.

Parameter	Description
sched_type	Whether the schedule type is QoS ETS or vPort Bandwidth (integer). Valid values: 0 for QoS ETS, 1 S-vPort Bandwidth. Default value: 0.
num_vlan	The maximum supported VLANs in VLAN Partition (integer). Valid values: 0 for S-Tagged. Default value: 0.
scid	The link down S-channel identifier. An integer from 2-9.
svid	The vPort's S-Channel default VLAN ID. An integer from 2-3999 or 4002-4009.
iscsi	Whether vPort is iSCSI capable or not (integer). Valid values: 0 for no, 1 for yes. Default value: 0.
host_pri	Whether vPort is host priority controlled or not (integer). Valid values: 0 for no, 1 for yes. Default value: 0.
fcoe	Whether vPort is FCoE capable or not (integer). Valid values: 0 for no, 1 for yes. Default value: 0.
minbw	The vPort's minimum guaranteed bandwidth percentage (integer). Valid values: 0 for QoS ETS mode, or an integer from 10-100. Default value: 25.
maxbw	The vPort's maximum allowed bandwidth percentage (integer). Valid values: 0 for QoS ETS mode, or an integer from 10-100. Default value: 100.

Get UFP Transmit NIC PROPS TLV Information

Gets UFP transmitted UFP NIC-PROPS TLV information.

Request

Method Type	GET
Request URI	/nos/api/info/ufp/prop_transmit/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The Ethernet interface name (string). For example: "Ethernet1%2F1". Note: If <i>if_name</i> is not specified, the information for all interfaces is displayed.

Response

Response Body (JSON)	<pre>[{ "if_name": <if_name> "type": <type> "len": <len> "flags": <flags> "status": <status> "chnl_type": <chnl_type> "sched_type": <sched_type> "num_vlan": <num_vlan> [{ "scid": <scid>, "svid": <svid>, "iscsi": <iscsi>, "host_pri": <host_pri>, "fcoe": <fcoe>, "minbw": <minbw>, "maxbw": <maxbw> }] }]</pre>
-------------------------	---

where:

Parameter	Description
if_name	The Ethernet interface name (string). Note: The interface must exist.
type	The UFP Control TLV type of NIC-PROPS message (integer). Valid values: 1. Default value: 1.
len	The UFP NIC-PROPS TLV string length. An integer from 3-59. Default value: 3.
flags	Whether it's a request or an acknowledgment (integer). Valid values: 0 for request, 1 for acknowledgement. Default value: 0.
status	Whether it's a success or failure (integer). Valid values: <ul style="list-style-type: none"> ● 0 for success ● 1 for unsupported ● 2 for invalid request ● 3 for invalid state ● 4 for insufficient resource ● 5 for unspecified error ● 6 for configuration mismatch
chnl_type	Whether the channel type is VLAN Partition or S-Tagged (integer). Valid values: 0 for VLAN Partition, 1 for S-Tagged. Default value: 1.

Parameter	Description
sched_type	Whether the schedule type is QoS ETS or vPort Bandwidth (integer). Valid values: 0 for QoS ETS, 1 S-vPort Bandwidth. Default value: 0.
num_vlan	The maximum supported VLANs in VLAN Partition (integer). Valid values: 0 for S-Tagged. Default value: 0.
scid	The enabled vPort's S-Channel ID. An integer from 2-9.
svid	The vPort's S-Channel default VLAN ID. An integer from 2-3999 or 4002-4009.
iscsi	Whether vPort is iSCSI capable or not (integer). Valid values: 0 for no, 1 for yes. Default value: 0.
host_pri	Whether vPort is host priority controlled or not (integer). Valid values: 0 for no, 1 for yes. Default value: 0.
fcoe	Whether vPort is FCoE capable or not (integer). Valid values: 0 for no, 1 for yes. Default value: 0.
minbw	The vPort's minimum guaranteed bandwidth percentage (integer). Valid values: 0 for QoS ETS mode, or an integer from 10-100. Default value: 25.
maxbw	The vPort's maximum allowed bandwidth percentage (integer). Valid values: 0 for QoS ETS mode, or an integer from 10-100. Default value: 100.

Get UFP QoS Information

Gets UFP QoS information.

Request

Method Type	GET
Request URI	/nos/api/info/ufp/qos/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The Ethernet interface name (string). For example: "Ethernet1%2F1". Note: If <i>if_name</i> is not specified, the information for all interfaces is displayed.

Response

Response Body (JSON)	<pre>[{ "if_name": <if_name>, [{ "vport": <vport>, "mode": <mode>, "minbw": <minbw>, "maxbw": <maxbw>, "priority": <priority>, "host_pri": <host_pri> }] }]</pre>
-------------------------	---

where:

Parameter	Description
<i>if_name</i>	The Ethernet interface name (string). Note: The interface must exist.
<i>vport</i>	The UFP virtual port index. An integer from 1-8.
<i>mode</i>	The UFP QoS mode on the interface (string). Valid values: "bw" for Bandwidth mode, "ets" for ETS mode. Default value: "ets".

Parameter	Description
<code>minbw</code>	The vPort's minimum guaranteed bandwidth percentage (integer). Valid values: 0 for QoS ETS mode, or an integer from 10-100. Default value: 25.
<code>maxbw</code>	The vPort's maximum allowed bandwidth percentage (integer). Valid values: 0 for QoS ETS mode, or an integer from 10-100. Default value: 100.
<code>priority</code>	The vPort's 802.1p class priority in QoS ETS mode. An integer from 0-7. Default value: 0.
<code>host_pri</code>	Whether vPort is host priority controlled or not (integer). Valid values: 0 for no, 1 for yes. Default value: 0.

Get UFP VLAN Information

Gets UFP VLAN information.

Request

Method Type	GET
Request URI	/nos/api/info/ufp/vlan/<vid>
Request Body (JSON)	

where:

Parameter	Description
<i>vid</i>	The VLAN ID. An integer from 2-3999. Note: If <i>vid</i> is not specified, the information for all VLANs is displayed.

Response

Response Body (JSON)	<pre>[{ "vid"(Int): VLAN ID "vport_list": [{ "vport": <vport> }] "non_ufp_list": [{ "if_name": <if_name> }] "ufp_list": [{ "if_name": <if_name> }] }]</pre>
-------------------------	---

where:

Parameter	Description
<i>vid</i>	The VLAN ID. An integer from 2-3999.
<i>vport</i>	The UFP virtual interface name (string).

Parameter	Description
non_ufp_list	A list of dictionaries of non-UFP interfaces under this VLAN.
if_name	The interface of a non-UFP port (string).
ufp_list	A list of dictionaries of UFP interfaces under this VLAN.
if_name	The interface of the UFP port (string).

Get UFP Virtual Interface Information

Gets UFP Virtual Interface information.

Request

Method Type	GET
Request URI	/nos/api/info/ufp/virtual-interface/<vif_name>
Request Body (JSON)	

where:

Parameter	Description
<i>vif_name</i>	The UFP virtual interface (string). Note: If <i>vif_name</i> is not specified, the information for all virtual interfaces is displayed.

Response

Response Body (JSON)	<pre>[{ "vif_name": <vif_name>, "ena": <ena>, "mode": <mode>, "tag_defvlan": <tag_defvlan>, "defvlan": <defvlan>, "minbw": <minbw>, "maxbw": <maxbw>, "priority": <priority>, "hostctrl_ena": <hostctrl_ena>, "allowed_vlans": [{ <vid> }] }]</pre>
-------------------------	---

where:

Parameter	Description
<i>vif_name</i>	The UFP virtual interface (string). Valid value: "ufp-virtual 1/x/y".
<i>ena</i>	The UFP operation is enabled on the UFP virtual interface (string). Valid values: "yes", "no". Default value: "no".

Parameter	Description
mode	The UFP Virtual Interface network mode (string). Valid values: "access", "fcoe", "trunk", "tunnel". Default value: "tunnel".
tag_defvlan	Whether tag is enabled or disabled on the default VLAN (string). Valid values: "yes", "no". Default value: "no".
defvlan	The default VLAN of UFP Virtual Interface. A positive integer from 2-3999.
minbw	The vPort's minimum guaranteed bandwidth percentage for a UFP Virtual Interface (integer). Valid values: 0 or an integer from 10-100. Default value: 25.
maxbw	The vPort's maximum allowed bandwidth percentage for a UFP Virtual Interface (integer). Valid values: 0 or an integer from 10-100. Default value: 100.
priority	802.1p traffic class priority of QoS ETS mode. An integer from 0-7. Default value: 0.
hostctrl_ena	Whether host COS control of a UFP virtual interface is enabled or disabled (string). Valid values: "yes", "no". Default value: "no".
allowed_vlans	A list of Trunk mode accepted VLAN IDs of UFP virtual interface.
vid	The trunk mode accepted VLAN ID of a UFP Virtual Interface. An integer from 2-3999.

Get UFP Virtual Interface Configuration

Gets UFP Virtual Interface configuration for all interfaces or for a specified interface.

Request

Method Type	GET
Request URI	/nos/api/cfg/ufp/virtual_interface/<vif_name>
Request Body (JSON)	

where:

Parameter	Description
<i>vif_name</i>	(Optional) The UFP virtual interface (string). Valid value: "ufp-virtual 1/x/y". Note: If <i>vif_name</i> is not specified, the information for all interfaces is displayed.

Response

Response Body (JSON)	<pre>{ "vif_name": <vif_name>, "ena": <ena>, "mode": <mode>, "tag_defvlan": <tag_defvlan>, "defvlan": <defvlan>, "minbw": <minbw>, "maxbw": <maxbw>, "priority": <priority>, "hostctrl_ena": <hostctrl_ena>, "allowed_vlans": [{ <vid> }] }</pre>
-------------------------	---

where:

Parameter	Description
<i>vif_name</i>	The UFP virtual interface (string). Valid value: "ufp-virtual 1/x/y".
<i>ena</i>	The UFP operation is enabled on the UFP virtual interface (string). Valid values: "yes", "no". Default value: "no".

Parameter	Description
mode	The UFP Virtual Interface network mode (string). Valid values: "access", "fcoe", "trunk", "tunnel". Default value: "tunnel".
tag_defvlan	Whether tag is enabled or disabled on the default VLAN (string). Valid values: "yes", "no". Default value: "no".
defvlan	The default VLAN of UFP Virtual Interface. A positive integer from 2-3999.
minbw	The minimum guaranteed bandwidth percentage for a UFP Virtual Interface (integer). Valid values: 0 or an integer from 10-100. Default value: 25.
maxbw	The maximum allowed bandwidth percentage for a UFP Virtual Interface (integer). Valid values: 0 or an integer from 10-100. Default value: 100.
priority	802.1p traffic class priority of QoS ETS mode. An integer from 0-7. Default value: 0.
hostctrl_ena	Whether host COS control of a UFP virtual interface is enabled or disabled (string). Valid values: "yes", "no". Default value: "no".
allowed_vlans	A list of Trunk mode accepted VLAN IDs of UFP virtual interface.
vid	The trunk mode accepted VLAN ID of a UFP Virtual Interface. An integer from 2-3999.

Create UFP Virtual Interface Configuration

Creates UFP Virtual Interface configurations.

Request

Method Type	POST
Request URI	/nos/api/cfg/ufp/virtual_interface
Request Body (JSON)	<pre>{ "vif_name": <vif_name>, "ena": <ena>, "mode": <mode>, "tag_defvlan": <tag_defvlan>, "defvlan": <defvlan>, "minbw": <minbw>, "maxbw": <maxbw>, "priority": <priority>, "hostctrl_ena": <hostctrl_ena>, "allowed_vlans": [{ <vid> }] }</pre>

where:

Parameter	Description
vif_name	The UFP virtual interface (string). Valid value: "ufp-virtual 1/x/y".
ena	The UFP operation is enabled on the UFP virtual interface (string). Valid values: "yes", "no". Default value: "no".
mode	The UFP Virtual Interface network mode (string). Valid values: "access", "fcoe", "trunk", "tunnel". Default value: "tunnel".
tag_defvlan	Whether tag is enabled or disabled on the default VLAN (string). Valid values: "yes", "no". Default value: "no".
defvlan	The default VLAN of UFP Virtual Interface. A positive integer from 2-3999. Note: VLAN must be configured.
minbw	The minimum guaranteed bandwidth percentage for a UFP Virtual Interface (integer). Valid values: 0 or an integer from 10-100. Default value: 25.
maxbw	The maximum allowed bandwidth percentage for a UFP Virtual Interface (integer). Valid values: 0 or an integer from 10-100. Default value: 100.

Parameter	Description
priority	802.1p traffic class priority of QoS ETS mode. An integer from 0-7. Default value: 0.
hostctrl_ena	Whether host COS control of a UFP virtual interface is enabled or disabled (string). Valid values: "yes", "no". Default value: "no".
allowed_vlans	A list of Trunk mode accepted VLAN IDs of UFP virtual interface. Note: VLANs must be configured.
vid	The trunk mode accepted VLAN ID of a UFP Virtual Interface. An integer from 2-3999.

Response

Response Body (JSON)	<pre>{ "vif_name": <vif_name>, "ena": <ena>, "mode": <mode>, "tag_defvlan": <tag_defvlan>, "defvlan": <defvlan>, "minbw": <minbw>, "maxbw": <maxbw>, "priority": <priority>, "hostctrl_ena": <hostctrl_ena>, "allowed_vlans": [{ <vid> }] }</pre>
----------------------	---

where:

Parameter	Description
vif_name	The UFP virtual interface (string). Valid value: "ufp-virtual 1/x/y".
ena	The UFP operation is enabled on the UFP virtual interface (string). Valid values: "yes", "no". Default value: "no".
mode	The UFP Virtual Interface network mode (string). Valid values: "access", "fcoe", "trunk", "tunnel". Default value: "tunnel".
tag_defvlan	Whether tag is enabled or disabled on the default VLAN (string). Valid values: "yes", "no". Default value: "no".
defvlan	The default VLAN of UFP Virtual Interface. A positive integer from 2-3999.

Parameter	Description
minbw	The minimum guaranteed bandwidth percentage for a UFP Virtual Interface (integer). Valid values: 0 or an integer from 10-100. Default value: 25.
maxbw	The maximum allowed bandwidth percentage for a UFP Virtual Interface (integer). Valid values: 0 or an integer from 10-100. Default value: 100.
priority	802.1p traffic class priority of QoS ETS mode. An integer from 0-7. Default value: 0.
hostctrl_ena	Whether host COS control of a UFP virtual interface is enabled or disabled (string). Valid values: "yes", "no". Default value: "no".
allowed_vlans	A list of Trunk mode accepted VLAN IDs of UFP virtual interface.
vid	The trunk mode accepted VLAN ID of a UFP Virtual Interface. An integer from 2-3999.

Set UFP Virtual Interface Configuration

Sets UFP Virtual Interface configurations.

Request

Method Type	PUT
Request URI	/nos/api/cfg/ufp/virtual_interface/<vif_name>
Request Body (JSON)	<pre>{ "vif_name": <vif_name>, "ena": <ena>, "mode": <mode>, "tag_defvlan": <tag_defvlan>, "defvlan": <defvlan>, "minbw": <minbw>, "maxbw": <maxbw>, "priority": <priority>, "hostctrl_ena": <hostctrl_ena>, "allowed_vlans": [{ <vid> }] }</pre>

where:

Parameter	Description
vif_name	The UFP virtual interface (string). Valid value: "ufp-virtual 1/x/y".
ena	The UFP operation is enabled on the UFP virtual interface (string). Valid values: "yes", "no". Default value: "no".
mode	The UFP Virtual Interface network mode (string). Valid values: "access", "fcoe", "trunk", "tunnel". Default value: "tunnel".
tag_defvlan	Whether tag is enabled or disabled on the default VLAN (string). Valid values: "yes", "no". Default value: "no".
defvlan	The default VLAN of UFP Virtual Interface. A positive integer from 2-3999. Note: VLAN must be configured.
minbw	The minimum guaranteed bandwidth percentage for a UFP Virtual Interface (integer). Valid values: 0 or an integer from 10-100. Default value: 25.
maxbw	The maximum allowed bandwidth percentage for a UFP Virtual Interface (integer). Valid values: 0 or an integer from 10-100. Default value: 100.

Parameter	Description
priority	802.1p traffic class priority of QoS ETS mode. An integer from 0-7. Default value: 0.
hostctrl_ena	Whether host COS control of a UFP virtual interface is enabled or disabled (string). Valid values: "yes", "no". Default value: "no".
allowed_vlans	A list of Trunk mode accepted VLAN IDs of UFP virtual interface. Note: VLANs must be configured.
vid	The trunk mode accepted VLAN ID of a UFP Virtual Interface. An integer from 2-3999.

Response

Response Body (JSON)	<pre>{ "vif_name": <vif_name>, "ena": <ena>, "mode": <mode>, "tag_defvlan": <tag_defvlan>, "defvlan": <defvlan>, "minbw": <minbw>, "maxbw": <maxbw>, "priority": <priority>, "hostctrl_ena": <hostctrl_ena>, "allowed_vlans": [{ <vid> }] }</pre>
----------------------	---

where:

Parameter	Description
vif_name	The UFP virtual interface (string). Valid value: "ufp-virtual 1/x/y".
ena	The UFP operation is enabled on the UFP virtual interface (string). Valid values: "yes", "no". Default value: "no".
mode	The UFP Virtual Interface network mode (string). Valid values: "access", "fcoe", "trunk", "tunnel". Default value: "tunnel".
tag_defvlan	Whether tag is enabled or disabled on the default VLAN (string). Valid values: "yes", "no". Default value: "no".
defvlan	The default VLAN of UFP Virtual Interface. A positive integer from 2-3999.

Parameter	Description
minbw	The minimum guaranteed bandwidth percentage for a UFP Virtual Interface (integer). Valid values: 0 or an integer from 10-100. Default value: 25.
maxbw	The maximum allowed bandwidth percentage for a UFP Virtual Interface (integer). Valid values: 0 or an integer from 10-100. Default value: 100.
priority	802.1p traffic class priority of QoS ETS mode. An integer from 0-7. Default value: 0.
hostctrl_ena	Whether host COS control of a UFP virtual interface is enabled or disabled (string). Valid values: "yes", "no". Default value: "no".
allowed_vlans	A list of Trunk mode accepted VLAN IDs of UFP virtual interface.
vid	The trunk mode accepted VLAN ID of a UFP Virtual Interface. An integer from 2-3999.

Delete UFP Virtual Interface Configuration

Deletes UFP Virtual Interface.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/ufp/virtual_interface/< <i>vif_name</i> >
Request Body (JSON)	

where:

Parameter	Description
<i>vif_name</i>	The UFP virtual interface name (string). Valid value: "ufp-virtual 1/x/y". Note: If <i>vif_name</i> is not specified, all UFP virtual interfaces are deleted.

Response

Response Body (JSON)	
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Get UFP vPort Information

Gets UFP vPort information.

Request

Method Type	GET
Request URI	/nos/api/info/ufp/vport/<if_name>/<vport>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The Ethernet interface name (string). For example: "Ethernet1%2F1". Note: If <i>if_name</i> is not specified, the information for all interfaces is displayed.
<i>vport</i>	The UFP virtual port index. An integer from 1-8. Default value: None.

Response

Response Body (JSON)	<pre>[{ "if_name": <if_name>, [{ "vport": <vport>, "vifindex": <vifindex>, "state": <state>, "mode": <mode>, "svid": <svid>, "defvlan": <defvlan>, "deftag": <deftag>, "l2f": <l2f>, "vlans": [{ "vid": <vid> }] }] }]]</pre>
-------------------------	--

where:

Parameter	Description
if_name	The Ethernet interface name (string). Note: The interface must exist.
vports	The UFP virtual port index. An integer from 1-8. Default value: None.
vifindex	The UFP Virtual Interface index of vPort. A positive integer.
state	The current status of vPort (string). Valid values: "linkup", "linkdown", "mismatch", "failover".
mode	The UFP Virtual Interface network mode (string). Valid values: "access", "fcoe", "trunk", "tunnel". Default value: "tunnel".
svid	The UFP vPort default VLAN ID. An integer from 2-3999 or 4002-4009.
defvlan	The default VLAN of UFP Virtual Interface. A positive integer from 2-3999.
deftag	Whether tag on default VLAN is enabled or disabled (string). Valid values: "yes", "no". Default value: "no".
l2f	Whether UFP Virtual Interface is L2 Failover controlled (string). Valid values: "yes", "no". Default value: "no".
vid	The trunk mode accepted VLAN ID of a UFP Virtual Interface. An integer from 2-3999.

vLAG

The following Virtual Link Aggregation Group (vLAG) URIs are available:

- /nos/api/cfg/vlag GET, PUT
- /nos/api/info/vlag GET
- /nos/api/info/vlag/isl GET
- /nos/api/cfg/vlag/isl PUT
- /nos/api/info/vlag/health_check GET
- /nos/api/cfg/vlag/health_check GET, PUT
- /nos/api/cfg/vlag/instance POST
- /nos/api/cfg/vlag/instance/<instance_id> GET, PUT, DELETE
- /nos/api/info/vlag/instance/<instance_id> GET
- /nos/api/cfg/vlag/orphanport GET, PUT
- /nos/api/cfg/vlag/svi GET, PUT

The following vLAG commands are available:

- [Get vLAG Configuration](#)
- [Update vLAG Configuration](#)
- [Get Global vLAG Information](#)
- [Get vLAG ISL Information](#)
- [Configure vLAG ISL](#)
- [Get vLAG Health Check Information](#)
- [Get vLAG Health Check Configuration](#)
- [Configure vLAG Health Check Parameters](#)
- [Create vLAG Instance](#)
- [Update vLAG Instance](#)
- [Delete vLAG Instance](#)
- [Get vLAG Instance Configuration](#)
- [Get vLAG Instance Information](#)
- [Get vLAG Orphan Port Suspend Settings](#)
- [Set vLAG Orphan Port Suspend Settings](#)
- [Get vLAG SVI Exclude VLAN Settings](#)
- [Set vLAG SVI Exclude VLAN Settings](#)

Get vLAG Configuration

Gets the Virtual Link Aggregation Group (vLAG) global configuration.

Request

Method Type	GET
Request URI	/nos/api/cfg/vlag
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "status": "<status>", "tier_id": <tier_id>, "priority": <priority>, "auto_recovery": <auto_recovery>, "startup_delay": <startup_delay> }</pre>
-------------------------	---

where:

Parameter	Description
status	Whether the vLAG is enabled or disabled (string). Valid values: "enable", "disable". Default value: "disable".
tier_id	vLAG tier ID value. An integer from 1-512. Default value: 0.
priority	vLAG priority value. An integer from 0-65535. Default value: 0.
auto_recovery	Time interval, in seconds. An integer from 240-3600. Default value: 300.
startup_delay	Delay time, in seconds. An integer from 0-3600. Default value: 120.

Update vLAG Configuration

Updates the Virtual Link Aggregation Group (vLAG) global configuration.

Request

Method Type	PUT
Request URI	/nos/api/cfg/vlag
Request Body (JSON)	{ "status": "<status>", "tier_id": <tier_id>, "priority": <priority>, "auto_recovery": <auto_recovery>, "startup_delay": <startup_delay> }

where:

Parameter	Description
status	Whether the vLAG is enabled or disabled (string). Valid values: "enable", "disable". Default value: "disable".
tier_id	vLAG tier ID value. An integer from 1-512. Default value: 0.
priority	vLAG priority value. An integer from 0-65535. Default value: 0.
auto_recovery	Time interval, in seconds. An integer from 240-3600. Default value: 300.
startup_delay	Delay time, in seconds. An integer from 0-3600. Default value: 120.

Note: At least one parameter must be specified in the request body.

Response

Response Body (JSON)	<pre>{ "status": "<status>", "tier_id": <tier_id>, "priority": <priority>, "auto_recovery": <auto_recovery>, "startup_delay": <startup_delay> }</pre>
-------------------------	---

where:

Parameter	Description
status	Whether the vLAG is enabled or disabled (string). Valid values: "enable", "disable". Default value: "disable".
tier_id	vLAG tier ID value. An integer from 1-512. Default value: 0.
priority	vLAG priority value. An integer from 0-65535. Default value: 0.
auto_recovery	Time interval, in seconds. An integer from 240-3600. Default value: 300.
startup_delay	Delay time, in seconds. An integer from 0-3600. Default value: 120.

Get Global vLAG Information

Gets global vLAG information.

Request

Method Type	GET
Request URI	/nos/api/info/vlag
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "status": "<status>", "system_mac": "<system_mac>", "fdb_refresh": "<fdb_refresh>", "fdb_synch": "<fdb_synch>", "auto_recovery": { "interval": <interval>, "state": "<state>", } "startup_delay": { "interval": <interval>, "state": "<state>" } "local": { "tier_id": <tier_id>, "sys_type": "<sys_type>", "os_version": "<os_version>", "admin_role": "<admin_role>", "oper_role": "<oper_role>", "priority" : <priority>, "system_mac": "<system_mac>", "match": "<match>" } "peer": { "tier_id": <tier_id>, "sys_type": "<sys_type>", "os_version": "<os_version>", "admin_role": "<admin_role>", "oper_role": "<oper_role>", "priority" : <priority>, "system_mac": "<system_mac>", "match": "<match>" } }</pre>
-------------------------	--

where:

Parameter	Description
status	Whether the vLAG is enabled or disabled (string). Valid values: "enable", "disable". Default value: "disable".
system_mac	Unique vLAG system MAC used for LACP negotiation on the vLAG ports so the access switch forms a single LAG. The vLAG <i>tier_id</i> is used to form this vLAG system MAC (string).
fdb_refresh	Whether FDB refresh is configured (string). Valid values: "yes", "no".
fdb_synch	Whether FDB is synchronized (string). Valid values: "yes", "no".
auto_recovery	A dictionary consisting of the following values: <ul style="list-style-type: none"> ● interval: Time interval, in seconds. An integer from 240-3600. Default value: 300. ● state: Auto-recovery state (string). Valid values: "unstarted", "running", "finished".
startup_delay	A dictionary consisting of the following values: <ul style="list-style-type: none"> ● interval: Delay time, in seconds. An integer from 0-3600. Default value: 120. ● state: Startup delay state (string). Valid values: "unstarted", "running", "finished".
local	Dictionary containing the following values: <ul style="list-style-type: none"> ● tier_id: vLAG tier ID of the local switch (integer) ● sys_type: Lenovo hardware model number (string) ● os_version: CNOS version (string) ● admin_role: A string: "Primary", "Secondary", "Unselected" ● oper_role: A string: "Primary", "Secondary", "Unselected" ● priority: The local vLAG priority (integer) ● system_mac: Local switch MAC (string) ● match: Whether there is an ISL local match or mismatch. A string: "Match", "Mis-Match".

Parameter	Description
peer	Dictionary containing the following values: <ul style="list-style-type: none"> ● tier_id: vLAG tier ID of the peer switch (integer) ● sys_type: Lenovo hardware model number (string) ● os_version: CNOS version (string) ● admin_role: A string: "Primary", "Secondary", "Unselected" ● oper_role: A string: "Primary", "Secondary", "Unselected" ● priority: The peer vLAG priority (integer) ● system_mac: Peer switch MAC (string) ● match: Whether there is an ISL local match or mismatch. A string: "Match", "Mis-Match".

Get vLAG ISL Information

Gets Virtual Link Aggregation Group (vLAG) Inter-Switch Link (ISL) information.

Request

Method Type	GET
Request URI	/nos/api/info/vlag/isl
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "port_aggregator": <port_aggregator>, "if_index": <if_index>, "state": "<state>", "prev_state": "<prev_state>" }</pre>
-------------------------	---

where:

Parameter	Description
port_aggregator	LAG identifier. An integer from 1-4096.
if_index	ISL interface index (integer).
state	ISL state (string). Valid values: "Down", "Inactive", "Active".
prev_state	Previous ISL state (string). Valid values: "Down", "Inactive", "Active".

Configure vLAG ISL

Configures the port aggregator for the vLAG ISL.

Request

Method Type	PUT
Request URI	nos/api/cfg/vlag/isl
Request Body (JSON)	{ "port_aggregator": <port_aggregator> }

where:

Parameter	Description
port_aggregator	Port aggregator for the vLAG ISL (integer).

Response

Response Body (JSON)	
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Get vLAG Health Check Information

Gets vLAG health check information.

Request

Method Type	GET
Request URI	/nos/api/info/vlag/health_check
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "status": "<status>", "peer_ip": "<peer_ip>", "vrf": "<vrf>", "local_ip": "<local_ip>", "retry_interval": <retry_interval>, "keepalive_attempts": <keepalive_attempts>, "keepalive_interval": <keepalive_interval> }</pre>
-------------------------	---

where:

Parameter	Description
status	vLAG health check status (string). Valid values: "up", "down".
peer_ip	IP address of peer switch. This can be the management IP address of the peer switch (string).
vrf	VRF context string.
local_ip	IP address of local switch. This can be the management IP address of the local switch (string).
retry_interval	Time interval, in seconds. An integer from 1-300. Default value: 30.
keepalive_attempts	Number of keepalive attempts made before declaring the peer is down. An integer from 1-24. Default value: 3.
keepalive_interval	Time interval, in seconds. An integer from 2-300. Default value: 5.

Get vLAG Health Check Configuration

Gets vLAG health check configuration.

Request

Method Type	GET
Request URI	nos/api/cfg/vlag/health_check
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "status": "<status>", "peer_ip": "<peer_ip>", "vrf": "<vrf>", "local_ip": "<local_ip>", "retry_interval": <retry_interval>, "keepalive_attempts": <keepalive_attempts>, "keepalive_interval": <keepalive_interval> }</pre>
-------------------------	---

where:

Parameter	Description
status	vLAG health check status (string). Valid values: "up", "down".
peer_ip	IP address of peer switch. This can be the management IP address of the peer switch (string). For example: "192.168.1.1".
vrf	VRF context string. Valid values: the VRF name, "default", "management".
local_ip	IP address of local switch. This can be the management IP address of the local switch (string). For example: "192.168.1.2".
retry_interval	Retry interval, in seconds. An integer from 1-300. Default value: 30.
keepalive_attempts	Number of keepalive attempts made before declaring the peer is down. An integer from 1-24. Default value: 3.
keepalive_interval	Time interval, in seconds. An integer from 2-300. Default value: 5.

Configure vLAG Health Check Parameters

Configures vLAG health check parameters.

Request

Method Type	PUT
Request URI	/nos/api/cfg/vlag/health_check
Request Body (JSON)	<pre>{ "peer_ip": "<peer_ip>", "vrf": "<vrf>", "retry_interval": <retry_interval>, "keepalive_attempts": <keepalive_attempts>, "keepalive_interval": <keepalive_interval> }</pre>

where:

Parameter	Description
peer_ip	IP address of peer switch. This can be the management IP address of the peer switch (string).
vrf	VRF context string.
retry_interval	Time interval, in seconds. An integer from 1-300. Default value: 30.
keepalive_attempts	Number of keepalive attempts made before declaring the peer is down. An integer from 1-24. Default value: 3.
keepalive_interval	Time interval, in seconds. An integer from 2-300. Default value: 5.

Response

Response Body (JSON)	<pre>{ "status": "<status>", "peer_ip": "<peer_ip>", "vrf": "<vrf>", "local_ip": "<local_ip>", "retry_interval": <retry_interval>, "keepalive_attempts": <keepalive_attempts>, "keepalive_interval": <keepalive_interval> }</pre>
-------------------------	---

where:

Parameter	Description
status	vLAG health check status (string). Valid values: "up", "down".
peer_ip	IP address of peer switch. This can be the management IP address of the peer switch (string).

Parameter	Description
vrf	VRF context string.
local_ip	IP address of local switch. This can be the management IP address of the local switch (string).
retry_interval	Time interval, in seconds. An integer from 1-300. Default value: 30.
keepalive_attempts	Number of keepalive attempts made before declaring the peer is down. An integer from 1-24. Default value: 3.
keepalive_interval	Time interval, in seconds. An integer from 2-300. Default value: 5.

Create vLAG Instance

Creates a Virtual Link Aggregation Group (vLAG) instance.

Request

Method Type	POST
Request URI	nos/api/cfg/vlag/instance
Request Body (JSON)	{ "port_aggregator": <port_aggregator>, "status": "<status>", "inst_id": <inst_id> }

where:

Parameter	Description
inst_id	vLAG instance ID number. An integer from 1-64.
port_aggregator	LAG identifier. An integer from 1-4096.
status	vLAG status (string). Valid values: "enable", "disable".

Response

Response Body (JSON)	
-------------------------	--

Update vLAG Instance

Updates a Virtual Link Aggregation Group (vLAG) instance.

Request

Method Type	PUT
Request URI	/nos/api/cfg/vlag/instance/<instance_id>
Request Body (JSON)	{ "port_aggregator": <port_aggregator>, "status": "<status>" }

where:

Parameter	Description
<i>instance_id</i>	vLAG instance ID number. An integer from 1-64.
port_aggregator	LAG identifier. An integer from 1-4096.
status	vLAG status (string). Valid values: "enable", "disable".

Response

Response Body (JSON)	
-------------------------	--

Delete vLAG Instance

Deletes a vLAG instance.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/vlag/instance/<instance_id>
Request Body (JSON)	

where:

Parameter	Description
<i>instance_id</i>	vLAG instance ID number. An integer from 1-64.

Response

True if the operation succeeded; otherwise False.

Get vLAG Instance Configuration

Gets configuration parameters for the specified vLAG instance.

Note: An *instance_id* value of *None* returns configuration parameters for all vLAG instances.

Request

Method Type	GET
Request URI	/nos/api/cfg/vlag/instance/<instance_id>
Request Body (JSON)	

where:

Parameter	Description
<i>instance_id</i>	vLAG instance ID. An integer from 1-64 or None.

Response

Response Body (JSON)	{ "port_aggregator": <port_aggregator>, "status": "<status>",&br/> "inst_id": <inst_id> }
-------------------------	---

where:

Parameter	Description
<i>inst_id</i>	vLAG instance ID number. An integer from 1-64.
<i>port_aggregator</i>	LAG identifier. An integer from 1-4096.
<i>status</i>	vLAG status (string). Valid values: "enable", "disable".

Get vLAG Instance Information

Gets information about a vLAG instance.

Note: An *instance_id* value of None returns information about all vLAG instances.

Request

Method Type	GET
Request URI	nos/api/info/vlag/instance/<instance_id>
Request Body (JSON)	

where:

Parameter	Description
<i>instance_id</i>	vLAG instance ID. An integer from 1-64 or None.

Response

Response Body (JSON)	<pre>{ "inst_id": "<inst_id>" "port_aggregator": <port_aggregator> "state": "<state>" "prev_state": "<prev_state>" }</pre>
-------------------------	--

where:

Parameter	Description
port_aggregator	LAG identifier. An integer from 1-4096.
inst_id	ISL interface index (string).
state	ISL state (string). Valid values: "Down", "Inactive", "Active".
prev_state	Previous ISL state (string). Valid values: "Down", "Inactive", "Active".

Get vLAG Orphan Port Suspend Settings

Gets orphan port suspend setting of a specified interface.

Request

Method Type	GET
Request URI	/nos/api/cfg/vlag/orphanport/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The ethernet interface name (string). For example: "Ethernet1%2F1".

Response

Response Body (JSON)	{ "suspend_status": "<suspend_status>", }
-------------------------	---

where:

Parameter	Description
suspend_status	The vLAG orphan port suspend control state (string). Valid values: "enabled", "disabled".

Set vLAG Orphan Port Suspend Settings

Sets orphan port suspend setting of a specified interface.

Request

Method Type	PUT
Request URI	/nos/api/cfg/vlag/orphanport/<if_name>
Request Body (JSON)	{ "suspend_status": "<suspend_status>", }

where:

Parameter	Description
<i>if_name</i>	The ethernet interface name (string). For example: "Ethernet1%2F1".
suspend_status	The vLAG orphan port suspend control state (string). Valid values: "enabled", "disabled".

Response

Response Body (JSON)	{ "suspend_status": "<suspend_status>", }
-------------------------	---

where:

Parameter	Description
suspend_status	The vLAG orphan port suspend control state (string). Valid values: "enabled", "disabled".

Get vLAG SVI Exclude VLAN Settings

Gets VLAG SVI exclude interface VLAN list.

Request

Method Type	GET
Request URI	nos/api/cfg/vlag/svi
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ vlans(List of VLAN ID entries) [{ "vlan_id": <vlan_id>, }] }</pre>
-------------------------	---

where:

Parameter	Description
vlans	A list of VLAN ID entries.
vlan_id	The interface VLAN ID. An integer from 1-4094.

Set vLAG SVI Exclude VLAN Settings

Sets VLAG SVI exclude interface VLAN list.

Request

Method Type	PUT
Request URI	nos/api/cfg/vlag/svi
Request Body (JSON)	<pre>{ vlans(List of VLAN ID entries) [{ "vlan_id": <vlan_id>, }] }</pre>

where:

Parameter	Description
vlans	A list of VLAN ID entries.
vlan_id	The interface VLAN ID. An integer from 1-4094.

Response

Response Body (JSON)	<pre>{ vlans(List of VLAN ID entries) [{ "vlan_id": <vlan_id>, }] }</pre>
-------------------------	---

where:

Parameter	Description
vlans	A list of VLAN ID entries.
vlan_id	The interface VLAN ID. An integer from 1-4094.

VLAN

The following VLAN-related URIs are available:

- /nos/api/cfg/vlan POST
- /nos/api/cfg/vlan/<vlan_id> GET, PUT, DELETE
- /nos/api/cfg/vlan/reserve GET, PUT
- /nos/api/cfg/subnetvlan GET, POST, PUT, DELETE
- /nos/api/cfg/subnetvlan/state/<if_name> GET, PUT
- /nos/api/cfg/vlan/tag_native GET, PUT

The following VLAN commands are available:

- [Get VLANs](#)
- [Create VLAN](#)
- [Update VLAN](#)
- [Delete VLAN](#)
- [Get Reserved VLAN Range](#)
- [Update Reserved VLAN Range](#)
- [Add and Modify Subnet VLAN Rule](#)
- [Delete Subnet VLAN Rule](#)
- [Delete All Subnet VLAN Rules](#)
- [Get Subnet VLAN Rule](#)
- [Get Interface Subnet VLAN Control Status](#)
- [Update Interface Subnet VLAN Control Status](#)
- [Get VLAN Tag Native Settings](#)
- [Set VLAN Tag Native Settings](#)

Get VLANs

Gets properties of all VLANs or for a specified VLAN.

Request

Method Type	GET
Request URI	/nos/api/cfg/vlan/<vlan_id>
Request Body (JSON)	

where:

Parameter	Description
<i>vlan_id</i>	(Optional) VLAN number.; an integer from 1-4093. Note: If <i>vlan_id</i> is not specified, the information for all VLANs is displayed.

Response

Response Body (JSON)	<pre>{ "vlan_name": "<vlan_name>", "vlan_id": <vlan_id>, "admin_state": "<admin_state>", "ipmc_flood": "<ipmc_flood>", "mst_inst_id": <mst_inst_id>, "interfaces": [{ "if_name": "<if_name>", "bridgeport_mode": "<bridgeport_mode>", "pvid": <pvid> }] }</pre>
-------------------------	---

where:

Parameter	Description
<i>vlan_name</i>	The name of the VLAN (string).
<i>vlan_id</i>	VLAN ID. An integer from 1-4093.
<i>admin_state</i>	The VLAN admin status (string). Valid values: "up", "down".
<i>ipmc_flood</i>	The VLAN IPMC flood (string). Valid values: "disable", "ipv4", "ipv6", "ipv4ipv6".
<i>mst_inst_id</i>	MST instance ID. An integer from 0-64. Default value: 0. Note: Instance 0 refers to the CIST.

Parameter	Description
interfaces	Interface members of a VLAN. Note: The interface members must exist.
if_name	Ethernet interface name (string). Note: The ethernet interface must exist.
bridgeport_mode	Bridge port mode (string). Valid values: "access", "trunk", "hybrid". Default value: "access".
pvid	Native VLAN for a port. An integer from 1-3999. Default value: 1.

Create VLAN

Creates a VLAN.

Request

Method Type	POST
Request URI	/nos/api/cfg/vlan
Request Body (JSON)	<pre>{ "vlan_name": "<vlan_name>", "vlan_id": <vlan_id>, "admin_state": "<admin_state>" }</pre>

where:

Parameter	Description
vlan_name	The VLAN name. A string up to 32 characters long. To create a VLAN with the default name, the vlan_name field must be null.
vlan_id	The VLAN ID. An integer from 2-4093.
admin_state	The VLAN admin status (string). Valid values: "up", "down".

Response

Response Body (JSON)	<pre>{ "vlan_name": "<vlan_name>", "vlan_id": <vlan_id>, "admin_state": "<admin_state>", "ipmc_flood": "<ipmc_flood>", "mst_inst_id": <mst_inst_id>, "interfaces": [{ "if_name": "<if_name>", "bridgeport_mode": "<bridgeport_mode>", "pvid": <pvid> }] }</pre>
-------------------------	---

where:

Parameter	Description
vlan_name	The VLAN name (string).
vlan_id	The VLAN ID. An integer from 2-4093.
admin_state	The VLAN admin status (string). Valid values: "up", "down".

Parameter	Description
ipmc_flood	The VLAN IPMC flood (string). Valid values: "disable", "ipv4", "ipv6", "ipv4ipv6".
mst_inst_id	The MST instance ID. An integer from 0-64.
interfaces	The interface members of a VLAN.
if_name	The Ethernet interface name (string).
bridgeport_mode	The bridge port mode (string). Valid values: "access", "trunk", "hybrid". Default value: "access".
pvid	The native VLAN of the port. An integer from 1-4093.

Update VLAN

Updates properties of a VLAN.

Note: If an element is not specified in a PUT request, no update for that element will be performed.

Request

Method Type	PUT
Request URI	/nos/api/cfg/vlan/<vlan_id>
Request Body (JSON)	{ "vlan_name": "<vlan_name>", "admin_state": "<admin_state>", "ipmc_flood": "<opmc_flood>" }

where:

Parameter	Description
<i>vlan_id</i>	The VLAN ID. An integer from 2-4093.
vlan_name	The VLAN name. A string up to 32 characters long. To change a VLAN name with default name, the <code>vlan_name</code> field must be null.
admin_state	The VLAN admin status (string). Valid values: "up", "down".
ipmc_flood	The VLAN IPMC flood (string). Valid values: "disable", "ipv4", "ipv6", "ipv4ipv6".

Response

Response Body (JSON)	<pre>{ "vlan_name": "<vlan_name>", "vlan_id": <vlan_id>, "admin_state": "<admin_state>", "ipmc_flood": "<ipmc_flood>", "mst_inst_id": <mst_inst_id>, "interfaces": [{ "if_name": "<if_name>", "bridgeport_mode": "<bridgeport_mode>", "pvid": <pvid> }] }</pre>
-------------------------	---

where:

Parameter	Description
vlan_name	The VLAN name (string).
vlan_id	The VLAN ID. An integer from 2-4093.
admin_state	The VLAN admin status (string). Valid values: "up", "down".
ipmc_flood	The VLAN IPMC flood (string). Valid values: "disable", "ipv4", "ipv6", "ipv4ipv6".
mst_inst_id	The MST instance ID. An integer from 0-64. Default value: 0.
interfaces	The interface members of a VLAN.
if_name	The Ethernet interface name (string).
bridgeport_mode	The bridge port mode (string). Valid values: "access", "trunk", "hybrid". Default value: "access".
pvid	The native VLAN of the port. An integer from 1-4093. Default value: 1.

Delete VLAN

Deletes a VLAN.

If the specified *vlan_id* is all, all user-created VLANs will be deleted.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/vlan/<vlan_id>
Request Body (JSON)	

where:

Parameter	Description
<i>vlan_id</i>	The VLAN ID. An integer from 2-4093.

Response

Response Body (JSON)	
-------------------------	--

Get Reserved VLAN Range

Gets the current reserved VLAN range

Request

Method Type	GET
Request URI	/nos/api/cfg/vlan/reserve
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "cfg_lower_id": <cfg_lower_id>, "cfg_higher_id": <cfg_higher_id>, "cur_lower_id": <cur_lower_id>, "cur_higher_id": <cur_higher_id> }</pre>
----------------------	---

where:

Parameter	Description
cfg_lower_id	The current configured lower ID of the reserved VLAN range. An integer from 1-4094.
cfg_higher_id	The current configured higher ID of the reserved VLAN range. An integer from 1-4094.
cur_lower_id	The current operational lower id of the reserved VLAN range. An integer from 1-4094.
cur_higher_id	The current operational higher id of the reserved VLAN range. An integer from 1-4094.

Update Reserved VLAN Range

Updates the reserved VLAN range.

Request

Method Type	PUT
Request URI	/nos/api/cfg/vlan/reserve
Request Body (JSON)	{ "reset": <reset>, "lower_id": <lower_id>, "higher_id": <higher_id> }

where:

Parameter	Description
reset	Whether to reset the reserved VLAN range to the default value (boolean). Valid values: <code>true</code> - reset to the default reserved VLAN range, <code>false</code> - do not reset. Default value: <code>false</code> .
lower_id	The lower ID of the reserved VLAN range. An integer from 1-4094.
higher_id	The higher ID of the reserved VLAN range. An integer from 1-4094.

Response

Response Body (JSON)	{ "cfg_lower_id": <cfg_lower_id>, "cfg_higher_id": <cfg_higher_id>, "cur_lower_id": <cur_lower_id>, "cur_higher_id": <cur_higher_id> }
----------------------	---

where:

Parameter	Description
cfg_lower_id	The current configured lower ID of the reserved VLAN range. An integer from 1-4094.
cfg_higher_id	The current configured higher ID of the reserved VLAN range. An integer from 1-4094.
cur_lower_id	The current operational lower id of the reserved VLAN range. An integer from 1-4094.
cur_higher_id	The current operational higher id of the reserved VLAN range. An integer from 1-4094.

Add and Modify Subnet VLAN Rule

Sets the subnet VLAN rule.

Request

Method Type	POST
Request URI	nos/api/cfg/subnetvlan/
Request Body (JSON)	<pre>{ "ip_addr": "<ip_addr>", "ip_prefix_len": <ip_prefix_len>, "vlan_id": <vlan_id>, "priority": <priority> }</pre>

where:

Parameter	Description
ip_addr	The source IP subnet prefix (string).
ip_prefix_len	The source subnet prefix length. An integer from 0-32.
vlan_id	The VLAN ID that the special source subnet traffic is assigned to. An integer from 1-4093.
priority	(Optional) The priority value for priority packets. An integer from 0-7.

Response

Response Body (JSON)	<pre>[{ "ip_addr": "<ip_addr>", "ip_prefix_len": <ip_prefix_len>, "vlan_id": <vlan_id>, "priority": <priority> }]</pre>
----------------------	---

where:

Parameter	Description
ip_addr	The source IP subnet prefix (string).
ip_prefix_len	The source subnet prefix length. An integer from 0-32.
vlan_id	The VLAN ID that the special source subnet traffic is assigned to. An integer from 1-4093.
priority	The priority value for priority packets. An integer from 0-7.

Delete Subnet VLAN Rule

Deletes a subnet VLAN rule based on the specified IP prefix or VLAN.

Request

Method Type	PUT
Request URI	/nos/api/cfg/subnetvlan
Request Body (JSON)	<pre>{ "ip_addr": "<ip_addr>", "ip_prefix_len": <ip_prefix_len>, } or { "vlan_id": <vlan_id> }</pre>

where:

Parameter	Description
ip_addr	The source subnet prefix to be deleted (string).
ip_prefix_len	The source subnet prefix length to be deleted. An integer from 0-32.
vlan_id	The special VLAN ID to be deleted. An integer from 1-4093.

Response

Response Body (JSON)	
----------------------	--

Delete All Subnet VLAN Rules

Deletes all subnet VLAN rules.

Request

Method Type	DELETE
Request URI	nos/api/cfg/subnetvlan
Request Body (JSON)	

Response

Response Body (JSON)	
----------------------	--

Get Subnet VLAN Rule

Gets all subnet VLAN rules.

Request

Method Type	GET
Request URI	nos/api/cfg/subnetvlan
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "ip_addr": "<ip_addr>", "ip_prefix_len": <ip_prefix_len>, "vlan_id": <vlan_id>, "priority": <priority> }]</pre>
----------------------	---

where:

Parameter	Description
ip_addr	The source subnet prefix (string).
ip_prefix_len	The source subnet prefix length. An integer from 0-32.
vlan_id	The VLAN ID that the special source subnet traffic is assigned to. An integer from 1-4093.
priority	(Optional) The priority value for priority packets. An integer from 0-7.

Get Interface Subnet VLAN Control Status

Gets the IP subnet based VLAN control status for a specified switch interface.

Request

Method Type	GET
Request URI	/nos/api/cfg/subnetvlan/state/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	The interface name (string). For example: "Ethernet1%2F1".

Response

Response Body (JSON)	{ "subnet_vlan_status": "<subnet_vlan_status>" }
----------------------	--

where:

Parameter	Description
subnet_vlan_status	The IP subnet based VLAN control state of the interface (string). Valid values: "enabled", "disabled".

Update Interface Subnet VLAN Control Status

Updates the IP subnet based VLAN control status for a specified switch interface.

Request

Method Type	PUT
Request URI	/nos/api/cfg/subnetvlan/state/<if_name>
Request Body (JSON)	{ "subnet_vlan_status": "<subnet_vlan_status>" }

where:

Parameter	Description
<i>if_name</i>	The name of the switch interface (string). For example: "Ethernet1%2F1".
subnet_vlan_status	The IP subnet based VLAN control state of the interface (string). Valid values: "enabled", "disabled".

Response

Response Body (JSON)	{ "subnet_vlan_status": "<subnet_vlan_status>" }
----------------------	--

where:

Parameter	Description
subnet_vlan_status	The IP subnet based VLAN control state of the interface (string). Valid values: "enabled", "disabled".

Get Subnet VLAN Runtime Information

Gets the subnet VLAN runtime information.

Request

Method Type	GET
Request URI	nos/api/info/subnetvlan
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "ip_addr": <ip_addr>, "ip_prefix_len": <ip_prefix_len>, "vlan_id": <vlan_id>, "priority": <priority> }]</pre>
----------------------	---

where:

Parameter	Description
ip_addr	The source subnet prefix (string).
ip_prefix_len	The source subnet prefix length. An integer from 0-32.
vlan_id	The VLAN ID that the special source subnet traffics should be assigned to. An integer from 1-4094.
priority	The priority value for priority packets. An integer from 0-7.

Set Subnet VLAN Runtime Information

Sets the subnet VLAN runtime information.

Request

Method Type	POST
Request URI	nos/api/info/subnetvlan
Request Body (JSON)	<pre>{ "ip_addr": <ip_addr>, "ip_prefix_len": <ip_prefix_len>, } or { "vlan_id": <vlan_id> }</pre>

where:

Parameter	Description
ip_addr	The source subnet prefix (string).
ip_prefix_len	The source subnet prefix length. An integer from 0-32.
vlan_id	The VLAN ID that the special source subnet traffics should be assigned to. An integer from 1-4094.

Response

Response Body (JSON)	<pre>[{ "ip_addr": <ip_addr>, "ip_prefix_len": <ip_prefix_len>, "vlan_id": <vlan_id>, "priority": <priority> }]</pre>
----------------------	---

where:

Parameter	Description
ip_addr	The source subnet prefix (string).
ip_prefix_len	The source subnet prefix length. An integer from 0-32.
vlan_id	The VLAN ID that the special source subnet traffics should be assigned to. An integer from 1-4094.
priority	The priority value for priority packets. An integer from 0-7.

Get VLAN Tag Native Settings

Gets global VLAN tag native settings.

Request

Method Type	GET
Request URI	/nos/api/cfg/vlan/tag_native
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "global_tag_native": "<global_tag_native>" } { "tag_native": "<tag_native", "if_name": "<if_name>" },]</pre>
----------------------	---

where:

Parameter	Description
global_tag_native	The global tag native VLAN (string). Valid values: "enable", "disable", "eggress_only".
if_name	The name of the switch interface (string).
tag_native	The tag native VLAN of the interface (string). Valid values: "enable", "disable", "eggress_only".

Set VLAN Tag Native Settings

Gets global VLAN tag native properties for a specific switch interface.

Request

Method Type	PUT
Request URI	/nos/api/cfg/vlan/tag_native/<global_tag_native>
Request Body (JSON)	

where:

Parameter	Description
<i>global_tag_native</i>	The global tag native VLAN (string). Valid values: "enable", "disable", "eggress_only".

Response

Response Body (JSON)	<pre>[{ "global_tag_native": "<global_tag_native>" } { "tag_native": "<tag_native>", "if_name": "<if_name>" },]</pre>
----------------------	---

where:

Parameter	Description
<i>global_tag_native</i>	The global tag native VLAN (string). Valid values: "enable", "disable", "eggress_only".
<i>if_name</i>	The name of the switch interface (string).
<i>tag_native</i>	The tag native VLAN of the interface (string). Valid values: "enable", "disable", "eggress_only".

VLAN Interface Properties

The following VLAN interface property URIs are available:

- /nos/api/cfg/vlan_interface PUT
- /nos/api/cfg/vlan_interface/<if_name> GET, PUT

The following VLAN interface property commands are available:

- [Get VLAN Interface Properties](#)
- [Update VLAN Interface Properties](#)
- [Update VLAN Interface Allowed VLAN List](#)

Get VLAN Interface Properties

Gets the VLAN properties for a specified switch interface or for all interfaces.

Request

Method Type	GET
Request URI	/nos/api/cfg/vlan_interface/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	(Optional) The switch interface name (string). For example: "Ethernet1%2F1". Note: The Ethernet interface must exist.

Response

Response Body (JSON)	<pre>[{ "if_name": "<if_name>", "bridgeport_mode": "<bridgeport_mode>", "pvid": <pvid>, "vlans": [<vlan_id>], "egress_type": "<egress_type>", "egress_type_vlans": [<vlan_id>], "tag_native": "<tag_native>", "ingress_tagging": "<ingress_tagging>" }]</pre>
-------------------------	---

where:

Parameter	Description
<i>if_name</i>	The name of the switch interface (string).
<i>bridgeport_mode</i>	The bridge port mode (string). Valid values: "access", "trunk", "hybrid".
<i>pvid</i>	The Access VLAN for access ports or the Native VLAN for trunk/hybrid port. An integer from 1-4093.
<i>vlans</i>	The VLANs that the interface is a member of. Valid values: "all", "none", an integer from 1-4093.
<i>vlan_id</i>	The VLAN ID. An integer from 1-4093.

Parameter	Description
egress_ type	Whether traffic is egress tagged when the interface is in hybrid mode (string). Valid values: "tagged", "untagged".
egress_ type_vlans	The VLANs on which traffic is egress tagged. An integer from 1-4093.
tag_native	The tag native VLAN (string). Valid values: "enable", "disable", "egress_only", "none".
ingress_ tagging	The port mode dot1q tunnel (string). Valid values: "enable", "disable".

Update VLAN Interface Properties

Updates the VLAN properties for a specific switch interface.

Request

Method Type	PUT
Request URI	/nos/api/cfg/vlan_interface/<if_name>
Request Body (JSON)	<pre>{ "if_name": "<if_name>", "bridgeport_mode": "<bridgeport_mode>", "pvid": <pvid>, "vlans": [<vlan_id>], "egress_type": "<egress_type>", "egress_type_vlans": [<vlan_id>], "tag_native": "<tag_native>", "ingress_tagging": "<ingress_tagging>" }</pre>

where:

Parameter	Description
<i>if_name</i>	The name of the switch interface (string). For example: "Ethernet1%2F1".
bridgeport_mode	The bridge port mode (string). Valid values: "access", "trunk", "hybrid".
pvid	The Access VLAN for access ports or the Native VLAN for trunk/hybrid port. An integer from 1-4093.
vlans	The VLANs that the interface is a member of. Valid values: "all", "none", an integer from 1-4093.
vlan_id	The VLAN ID. An integer from 1-4093.
egress_type	Whether traffic is egress tagged when the interface is in hybrid mode (string). Valid values: "tagged", "untagged".
egress_type_vlans	The VLANs on which traffic is egress tagged. An integer from 1-4093.
tag_native	The tag native VLAN (string). Valid values: "enable", "disable", "egress_only", "none".
ingress_tagging	The port mode dot1q tunnel (string). Valid values: "enable", "disable".

Note: If an element is not specified in a PUT request, no update for that element will be performed.

Response

Response Body (JSON)	<pre>{ "if_name": "<if_name>", "bridgeport_mode": "<bridgeport_mode>", "pvid": "<pvid>", "vlans": ["<vlan_id>"], "egress_type": "<egress_type>", "egress_type_vlans": ["<vlan_id>"], "tag_native": "<tag_native>", "ingress_tagging": "<ingress_tagging>" }</pre>
-------------------------	---

where:

Parameter	Description
if_name	The name of the switch interface (string).
bridgeport_mode	The bridge port mode (string). Valid values: "access", "trunk", "hybrid".
pvid	The Access VLAN for access ports or the Native VLAN for trunk/hybrid port. An integer from 1-4093.
vlans	The VLANs that the interface is a member of. Valid values: "all", "none", an integer from 1-4093.
vlan_id	The VLAN ID. An integer from 1-4093.
egress_type	Whether traffic is egress tagged when the interface is in hybrid mode (string). Valid values: "tagged", "untagged".
egress_type_vlans	The VLANs on which traffic is egress tagged. An integer from 1-4093.
tag_native	The tag native VLAN (string). Valid values: "enable", "disable", "egress_only", "none".
ingress_tagging	The port mode dot1q tunnel (string). Valid values: "enable", "disable".

Update VLAN Interface Allowed VLAN List

Updates the allowed VLAN list for a specific VLAN interface.

Request

Method Type	PUT
Request URI	/nos/api/cfg/vlan_interface/
Request Body (JSON)	<pre>{ "if_name": "<if_name>", "bridgeport_mode": "<access trunk hybrid>", "pvid": <pvid>, "vlans": ["vlan_id": <vlan_id> "operation": "<add remove except>",] "egress_type": "<tagged untagged>", "egress_type_vlans": <vlan_range> }</pre>

where:

Parameter	Description
if_name	The name of the switch interface (string).
bridgeport_mode	The bridge port mode (string). Valid values: "access", "trunk", "hybrid".
pvid	The access VLAN, if bridge port mode is configured to access. The native VLAN, if bridge port mode is configured to trunk. An integer from 1-3999. Default value: 1.
vlans	The list of allowed VLANs.
vlan_id	The VLANs to add, remove, or make an exception for. An integer from 1-3999.
operation	The type of operation to perform. Valid values: <ul style="list-style-type: none">• "add" - adds the VLAN to the allowed VLAN list• "remove" - removes the VLAN from the allowed VLAN list• "except" - excepts the VLAN from the allowed VLAN list
egress_type	Whether the switch tags egress traffic when in hybrid bridge port mode (string). Valid values: "tagged", "untagged".
egress_type_vlans	The VLANs on which the switch tags egress traffic. An integer from 1-3999.

Response

Response Body (JSON)	<pre>{ "if_name": "<if_name>", "bridgeport_mode": "<access trunk hybrid>", "pvid": <pvid>, "vlans": ["vlan_id": <vlan_id> "operation": "<add remove except>",] "egress_type": "<tagged untagged>", "egress_type_vlans": <vlan_range> }</pre>
----------------------	--

where:

Parameter	Description
if_name	The name of the switch interface (string).
bridgeport_mode	The bridge port mode (string). Valid values: "access", "trunk", "hybrid".
pvid	The access VLAN, if bridge port mode is configured to access. The native VLAN, if bridge port mode is configured to trunk. An integer from 1-3999. Default value: 1.
vlans	The list of allowed VLANs.
operation	The type of operation to perform. Valid values: <ul style="list-style-type: none"> • "add" - adds the VLAN to the allowed VLAN list • "remove" - removes the VLAN from the allowed VLAN list • "except" - excepts the VLAN from the allowed VLAN list
vlan_id	The VLANs to add, remove, or make an exception for. An integer from 1-3999.
egress_type	Whether the switch tags egress traffic when in hybrid bridge port mode (string). Valid values: "tagged", "untagged".
egress_type_vlans	The VLANs on which the switch tags egress traffic. An integer from 1-3999.

VRF

The following VRF URIs are available:

- | | |
|--------------------------------|-------------------|
| ● /nos/api/cfg/vrf | GET, POST |
| ● /nos/api/cfg/vrf/<vrf_name> | GET, PUT, DELETE |
| ● /nos/api/cfg/vrf/description | GET, POST, DELETE |
| ● /nos/api/cfg/vrf/rd | GET, POST, DELETE |
| ● /nos/api/cfg/vrf/rt | GET, POST, DELETE |
| ● /nos/api/cfg/vrf/vni | GET, POST, DELETE |

The following VRF commands are available:

- [Get All VRFs](#)
- [Create VRF](#)
- [Get VRF](#)
- [Update VRF](#)
- [Delete VRF](#)
- [Get VRF Description](#)
- [Set VRF Description](#)
- [Delete VRF Description](#)
- [Get VRF Route Distinguisher](#)
- [Set VRF Route Distinguisher](#)
- [Delete VRF Route Distinguisher](#)
- [Get VRF Route-Target](#)
- [Set VRF Route-Target](#)
- [Delete VRF Route-Target](#)
- [Get VRF VNI](#)
- [Set VRF VNI](#)
- [Delete VRF VNI](#)

Get All VRFs

Gets properties of all VRFs.

Request

Method Type	GET
Request URI	/nos/api/cfg/vrf
Request Body (JSON)	

Response

Response Body (JSON)	[{ "vrf_name": "<vrf_name>", "interfaces": ["<if_name>"] }]
-------------------------	--

where:

Parameter	Description
vrf_name	The VRF name. A string up to 63 characters long.
interfaces	Interface members of the VRF (string). Note: The interfaces must exist.

Create VRF

Creates a new VRF.

Request

Method Type	POST
Request URI	/nos/api/cfg/vrf
Request Body (JSON)	<pre>{ "vrf_name": "<vrf_name>", "interfaces": ["<if_name>"] }</pre>

where:

Parameter	Description
vrf_name	The VRF name. A string up to 63 characters long.
interfaces	Interface members of the VRF (string). Note: The interfaces must exist.

Response

Response Body (JSON)	<pre>{ "vrf_name": "<vrf_name>", "interfaces": ["<if_name>"] }</pre>
-------------------------	--

where:

Parameter	Description
vrf_name	The VRF name. A string up to 63 characters long.
interfaces	Interface members of the VRF (string). Note: The interfaces must exist.

Get VRF

Gets properties of one VRF.

Request

Method Type	GET
Request URI	/nos/api/cfg/vrf/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>vrf_name</i>	The VRF name (string)

Response

Response Body (JSON)	[{ "vrf_name": "<vrf_name>", "interfaces": ["<if_name>"] }]
-------------------------	--

where:

Parameter	Description
<i>vrf_name</i>	VRF name. A string up to 63 characters long.
<i>interfaces</i>	Interface members of the VRF (string). Note: The interfaces must exist.

Update VRF

Updates the properties of a VRF.

Request

Method Type	PUT
Request URI	/nos/api/cfg/vrf/<vrf_name>
Request Body (JSON)	<pre>{ "vrf_name": "<vrf_name>", "interfaces": ["<if_name>"] }</pre>

where:

Parameter	Description
vrf_name	The VRF name. A string up to 63 characters long.
interfaces	Interface members of the VRF (string). Note: The interfaces must exist.

Response

Response Body (JSON)	<pre>{ "vrf_name": "<vrf_name>", "interfaces": ["<if_name>"] }</pre>
-------------------------	--

where:

Parameter	Description
vrf_name	The VRF name. A string up to 63 characters long.
interfaces	Interface members of the VRF (string). Note: The interfaces must exist.

Delete VRF

Deletes a VRF.

Note: If the specified *vrf_name* is `all`, all user-created VRFs will be deleted.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/vrf/< <i>vrf_name</i> >
Request Body (JSON)	

where:

Parameter	Description
<i>vrf_name</i>	The VRF name (string).

Response

Response Body (JSON)	
-------------------------	--

Get VRF Description

Gets the description for a specified VRF.

Request

Method Type	GET
Request URI	/nos/api/cfg/vrf/description/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>vrf_name</i>	The VRF name (string).

Response

Response Body (JSON)	[{ "vrf_name": <vrf_name>, "description": <vrf_description> }]
-------------------------	---

where:

Parameter	Description
<i>vrf_name</i>	The VRF name. A string up to 63 characters long.
<i>description</i>	The VRF description. A string up to 255 characters long.

Set VRF Description

Sets the description for a specified VRF.

Request

Method Type	POST
Request URI	/nos/api/cfg/vrf/description
Request Body (JSON)	{ "vrf_name": <vrf_name>, "description": <vrf_description> }

where:

Parameter	Description
vrf_name	The VRF name to be added. A string up to 63 characters long.
description	The VRF description. A string up to 255 characters long.

Response

Response Body (JSON)	
-------------------------	--

Delete VRF Description

Deletes the description for a specified VRF.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/vrf/description/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>vrf_name</i>	The VRF name (string).

Response

Response Body (JSON)	
-------------------------	--

Get VRF Route Distinguisher

Gets the route distinguisher for a specified VRF.

Request

Method Type	GET
Request URI	/nos/api/cfg/vrf/rd/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>vrf_name</i>	The VRF name (string).

Response

Response Body (JSON)	[{ "vrf_name": <vrf_name>, "route_distinguisher": <route_distinguisher> }]
-------------------------	---

where:

Parameter	Description
<i>vrf_name</i>	The VRF name. A string up to 63 characters long.
<i>route_distinguisher</i>	The route distinguisher of the VRF (string). Valid values: "ANS2:NN", "ANS4:NN", "IPV4:NN".

Set VRF Route Distinguisher

Sets the route distinguisher for a specified VRF.

Request

Method Type	POST
Request URI	/nos/api/cfg/vrf/rd
Request Body (JSON)	{ "vrf_name": <vrf_name>, "route_distinguisher": <route_distinguisher> }

where:

Parameter	Description
vrf_name	The VRF name to be added. A string up to 63 characters long.
route_distinguisher	The route distinguisher of the VRF (string). Valid values: "ANS2:NN", "ANS4:NN", "IPV4:NN".

Response

Response Body (JSON)	
-------------------------	--

Delete VRF Route Distinguisher

Deletes the route distinguisher for a specified VRF.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/vrf/rd/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>vrf_name</i>	The VRF name (string).

Response

Response Body (JSON)	
-------------------------	--

Get VRF Route-Target

Gets the route target for a specified VRF.

Request

Method Type	GET
Request URI	/nos/api/cfg/vrf/rt/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>vrf_name</i>	The VRF name (string).

Response

Response Body (JSON)	[{ "vrf_name": <vrf_name>, "route_target": <route_target> }]
-------------------------	---

where:

Parameter	Description
<i>vrf_name</i>	The VRF entry name. A string up to 63 characters long.
<i>route_target</i>	A list of route-targets assigned to the VRF. Valid values: "import", "export", "both", "ANS2:NN", "ANS4:NN", "IPV4:NN".

Set VRF Route-Target

Sets the route target for a specified VRF.

Request

Method Type	POST
Request URI	/nos/api/cfg/vrf/rt/
Request Body (JSON)	{ "vrf_name": <vrf_name>, "route_target": <route_target> "route_target_value": <route_target_value> }

where:

Parameter	Description
vrf_name	The VRF entry name. A string up to 63 characters long.
route_target	The route-target option (string). Valid values: "import", "export", "both".
route_target_value	The route-target of the VRF (string). Valid values: "ANS2:NN", "ANS4:NN", "IPV4:NN".

Response

Response Body (JSON)	
-------------------------	--

Delete VRF Route-Target

Deletes the route target for a specified VRF.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/vrf/rt/<vrf_name>/<route_target_option>/<route_target_value>
Request Body (JSON)	{ "vrf_name": <vrf_name>, "route_target": <route_target> "route_target_value": <route_target_value> }

where:

Parameter	Description
<i>vrf_name</i>	The VRF entry name. A string up to 63 characters long.
<i>route_target</i>	The route-target option (string). Valid values: "import", "export", "both".
<i>route_target_value</i>	The route-target of the VRF (string). Valid values: "ANS2:NN", "ANS4:NN", "IPV4:NN".

Response

Response Body (JSON)	
-------------------------	--

Get VRF VNI

Gets Virtual Network Identifier (VNI) for a specified VRF.

Request

Method Type	GET
Request URI	/nos/api/cfg/vrf/vni/<vrf_name>
Request Body (JSON)	

where:

Parameter	Description
<i>vrf_name</i>	The VRF name (string).

Response

Response Body (JSON)	<pre>[{ "vrf_name": <vrf_name>, "vni": <vni> }]</pre>
-------------------------	---

where:

Parameter	Description
<i>vrf_name</i>	The VRF entry name. A string up to 63 characters long.
<i>vni</i>	The VNI of the VRF. An integer from 1-16777214.

Set VRF VNI

Sets the Virtual Network Identifier (VNI) for a specified VRF.

Request

Method Type	POST
Request URI	/nos/api/cfg/vrf/vni/
Request Body (JSON)	{ "vrf_name": <vrf_name>, "vni": <vni> }

where:

Parameter	Description
vrf_name	The VRF entry name to be added. A string up to 63 characters long.
vni	The VNI of the VRF. An integer from 1-16777214.

Response

Response Body (JSON)	
-------------------------	--

Delete VRF VNI

Deletes the Virtual Network Identifier (VNI) for a specified VRF.

Request

Method Type	POST
Request URI	/nos/api/cfg/vrf/vni/<vrf_name>/<vni>/
Request Body (JSON)	

where:

Parameter	Description
<i>vrf_name</i>	The VRF entry name to be added. A string up to 63 characters long.
<i>vni</i>	The VNI of the VRF. An integer from 1-16777214.

Response

Response Body (JSON)	
-------------------------	--

VRRP

The following VRRP URIs are available:

- /nos/api/cfg/vrrp GET
- /nos/api/cfg/vrrp/<if_name> GET, POST
- /nos/api/cfg/vrrp/<if_name>/<vr_id> GET, PUT, DELETE

The following VRRP commands are available:

- [Get VRRP VRs of All Interfaces](#)
- [Get VRRP VRs of One Interface](#)
- [Create VRRP VR](#)
- [Get VRRP VR](#)
- [Update VRRP VR](#)
- [Delete VRRP VR](#)

Get VRRP VRs of All Interfaces

Gets properties of all VRRP VRs of all interfaces.

Request

Method Type	GET
Request URI	nos/api/cfg/vrrp
Request Body (JSON)	

Response

Response Body (JSON)	<pre>[{ "if_name": "<if_name>", "vr_id": "<vr_id>", "ip_addr": "<ip_addr>", "ad_intvl": "<ad_intvl>", "preempt": "<preempt>", "prio": "<prio>", "admin_state": "<admin_state>", "oper_state": "<oper_state>", "track_if": "<track_if>", "accept_mode": "<accept_mode>", "switch_back_delay": "<switch_back_delay>", "v2_compt": "<v2_compt>" }]</pre>
-------------------------	---

where:

Parameter	Description
if_name	Interface name (string). Note: The interface must exist.
vr_id	The VRRP session Virtual Router (VR) ID. An integer from 1-255. Default value is 0.
ip_addr	The IP address of the VR (string). A valid IPv4 address.
ad_intvl	Advertisement interval. (The number of centi-seconds between advertisements for VRRPv3). A multiple of 5 from 5-4095. Default value: 100 centi-seconds.
preempt	Enable the preemption of a lower priority master (string). Valid values: "yes", "no". Default value: "yes".
prio	The priority of the VR on the switch. An integer from 1-254. Default value: 100.

Parameter	Description
admin_state	Enable the VR (string). Valid values: "up", "down". Default value: "up".
oper_state	The operation state of the VR (string). Valid values: "master", "backup", "init".
track_if	The interface to track by this VR (string). Default value: "none". Note: If an interface is specified, it must exist.
accept_mode	Enables or disables the accept mode for this session (string). Valid values: "yes", "no". Default value: "yes".
switch_back_delay	The switch back delay interval. An integer from 1-500000, or 0 to disable. Default value: 0.
v2_compt	Enables backward compatibility for VRRPv2 for the VR (string). Valid values: "yes", "no". Default value: "no".

Get VRRP VRs of One Interface

Gets properties of all VRRP VRs under one specified interface.

Request

Method Type	GET
Request URI	nos/api/cfg/vrrp/<if_name>
Request Body (JSON)	

where:

Parameter	Description
<i>if_name</i>	Interface name (string). For example: "Ethernet1%2F1". Note: The interface must exist.

Response

Response Body (JSON)	<pre>[{ "if_name": "<if_name>", "vr_id": "<vr_id>", "ip_addr": "<ip_addr>", "ad_intvl": "<ad_intvl>", "preempt": "<preempt>", "prio": "<prio>", "admin_state": "<admin_state>", "oper_state": "<oper_state>", "track_if": "<track_if>", "accept_mode": "<accept_mode>", "switch_back_delay": "<switch_back_delay>", "v2_compt": "<v2_compt>" }]</pre>
-------------------------	---

where:

Parameter	Description
<i>if_name</i>	Interface name (string). Note: The interface must exist.
<i>vr_id</i>	Virtual Router (VR) identifier. An integer from 1-255.
<i>ip_addr</i>	The IP address of the VR (string). A valid IPv4 address.
<i>ad_intvl</i>	Advertisement interval. (The number of centi-seconds between advertisements for VRRPv3). A multiple of 5 from 5-4095. Default value: 100 centi-seconds.

Parameter	Description
preempt	Enable the preemption of a lower priority master (string). Valid values: "yes", "no". Default value: "yes".
prio	The priority of the VR on the switch. An integer from 1-254. Default value: 100.
admin_state	Enable the VR (string). Valid values: "up", "down". Default value: "up".
oper_state	The operation state of the VR (string). Valid values: "master", "backup", "init".
track_if	The interface to track by this VR (string). Default value: "none". Note: If an interface is specified, it must exist.
accept_mode	Enables or disables the accept mode for this session (string). Valid values: "yes", "no". Default value: "yes".
switch_back_delay	The switch back delay interval. An integer from 1-500000, or 0 to disable. Default value: 0.
v2_compt	Enables backward compatibility for VRRPv2 for the VR (string). Valid values: "yes", "no". Default value: "no".

Create VRRP VR

Creates a VRRP VR.

Request

Method Type	POST
Request URI	/nos/api/cfg/vrrp/<if_name>
Request Body (JSON)	{ "if_name": "<if_name>", "vr_id": "<vr_id>", "ip_addr": "<ip_addr>", "ad_intvl": "<ad_intvl>", "preempt": "<preempt>", "prio": "<prio>", "admin_state": "<admin_state>", "oper_state": "<oper_state>", "track_if": "<track_if>", "accept_mode": "<accept_mode>", "switch_back_delay": "<switch_back_delay>", "v2_compt": "<v2_compt>" }

where:

Parameter	Description
if_name	Interface name (string). For example: "Ethernet1%2F1". Note: The interface must exist.
vr_id	Virtual Router (VR) identifier. An integer from 1-255.
ip_addr	The IP address of the VR (string). A valid IPv4 address.
ad_intvl	Advertisement interval. (The number of centi-seconds between advertisements for VRRPv3). A multiple of 5 from 5-4095. Default value: 100 centi-seconds.
preempt	Enable the preemption of a lower priority master (string). Valid values: "yes", "no". Default value: "yes".
prio	The priority of the VR on the switch. An integer from 1-254. Default value: 100.
admin_state	Enable the VR (string). Valid values: "up", "down". Default value: "up".
oper_state	The operation state of the VR (string). Valid values: "master", "backup", "init".
track_if	The interface to track by this VR (string). Default value: "none". Note: If an interface is specified, it must exist.
accept_mode	Enables or disables the accept mode for this session (string). Valid values: "yes", "no". Default value: "yes".

Parameter	Description
switch_back_delay	The switch back delay interval. An integer from 1-500000, or 0 to disable. Default value: 0.
v2_compt	Enables backward compatibility for VRRPv2 for the VR (string). Valid values: "yes", "no". Default value: "no".

Response

Response Body (JSON)	<pre>[{ "if_name": "<if_name>", "vr_id": "<vr_id>", "ip_addr": "<ip_addr>", "ad_intvl": "<ad_intvl>", "preempt": "<preempt>", "prio": "<prio>", "admin_state": "<admin_state>", "oper_state": "<oper_state>", "track_if": "<track_if>", "accept_mode": "<accept_mode>", "switch_back_delay": "<switch_back_delay>", "v2_compt": "<v2_compt>" }]</pre>
-------------------------	---

where:

Parameter	Description
if_name	Interface name (string). Note: The interface must exist.
vr_id	Virtual Router (VR) identifier. An integer from 1-255.
ip_addr	The IP address of the VR (string). A valid IPv4 address.
ad_intvl	Advertisement interval. (The number of centi-seconds between advertisements for VRRPv3). A multiple of 5 from 5-4095. Default value: 100 centi-seconds.
preempt	Enable the preemption of a lower priority master (string). Valid values: "yes", "no". Default value: "yes".
prio	The priority of the VR on the switch. An integer from 1-254. Default value: 100.
admin_state	Admin state of the VR (string). Valid values: "up", "down". Default value: "up".
oper_state	The operation state of the VR (string). Valid values: "master", "backup", "init".
track_if	The interface to track by this VR (string). Default value: "none". Note: If an interface is specified, it must exist.

Parameter	Description
accept_mode	Enables or disables the accept mode for this session (string). Valid values: "yes", "no". Default value: "yes".
switch_back_delay	The switch back delay interval. An integer from 1-500000, or 0 to disable. Default value: 0.
v2_compt	Enables backward compatibility for VRRPv2 for the VR (string). Valid values: "yes", "no". Default value: "no".

Get VRRP VR

Gets properties of a VRRP VR.

Request

Method Type	GET
Request URI	/nos/api/cfg/vrrp/<if_name>/<vrid>
Request Body (JSON)	

Response

Response Body (JSON)	<pre>{ "if_name": "<if_name>", "vr_id": "<vr_id>", "ip_addr": "<ip_addr>", "ad_intvl": "<ad_intvl>", "preempt": "<preempt>", "prio": "<prio>", "admin_state": "<admin_state>", "oper_state": "<oper_state>", "track_if": "<track_if>", "accept_mode": "<accept_mode>", "switch_back_delay": "<switch_back_delay>", "v2_compt": "<v2_compt>" }</pre>
-------------------------	---

where:

Parameter	Description
if_name	Interface name (string). Note: The interface must exist.
vr_id	Virtual Router (VR) identifier. An integer from 1-255.
ip_addr	The IP address of the VR (string). A valid IPv4 address.
ad_intvl	Advertisement interval. (The number of centi-seconds between advertisements for VRRPv3). A multiple of 5 from 5-4095. Default value: 100 centi-seconds.
preempt	Enable the preemption of a lower priority master (string). Valid values: "yes", "no". Default value: "yes".
prio	The priority of the VR on the switch. An integer from 1-254. Default value: 100.
admin_state	Enable the VR (string). Valid values: "up", "down". Default value: "up".

Parameter	Description
oper_state	The operation state of the VR (string). Valid values: "master", "backup", "init".
track_if	The interface to track by this VR (string). Default value: "none". Note: If an interface is specified, it must exist.
accept_mode	Enables or disables the accept mode for this session (string). Valid values: "yes", "no". Default value: "yes".
switch_back_delay	The switch back delay interval. An integer from 1-500000, or 0 to disable. Default value: 0.
v2_compt	Enables backward compatibility for VRRPv2 for the VR (string). Valid values: "yes", "no". Default value: "no".

Update VRRP VR

Updates the properties of a VRRP VR.

Request

Method Type	PUT
Request URI	/nos/api/cfg/vrrp/<if_name>/<vrid>
Request Body (JSON)	<pre>{ "if_name": "<if_name>", "vr_id": "<vr_id>", "ip_addr": "<ip_addr>", "ad_intvl": "<ad_intvl>", "preempt": "<preempt>", "prio": "<prio>", "admin_state": "<admin_state>", "oper_state": "<oper_state>", "track_if": "<track_if>", "accept_mode": "<accept_mode>", "switch_back_delay": "<switch_back_delay>", "v2_compt": "<v2_compt>" }</pre>

where:

Parameter	Description
if_name	Interface name (string). For example: "Ethernet1%2F1". Note: The interface must exist.
vr_id	Virtual Router (VR) identifier. An integer from 1-255.
ip_addr	The IP address of the VR (string). A valid IPv4 address.
ad_intvl	Advertisement interval. (The number of centi-seconds between advertisements for VRRPv3). A multiple of 5 from 5-4095. Default value: 100 centi-seconds.
preempt	Enable the preemption of a lower priority master (string). Valid values: "yes", "no". Default value: "yes".
prio	The priority of the VR on the switch. An integer from 1-254. Default value: 100.
admin_state	Enable the VR (string). Valid values: "up", "down". Default value: "up".
oper_state	The operation state of the VR (string). Valid values: "master", "backup", "init".
track_if	The interface to track by this VR (string). Default value: "none". Note: If an interface is specified, it must exist.
accept_mode	Enables or disables the accept mode for this session (string). Valid values: "yes", "no". Default value: "yes".

Parameter	Description
switch_back_delay	The switch back delay interval. An integer from 1-500000, or 0 to disable. Default value: 0.
v2_compt	Enables backward compatibility for VRRPv2 for the VR (string). Valid values: "yes", "no". Default value: "no".

Response

Response Body (JSON)	<pre>[{ "if_name": "<if_name>", "vr_id": "<vr_id>", "ip_addr": "<ip_addr>", "ad_intvl": "<ad_intvl>", "preempt": "<preempt>", "prio": "<prio>", "admin_state": "<admin_state>", "oper_state": "<oper_state>", "track_if": "<track_if>", "accept_mode": "<accept_mode>", "switch_back_delay": "<switch_back_delay>", "v2_compt": "<v2_compt>" }]</pre>
-------------------------	---

where:

Parameter	Description
if_name	Interface name (string). Note: The interface must exist.
vr_id	Virtual Router (VR) identifier. An integer from 1-255.
ip_addr	The IP address of the VR (string). A valid IPv4 address.
ad_intvl	Advertisement interval. (The number of centi-seconds between advertisements for VRRPv3). A multiple of 5 from 5-4095. Default value: 100 centi-seconds.
preempt	Enable the preemption of a lower priority master (string). Valid values: "yes", "no". Default value: "yes".
prio	The priority of the VR on the switch. An integer from 1-254. Default value: 100.
admin_state	Enable the VR (string). Valid values: "up", "down". Default value: "up".
oper_state	The operation state of the VR (string). Valid values: "master", "backup", "init".
track_if	The interface to track by this VR (string). Default value: "none". Note: If an interface is specified, it must exist.

Parameter	Description
accept_mode	Enables or disables the accept mode for this session (string). Valid values: "yes", "no". Default value: "yes".
switch_back_delay	The switch back delay interval. An integer from 1-500000, or 0 to disable. Default value: 0.
v2_compt	Enables backward compatibility for VRRPv2 for the VR (string). Valid values: "yes", "no". Default value: "no".

Delete VRRP VR

Deletes a VRRP VR.

Note: If the specified *vrid* is `all`, all VRRP VRs entries in the specified interface will be deleted.

Request

Method Type	DELETE
Request URI	/nos/api/cfg/vrrp/<if_name>/<vrid>
Request Body (JSON)	

Response

Response Body (JSON)	
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Appendix A. Getting Help and Technical Assistance

If you need help, service, or technical assistance or just want more information about Lenovo products, you will find a wide variety of sources available from Lenovo to assist you.

Use this information to obtain additional information about Lenovo and Lenovo products, and determine what to do if you experience a problem with your Lenovo system or optional device.

Note: This section includes references to IBM web sites and information about obtaining service. IBM is Lenovo's preferred service provider for the System x, Flex System, and NeXtScale System products.

Before you call, make sure that you have taken these steps to try to solve the problem yourself.

If you believe that you require warranty service for your Lenovo product, the service technicians will be able to assist you more efficiently if you prepare before you call.

- Check all cables to make sure that they are connected.
- Check the power switches to make sure that the system and any optional devices are turned on.
- Check for updated software, firmware, and operating-system device drivers for your Lenovo product. The Lenovo Warranty terms and conditions state that you, the owner of the Lenovo product, are responsible for maintaining and updating all software and firmware for the product (unless it is covered by an additional maintenance contract). Your service technician will request that you upgrade your software and firmware if the problem has a documented solution within a software upgrade.
- If you have installed new hardware or software in your environment, check the [Lenovo ServerProven website](#) to make sure that the hardware and software is supported by your product.
- Go to the [Lenovo Support portal](#) to check for information to help you solve the problem.
- Gather the following information to provide to the service technician. This data will help the service technician quickly provide a solution to your problem and ensure that you receive the level of service for which you might have contracted.
 - Hardware and Software Maintenance agreement contract numbers, if applicable
 - Machine type number (if applicable—Lenovo 4-digit machine identifier)
 - Model number
 - Serial number
 - Current system UEFI and firmware levels
 - Other pertinent information such as error messages and logs

- Start the process of determining a solution to your problem by making the pertinent information available to the service technicians. The IBM service technicians can start working on your solution as soon as you have completed and submitted an Electronic Service Request.

You can solve many problems without outside assistance by following the troubleshooting procedures that Lenovo provides in the online help or in the Lenovo product documentation. The Lenovo product documentation also describes the diagnostic tests that you can perform. The documentation for most systems, operating systems, and programs contains troubleshooting procedures and explanations of error messages and error codes. If you suspect a software problem, see the documentation for the operating system or program.

Appendix B. Notices

Lenovo may not offer the products, services, or features discussed in this document in all countries. Consult your local Lenovo representative for information on the products and services currently available in your area.

Any reference to a Lenovo product, program, or service is not intended to state or imply that only that Lenovo product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any Lenovo intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any other product, program, or service.

Lenovo may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

Lenovo (United States), Inc.
1009 Think Place - Building One
Morrisville, NC 27560
U.S.A.

Attention: Lenovo Director of Licensing

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Any references in this publication to non-Lenovo Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this Lenovo product, and use of those Web sites is at your own risk.

Any performance data contained herein was determined in a controlled environment. Therefore, the result obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Trademarks

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Intel and Intel Xeon are trademarks of Intel Corporation in the United States, other countries, or both.

Internet Explorer, Microsoft, and Windows are trademarks of the Microsoft group of companies.

Linux is a registered trademark of Linus Torvalds.

Other company, product, or service names may be trademarks or service marks of others.

Important Notes

Processor speed indicates the internal clock speed of the microprocessor; other factors also affect application performance.

CD or DVD drive speed is the variable read rate. Actual speeds vary and are often less than the possible maximum.

When referring to processor storage, real and virtual storage, or channel volume, KB stands for 1 024 bytes, MB stands for 1 048 576 bytes, and GB stands for 1 073 741 824 bytes.

When referring to hard disk drive capacity or communications volume, MB stands for 1 000 000 bytes, and GB stands for 1 000 000 000 bytes. Total user-accessible capacity can vary depending on operating environments.

Maximum internal hard disk drive capacities assume the replacement of any standard hard disk drives and population of all hard-disk-drive bays with the largest currently supported drives that are available from Lenovo.

Maximum memory might require replacement of the standard memory with an optional memory module.

Each solid-state memory cell has an intrinsic, finite number of write cycles that the cell can incur. Therefore, a solid-state device has a maximum number of write cycles that it can be subjected to, expressed as total bytes written (TBW). A device that has exceeded this limit might fail to respond to system-generated commands or might be incapable of being written to. Lenovo is not responsible for replacement of a device that has exceeded its maximum guaranteed number of program/erase cycles, as documented in the Official Published Specifications for the device.

Lenovo makes no representations or warranties with respect to non-Lenovo products. Support (if any) for the non-Lenovo products is provided by the third party, not Lenovo.

Some software might differ from its retail version (if available) and might not include user manuals or all program functionality.

Open Source Information

This Lenovo Switch may include software made publicly available by Lenovo, including software licensed under the General Public License and/or the Lesser General Public License (the "open source software").

You may obtain the corresponding machine-readable copy for any such open source software licensed under the General Public License and/or the Lesser General Public License (or any other license requiring us to make a written offer to provide corresponding source code to you) from Lenovo for a period of three years without charge except for the cost of media, shipping, and handling, upon written request to Lenovo. This offer is valid to anyone in receipt of this Lenovo Switch. You may send your request in writing to the address below accompanied by a check or money order for \$5 to:

Lenovo Legal Department
8001 Development Dr.
Morrisville, NC 27560
U.S.A.

Attention: Open Source Team / Source Code Requests

Please include both a "NOS" Release version and model number or Machine Type (MT) of your Lenovo Switch as part of your request. Be sure to provide a return address.

The open source software is distributed in hope it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See for example the GNU General Public License and/or the Lesser General Public License for more information.

Visit <https://datacentersupport.lenovo.com/us/en/> and enter the model number or Machine Type (MT) for your Switch to view additional information regarding licenses, acknowledgments and required copyright notices for the open source software used on your Switch.

Recycling Information

Lenovo encourages owners of information technology (IT) equipment to responsibly recycle their equipment when it is no longer needed. Lenovo offers a variety of programs and services to assist equipment owners in recycling their IT products. For information on recycling Lenovo products, go to:

<http://www.lenovo.com/recycling>

Particulate Contamination

Attention: Airborne particulates (including metal flakes or particles) and reactive gases acting alone or in combination with other environmental factors such as humidity or temperature might pose a risk to the device that is described in this document.

Risks that are posed by the presence of excessive particulate levels or concentrations of harmful gases include damage that might cause the device to malfunction or cease functioning altogether. This specification sets forth limits for particulates and gases that are intended to avoid such damage. The limits must not be viewed or used as definitive limits, because numerous other factors, such as temperature or moisture content of the air, can influence the impact of particulates or environmental corrosives and gaseous contaminant transfer. In the absence of specific limits that are set forth in this document, you must implement practices that maintain particulate and gas levels that are consistent with the protection of human health and safety. If Lenovo determines that the levels of particulates or gases in your environment have caused damage to the device, Lenovo may condition provision of repair or replacement of devices or parts on implementation of appropriate remedial measures to mitigate such environmental contamination. Implementation of such remedial measures is a customer responsibility..

Contaminant	Limits
Particulate	<ul style="list-style-type: none"> The room air must be continuously filtered with 40% atmospheric dust spot efficiency (MERV 9) according to ASHRAE Standard 52.2¹. Air that enters a data center must be filtered to 99.97% efficiency or greater, using high-efficiency particulate air (HEPA) filters that meet MIL-STD-282. The deliquescent relative humidity of the particulate contamination must be more than 60%². The room must be free of conductive contamination such as zinc whiskers.
Gaseous	<ul style="list-style-type: none"> Copper: Class G1 as per ANSI/ISA 71.04-1985³ Silver: Corrosion rate of less than 300 Å in 30 days

¹ ASHRAE 52.2-2008 - *Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size*. Atlanta: American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.

² The deliquescent relative humidity of particulate contamination is the relative humidity at which the dust absorbs enough water to become wet and promote ionic conduction.

³ ANSI/ISA-71.04-1985. *Environmental conditions for process measurement and control systems: Airborne contaminants*. Instrument Society of America, Research Triangle Park, North Carolina, U.S.A.

Telecommunication Regulatory Statement


This product may not be certified in your country for connection by any means whatsoever to interfaces of public telecommunications networks. Further certification may be required by law prior to making any such connection. Contact a Lenovo representative or reseller for any questions.

Electronic Emission Notices

When you attach a monitor to the equipment, you must use the designated monitor cable and any interference suppression devices that are supplied with the monitor.

Federal Communications Commission (FCC) Statement

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to

 cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Properly shielded and grounded cables and connectors must be used to meet FCC emission limits. Lenovo is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that might cause undesired operation.

Industry Canada Class A Emission Compliance Statement

This Class A digital apparatus complies with Canadian ICES-003.

Avis de Conformité à la Réglementation d'Industrie Canada

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Australia and New Zealand Class A Statement

Attention: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

European Union - Compliance to the Electromagnetic Compatibility Directive

This product is in conformity with the protection requirements of EU Council Directive 2004/108/EC (until April 19, 2016) and EU Council Directive 2014/30/EU (from April 20, 2016) on the approximation of the laws of the Member States relating to electromagnetic compatibility. Lenovo cannot accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the installation of option cards from other manufacturers.

This product has been tested and found to comply with the limits for Class A equipment according to European Standards harmonized in the Directives in compliance. The limits for Class A equipment were derived for commercial and industrial environments to provide reasonable protection against interference with licensed communication equipment.

Lenovo, Einsteinova 21, 851 01 Bratislava, Slovakia

Warning: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Germany Class A Statement

Deutschsprachiger EU Hinweis:

Hinweis für Geräte der Klasse A EU-Richtlinie zur Elektromagnetischen Verträglichkeit

Dieses Produkt entspricht den Schutzanforderungen der EU-Richtlinie 2014/30/EU (früher 2004/108/EC) zur Angleichung der Rechtsvorschriften über die elektromagnetische Verträglichkeit in den EU-Mitgliedsstaaten und hält die Grenzwerte der Klasse A der Norm gemäß Richtlinie.

Um dieses sicherzustellen, sind die Geräte wie in den Handbüchern beschrieben zu installieren und zu betreiben. Des Weiteren dürfen auch nur von der Lenovo empfohlene Kabel angeschlossen werden. Lenovo übernimmt keine Verantwortung für die Einhaltung der Schutzanforderungen, wenn das Produkt ohne Zustimmung der Lenovo verändert bzw. wenn Erweiterungskomponenten von Fremdherstellern ohne Empfehlung der Lenovo gesteckt/eingebaut werden.

Deutschland:

Einhaltung des Gesetzes über die elektromagnetische Verträglichkeit von Betriebsmitteln

Dieses Produkt entspricht dem „Gesetz über die elektromagnetische Verträglichkeit von Betriebsmitteln“ EMVG (früher „Gesetz über die elektromagnetische Verträglichkeit von Geräten“). Dies ist die Umsetzung der EU-Richtlinie 2014/30/EU (früher 2004/108/EC) in der Bundesrepublik Deutschland.

Zulassungsbescheinigung laut dem Deutschen Gesetz über die elektromagnetische Verträglichkeit von Betriebsmitteln, EMVG vom 20. Juli 2007 (früher Gesetz über die elektromagnetische Verträglichkeit von Geräten), bzw. der EMV EU Richtlinie 2014/30/EU (früher 2004/108/EC), für Geräte der Klasse A.

Dieses Gerät ist berechtigt, in Übereinstimmung mit dem Deutschen EMVG das EG-Konformitätszeichen - CE - zu führen. Verantwortlich für die Konformitätserklärung nach Paragraph 5 des EMVG ist die Lenovo (Deutschland) GmbH, Meitnerstr. 9, D-70563 Stuttgart.

Informationen in Hinsicht EMVG Paragraph 4 Abs. (1) 4:

Das Gerät erfüllt die Schutzanforderungen nach EN 55024 und EN 55022 Klasse A.

Nach der EN 55022: „Dies ist eine Einrichtung der Klasse A. Diese Einrichtung kann im Wohnbereich Funkstörungen verursachen; in diesem Fall kann vom Betreiber verlangt werden, angemessene Maßnahmen durchzuführen und dafür aufzukommen.“

Nach dem EMVG: „Geräte dürfen an Orten, für die sie nicht ausreichend entstört sind, nur mit besonderer Genehmigung des Bundesministers für Post und Telekommunikation oder des Bundesamtes für Post und Telekommunikation betrieben werden. Die Genehmigung wird erteilt, wenn keine elektromagnetischen Störungen zu erwarten sind.“ (Auszug aus dem EMVG, Paragraph 3, Abs. 4). Dieses Genehmigungsverfahren ist nach Paragraph 9 EMVG in Verbindung mit der entsprechenden Kostenverordnung (Amtsblatt 14/93) kostenpflichtig.

Anmerkung: Um die Einhaltung des EMVG sicherzustellen sind die Geräte, wie in den Handbüchern angegeben, zu installieren und zu betreiben.

Japan VCCI Class A Statement

この装置は、クラス A 情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

VCCI-A

This is a Class A product based on the standard of the Voluntary Control Council for Interference (VCCI). If this equipment is used in a domestic environment, radio interference may occur, in which case the user may be required to take corrective actions.

Japan Electronics and Information Technology Industries Association (JEITA) Statement

高調波ガイドライン適合品

Japan Electronics and Information Technology Industries Association (JEITA)
Confirmed Harmonics Guidelines (products less than or equal to 20 A per phase)

高調波ガイドライン準用品

Japan Electronics and Information Technology Industries Association (JEITA)
Confirmed Harmonics Guidelines with Modifications (products greater than 20 A per phase).

Korea Communications Commission (KCC) Statement

이 기기는 업무용(A급)으로 전자파적합기기로
서 판매자 또는 사용자는 이 점을 주의하시기
바라며, 가정외의 지역에서 사용하는 것을 목
적으로 합니다.

This is electromagnetic wave compatibility equipment for business (Type A).
Sellers and users need to pay attention to it. This is for any areas other than home.

Russia Electromagnetic Interference (EMI) Class A statement

ВНИМАНИЕ! Настоящее изделие относится к классу А.
В жилых помещениях оно может создавать радиопомехи, для
снижения которых необходимы дополнительные меры

People's Republic of China Class A electronic emission statement

中华人民共和国“A类”警告声明

声明

此为A级产品，在生活环境中，该产品可能会造成无线电干扰。在这种情况下，可能需要用户对其干扰采取切实可行的措施。

Taiwan Class A compliance statement

警告使用者：
這是甲類的資訊產品，在
居住的環境中使用時，可
能會造成射頻干擾，在這
種情況下，使用者會被要
求採取某些適當的對策。