

Extreme SLX-OS RESTCONF Guide, 18r. 2.00

Supporting the ExtremeRouting SLX 9850 and SLX 9640 and the
ExtremeSwitching SLX 9540 Devices

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Preface

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Document conventions

The document conventions describe text formatting conventions, command syntax conventions, and important notice formats used in Extreme technical documentation.

Notes, cautions, and warnings

Notes, cautions, and warning statements may be used in this document. They are listed in the order of increasing severity of potential hazards.

NOTE

A Note provides a tip, guidance, or advice, emphasizes important information, or provides a reference to related information.

ATTENTION

An Attention statement indicates a stronger note, for example, to alert you when traffic might be interrupted or the device might reboot.



CAUTION

A Caution statement alerts you to situations that can be potentially hazardous to you or cause damage to hardware, firmware, software, or data.



DANGER

A Danger statement indicates conditions or situations that can be potentially lethal or extremely hazardous to you. Safety labels are also attached directly to products to warn of these conditions or situations.

Text formatting conventions

Text formatting conventions such as boldface, italic, or Courier font may be used to highlight specific words or phrases.

| Format | Description |
|--------------------|---|
| bold text | Identifies command names. Identifies keywords and operands. Identifies the names of GUI elements. |
| <i>italic text</i> | Identifies text to enter in the GUI. Identifies emphasis. Identifies variables. |
| Courier font | Identifies document titles. Identifies CLI output. |

| Format | Description |
|--------|-------------------------------------|
| | Identifies command syntax examples. |

Command syntax conventions

Bold and italic text identify command syntax components. Delimiters and operators define groupings of parameters and their logical relationships.

| Convention | Description |
|--------------------|---|
| bold text | Identifies command names, keywords, and command options. |
| <i>italic text</i> | Identifies a variable. |
| [] | Syntax components displayed within square brackets are optional. Default responses to system prompts are enclosed in square brackets. |
| { x y z } | A choice of required parameters is enclosed in curly brackets separated by vertical bars. You must select one of the options. |
| x y | A vertical bar separates mutually exclusive elements. |
| < > | Nonprinting characters, for example, passwords, are enclosed in angle brackets. |
| ... | Repeat the previous element, for example, <i>member[member...]</i> . |
| \ | Indicates a "soft" line break in command examples. If a backslash separates two lines of a command input, enter the entire command at the prompt without the backslash. |

Extreme resources

Visit the Extreme website to locate related documentation for your product and additional Extreme resources.

White papers, data sheets, and the most recent versions of Extreme software and hardware manuals are available at www.extremenetworks.com. Product documentation for all supported releases is available to registered users at www.extremenetworks.com/support/documentation.

Document feedback

Quality is our first concern at Extreme, and we have made every effort to ensure the accuracy and completeness of this document. However, if you find an error or an omission, or you think that a topic needs further development, we want to hear from you.

You can provide feedback in two ways:

- Use our short online feedback form at <http://www.extremenetworks.com/documentation-feedback-pdf/>
- Email us at internalinfodev@extremenetworks.com

Provide the publication title, part number, and as much detail as possible, including the topic heading and page number if applicable, as well as your suggestions for improvement.

Contacting Extreme Technical Support

As an Extreme customer, you can contact Extreme Technical Support using one of the following methods: 24x7 online or by telephone. OEM customers should contact their OEM/solution provider.

If you require assistance, contact Extreme Networks using one of the following methods:

- [GTAC \(Global Technical Assistance Center\)](#) for immediate support
 - Phone: 1-800-998-2408 (toll-free in U.S. and Canada) or +1 408-579-2826. For the support phone number in your country, visit: www.extremenetworks.com/support/contact.
 - Email: support@extremenetworks.com. To expedite your message, enter the product name or model number in the subject line.
- [GTAC Knowledge](#) - Get on-demand and tested resolutions from the GTAC Knowledgebase, or create a help case if you need more guidance.
- [The Hub](#) - A forum for Extreme customers to connect with one another, get questions answered, share ideas and feedback, and get problems solved. This community is monitored by Extreme Networks employees, but is not intended to replace specific guidance from GTAC.
- [Support Portal](#) - Manage cases, downloads, service contracts, product licensing, and training and certifications.

Before contacting Extreme Networks for technical support, have the following information ready:

- Your Extreme Networks service contract number and/or serial numbers for all involved Extreme Networks products
- A description of the failure
- A description of any action(s) already taken to resolve the problem
- A description of your network environment (such as layout, cable type, other relevant environmental information)
- Network load at the time of trouble (if known)
- The device history (for example, if you have returned the device before, or if this is a recurring problem)
- Any related RMA (Return Material Authorization) numbers

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Supported hardware

In those instances in which procedures or parts of procedures documented here apply to some devices but not to others, this guide identifies exactly which devices are supported by this release and which are not.

Although many different software and hardware configurations are tested and supported by this release, documenting all possible configurations and scenarios is beyond the scope of this document.

The following hardware platforms are supported by this release:

- ExtremeRouting SLX 9850-4 router
- ExtremeRouting SLX 9850-8 router
- ExtremeRouting SLX 9640 router
- ExtremeSwitching SLX 9540 switch

To obtain information about other releases, refer to the documentation specific to that release.

Interface module capabilities

The following table lists the supported capabilities for the following SLX 9850 interface modules:

- BR-SLX9850-10Gx72S-M
- BR-SLX9850-100Gx36CQ-M
- BR-SLX9850-10Gx72S-D
- BR-SLX9850-100Gx36CQ-D
- BR-SLX9850-100Gx12CQ-M

TABLE 1 SLX 9850 interface modules capabilities

| Capability | Modular interface module |
|---|---|
| MPLS | Yes |
| Packet buffer memory per interface module | 12GB (BR-SLX9850-10Gx72S-M) 36GB (BR-SLX9850-100Gx36CQ-M) 8GB (BR-SLX9850-10Gx72S-D) 24GB (BR-SLX9850-100Gx36CQ-D) 8GB (BR-SLX9850-100Gx12CQ-M) |

What's new in this document

The following table includes new and changed REST API information for SLX-OS 18r.2.00.

TABLE 2 New or changed APIs for the current release

| Feature | Description | Described in |
|--------------------------------|--|--|
| Prefix-independent-convergence | Configures prefix-independent-convergence. | prefix-independent-convergence |
| Display running configuration | Displays running configuration for prefix-independent-convergence. | display running configuration |
| Delete configuration | Deletes the prefix-independent-convergence configuration. | delete configuration |

NOTE

On October 30, 2017, Extreme Networks, Inc. acquired the data center networking business from Brocade Communications Systems, Inc. This document has been updated to remove or replace references to Brocade Communications, Inc. with Extreme Networks, Inc., as appropriate.

Extreme SLX-OS RESTCONF

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About RESTCONF

Based on RFC8040, RESTCONF defines a Hypertext Transfer Protocol (HTTP)-based protocol using Transport Layer Security (TLS) protocol for configuring data defined in a YANG model by using the datastore concepts defined in NETCONF. RESTCONF uses HTTP methods to provide CRUD operations on a conceptual datastore containing YANG-defined data, which is compatible with a server that implements NETCONF data stores.

SLX RESTCONF supports all the operations such as GET, HEAD, OPTIONS, POST, PUT, PATCH, and DELETE method to retrieve the details about the configuration data, YANG schema, and the operational-state data.

The following feature items of the RESTCONF support are different from the existing REST API support.

- RESTCONF uses the Hyper Text Transfer Protocol Secure (HTTPS) protocol .
- The *tailf:cli-drop-node-name* of the container node defined in the YANG is present in both the URI and the payload, because the abstraction of the RESTCONF protocol mandates that datastore must be same. The content of the abstract copied from the RESTCONF protocol is mentioned below.

This document describes an HTTP-based protocol that provides a programmatic interface for accessing data defined in YANG, using the datastores defined in NETCONF.

- The name of the YANG node is present in the URI and the payload instead of the *alt-name*.
- There is a key representation in the URI for the LIST element.
- There is the module namespace representation in the URI.
- There is the module namespace representation in the Payload.
- The **Resource-Depth** header is mentioned as **depth** as the query *param* with the URI.
- The **content** query parameter is used to differentiate between the configuration and the operational-state data.

- The *with-default* query parameter is used with the value **trim** or **report-all-tagged** to get the configuration data without default values.
- The Media Type mentioned in the **Accept** header has been changed.

Before you begin

Before you can use the Extreme SLX-OS RESTCONF, obtain a username and password for accessing SLX-OS through the RESTCONF.

Logging in and out

You can log in to the device by entering the username and password or the session ID provided by the switch after authenticating the initial request from the client.

If the authentication is successful, the response header "Authentication-Token" is sent to the client. From then, client applications can use this token and send it to the server for the authentication for further access to the server by using the same persistent connection. The client applications use this token to obtain further access to the server using the persistent connection.

The following is an example of an Authentication-token.

```
HTTP/1.1 201 Created
Date: Wed, 02 Mar 2018 22:46:15 GMT
Server: SLX-OS WWW
Authentication-Token: TEM5Wk59XV5xRFxOdVtydF9kWDZwd2hHRGV6Q0B0NXk=
Location: http://localhost/rest/config/running/router/mpls
Cache-control: private, no-cache, must-revalidate, proxy-revalidate
Content-Length: 0
Content-Type: text/html
```

```
* Connection #0 to host 10.24.12.135 left intact
```

Base URI

The Base URI for the RESTCONF API is: */restconf/*.

The base URI */restconf* contains three child resources. The YANG tree representation is:

```
+--rw restconf
  +--rw data
  +--ro operations
  +--ro yang-library-version
```

Data

The datastore resource is a collection of configuration data and state data nodes. This mandatory resource represents the combined configuration and state data resources that can be accessed by a client. If the datastore resource represented by the */restconf/data* subtree is retrieved, the datastore and its contents are returned by the server. The datastore is represented by a node named "data". All methods are supported on data.

YANG-library version

This leaf identifies the revision date of the *ietf-yang-library* YANG module supported by the server. This is used only for GET method and supported in SLX-OS 17r.1.00 release. The SET methods are not supported on this leaf.

Operations resource

An operation resource represents an RPC operation defined with the YANG "rpc" statement or a data-model-specific action defined with a YANG "action" statement. The statement is invoked using a POST method on the operation resource.

Use the GET Method on the /restconf/operations to check the list of RPCs it supports.

Transport protocol requirements

RESTCONF requires the following transport protocols.

- Without the TLS, the RESTCONF server is not supported over HTTP . To support data integrity and confidentiality, RESTCONF requires HTTPS.
- RESTCONF supports the "https" URI scheme, and SLX-OS uses the IANA assigned default port 443.
- The X.509v3 based certificate is used for establishing the connection between server and client.
- The X.509 certificate must be used by the client to verify the integrity of the server's TLS certificate. The RESTCONF client must check the identity of the server according to Section 6 of [RFC6125].
- The RESTCONF server must authenticate client access to any protected resource. If the RESTCONF client is not authenticated, the server must send an HTTP response with "401 Unauthorized". The error-tag value "access-denied" is used in this case.

The following is an HTTPS configuration on an SLX device.

```
on SLX:
crypto key label mykey rsa modulus 2048
crypto ca trustpoint myca
keypair mykey
end

crypto ca authenticate myca directory /root/vishu/certs file ca.cert.pem host <server ip> protocol SCP user
root password pass
crypto ca enroll myca common brocade country US directory /root/vishu host <server ip> locality SJ
organization Brocade orgunit Eng protocol SCP state CA user root password pass
```

On Linux CA:

=====

```
cd <your directory>
```

```
openssl ca -policy policy_anything -extensions server_cert -out 10.25.164.147.pem -config openssl.cnf -
infile <slx mgmt ip>.csr
```

From the CA host, find out the certificate creation time. The time on the switch must be later than this time, or the installation will not work:

```
date;
openssl x509 -noout -text -in <slx mgmt ip>.pem | grep 'Not Before'
```

On SLX:

=====

To adjust the time on the switch, run the following command. You might need to adjust for the time zone:
clock set yyyy-mm-ddThh:mm:ss

```
crypto ca import myca certificate directory <your directory> host <server ip> protocol SCP user root file
<slx mgmt ip>.pem password pass
```

```

copy running-config startup-config
show crypto key mypubkey
show crypto ca trustpoint
show crypto ca certificates
show running-config crypto key
show running-config crypto ca

```

URI

The uniform resource information (URI) identifies the resource. The resources are represented with URIs in the following format.

```
/restconf/<path>? <query>
```

- restconf: the entry point of the URI in the device, and the root of the API configured on the device is discovered by getting the "/well-known/host-meta" resource.
- path: the target resource URI, which is used for identifying the resource being accessed by the HTTP operation.
- query: the query parameter lists with the form of "name=value" pairs. Most query parameters like (depth) are optional to implement by the server and optional to use by the client. Any reserved characters must be percent-encoded, according to RFC3986.

Operations

The HTTP methods are used for manipulating the resource defined in the YANG model for the CRUD operations. You must employ appropriate access control mechanisms to limit what operations can be allowed by a user.

POST Method

The POST method is sent by the client to create a data resource or invoke an operation resource. The server uses the target resource type to determine how to process the request. It is supported for all the resource types. Use the POST method to create the top-level configuration data resource or to create a child data resource. You can use the POST method to invoke RPC operation. The message-body or the payload in the POST method contain the resource to be created. When the creation is successful, "201 Created" status line is returned and there is no response message-body.

To create a top-level resource, use the following example.

```

curl -v -X POST -d "<mpls />" -u admin:password https://<> /restconf/data/brocade-mpls:mpls-config/router -
H "Content-Type: application/yang-data+xml"

```

Response body

```

< HTTP/1.1 201 Created
< Date: Wed, 02 Nov 2016 22:46:15 GMT
< Server: SLX-OS WWW
< Authentication-Token: TEM5Wk59XV5xRFxOdVtydF9kWDZwd2hHRGV6Q0B0NXk=
< Location: http://localhost/rest/config/running/router/mpls
< Cache-control: private, no-cache, must-revalidate, proxy-revalidate
< Content-Length: 0
< Content-Type: text/html
<
* Connection #0 to host 10.24.12.135 left intact

```

If the data resource already exists, the POST request fails and a "409 Conflict" status-line is returned. The error-tag value "resource-denied" is used in this case.

```
curl -v -X POST -H "Content-Type: application/yang-data+json" -d '{"mpls\": {}}-u admin:password
https://<> /restconf/data/brocade-mpls:mpls-config/router -k
```

In case of a conflict, you received the following response.

```
< HTTP/1.1 409 Conflict
< Date: Thu, 16 Feb 2017 20:21:37 GMT
< Server: SLX-OS WWW
< Authentication-Token: ZjlLUzswdkY9XkZbNUVoOmwzVFdoUkhtWF1Lc0NsWH0=
< Cache-control: private, no-cache, must-revalidate, proxy-revalidate
< Content-Length: 62
< Content-Type: text/json

{
  "error": {
    "-xmlns": "urn:ietf:params:xml:ns:yang:ietf-restconf",
    "error-type": "protocol",
    "error-tag": "resource-denied",
    "error-message": "Data resource already exists"
  }
}
```

The following example invokes an RPC operation.

```
curl -v -X POST -H "Content-Type: application/yang-data+xml" -d "<show-firmware-version></show-firmware-
version>" -u admin:password https://10.24.12.133:443//restconf/operations/brocade-firmware-ext:show-
firmware-version -k
< HTTP/1.1 200 OK
< Date: Thu, 27 Apr 2017 08:48:12 GMT
< Server: SLX-OS WWW
< Content-Length: 1065
< Content-Type: application/yang-data+xml
< Vary: Accept-Encoding
< Pragma: no-cache
<
<output xmlns='urn:brocade.com:mgmt:brocade-firmware-ext'>
  <show-firmware-version>
    <os-name>SLX-OS Operating System Software</os-name>
    <os-version>17.1.0</os-version>
    <copy-right-info>Copyright (c) 1995-2014 Brocade Communications Systems, Inc.</copy-right-info>
    <build-time>Thu Mar  2 16:10:23 2017
  </build-time>
  <firmware-full-version>17r.1.00prabhus_slxosr_pavo_main_dev_01</firmware-full-version>
  <control-processor-vendor></control-processor-vendor>
  <node-info>
    <slot-no>0</slot-no>
    <node-instance-no>1</node-instance-no>
    <node-type>type-mm</node-type>
    <firmware-version-info>
      <application-name>NOS</application-name>
      <primary-version>17r.1.00prabhus_slxosr_pavo_main_dev_01</primary-version>
    </firmware-version-info>
  </node-info>
</show-firmware-version>
</output>
```

PUT Method

The PUT method is sent by the client to create or replace the target data resource. The target resource for PUT method for data creation is the new resource. Both data and datastore is supported for PUT method. A request message-body must be present, representing the new data resource, else the server returns "400 Bad Request" status-line. The error-tag value "invalid-value" is used in this case.

When new data resource is created, PUT method respond as "201 Created" as shown below .

```
curl -v -X PUT -d "<lsp-metric>20</lsp-metric>" -u admin:password https://10.24.12.133:443/restconf/data/brocade-mpls:mpls-config/router/mpls/mpls-cmds-holder/lsp=lsp1/lsp-metric
```

Response body

```
HTTP/1.1 201 Created
Date: Mon, 23 Apr 2016 17:04:00 GMT
Server: example-server
Last-Modified: Mon, 23 Apr 2016 17:04:00 GMT
```

When the same data resource is updated, PUT method respond as "204 No Content" as shown below.

```
curl -v -X PUT -d "<lsp-metric>22</lsp-metric>" -u admin:password https://10.24.12.133:443/restconf/data/brocade-mpls:mpls-config/router/mpls/mpls-cmds-holder/lsp=lsp1/lsp-metric
```

Response body

```
HTTP/1.1 204 No Content
Date: Mon, 23 Apr 2016 17:04:00 GMT
Server: example-server
Last-Modified: Mon, 23 Apr 2016 17:04:00 GMT
```

PATCH Method

The PATCH method is used for creating or updating the child resource. Here, only the mere PATCH method is supported. A request message-body must be present, representing the new data resource, otherwise the server returns "400 Bad Request" status-line. The error-tag value "invalid-value" is used in this case. The target resource must be the parent of the child resource to be created.

For Leaflist case, you must not use this method to change the key values of the leaf list instance.

```
curl -v -X PATCH -d "<policy><retry-time>{uint32}</retry-time></policy>" -u admin:password http://10.24.12.135:443/restconf/data/brocade-mpls:mpls-config/router/mpls/policy/ -H "Accept: application/yang-data+xml"
```

Response body

```
HTTP/1.1 204 No Content
Date: Mon, 23 Apr 2016 17:04:00 GMT
Server: example-server
Last-Modified: Mon, 23 Apr 2016 17:04:00 GMT
```

If you try to PATCH a request which is not available, a Bad Request status line is returned and the error tag as invalid-value is used.

```
curl -v -X PATCH -d <policy3><retry-time>{uint32}</retry-time></policy3>" -u admin:password http://10.24.12.135:443/restconf/data/brocade-mpls:mpls-config/router/mpls/policy3/ -H "Accept: application/yang-data+xml"
```

Response body

```
< HTTP/1.1 400 Bad Request
< Date: 2017-02-16 20:53:01
< Server: SLX-OS Wave WWW
< Authentication-Token: fGVXWXlHYEo7Yl52WlYzRTBXVztTb3BvamltUDZPY0c=
< Cache-control: private, no-cache, must-revalidate, proxy-revalidate
< Content-Type: text/html
< Content-Length: 0
< Connection: close
<
<error xmlns="urn:ietf:params:xml:ns:yang:ietf-restconf">
  <error-type>protocol</error-type>
  <error-tag>invalid-value</error-tag>
  <error-message>Data resource does not exists</error-message>
</error>
```


DELETE Method

The DELETE method is used to delete the target resource. If the DELETE request succeeds, a "204 No Content" status-line is returned. If the target resource represents a configuration leaf-list or list data node, it must represent a single YANG leaf-list or list instance.

```
curl -v -X DELETE -u admin:password https://<>/restconf/data/brocade-mpls:mpls-config/router/mpls/policy/ -
H "Accept: application/yang-data+xml"

HTTP/1.1 204 No Content
Date: Mon, 23 Apr 2016 17:49:40 GMT
Server: example-server
```

If a DELETE request is sent for unconfigured data resource. Then the server responds as "Not found."

```
curl -v -X DELETE -u admin:password https://<>/restconf/data/brocade-mpls:mpls-config/router/mpls/policy/ -
H "Accept: application/yang-data+xml"
```

Response body

```
< HTTP/1.1 404 Not Found
< Server:
< Date: Thu, 27 Apr 2017 09:18:11 GMT
< Cache-Control: private, no-cache, must-revalidate, proxy-revalidate
< Content-Length: 0
< Content-Type: text/html
< Pragma: no-cache
```

If a DELETE request is sent for data resource which is unknown to server, it responds as "Bad Request" and a bad-element error-tag is shown below.

```
curl -v -X DELETE -u admin:password https://<>/restconf/data/brocade-mpls:mpls-config/router/mpls/
policy123/ -H "Accept: application/yang-data+xml"
```

Response body

```
HTTP/1.1 400 Bad Request
Date: Mon, 23 Apr 2016 17:49:40 GMT
Server: example-server

<error xmlns="urn:ietf:params:xml:ns:yang:ietf-restconf">
  <error-type>protocol</error-type>
  <error-tag>bad-element</error-tag>
  <error-message>Data resource does not exists</error-message>
</error>
```

XML representation

A resource is represented as an XML element which contains the values of the resource (if any) with child elements to represent the sub resources. An XML representation of a resource is used in both the request payload and in the response.

The XML attribute, "xmlns" is mentioned in the representation. This attribute has the name of the YANG module of the resource specified in the representation.

For example, the below XML representation is for the interface "ethernet" resource which contain the child list element route-map "policy" as sub-resources.

```
<Ethernet xmlns="http://brocade.com/ns/rest/brocade-interface">
  <name>2/12</name>
  ...
  ...
  ...
  <ip xmlns="http://brocade.com/ns/rest/brocade-ip-policy">
    <policy>
      <route-map>
```

```

        <route-map-name>testmap</route-map-name>
    </route-map>
</policy>
</ip>
...
...
</Ethernet>

```

The utf-8 character set is used for the XML message encoding. A message is encoded for the following special characters.

| Special Character | Encoded Character | Description of the Special character |
|-------------------|-------------------|--------------------------------------|
| < | < | less than |
| > | > | greater than |
| & | & | ampersand |
| ' | ' | apostrophe |
| " | " | quotation mark |

JSON representation

SLX-OS supports JSON format to represent the resource. This section provides information on the JSON representation for the YANG elements.

- The YANG elements in the resource models are be mapped into JSON elements for the proper serialization.
- A leaf element is mapped into a single key-value pair. The key and the value are separated by a colon.
- A container element is mapped into a JSON object. Thus, the equivalent representation of a container starts with a left curly bracket and ends with a right curly bracket. The elements within the container are separated a comma.
- A list element is mapped into a JSON array. Thus, the equivalent representation of the list starts with a left square bracket and ends with a right square bracket. The instances of the list element are separated by a comma.

The following is an example of JASON representation.

```

{
  "sflow": {
    "enable": "true",
    "collector": [
      {
        "collector-ip-address": "1.1.1.1",
        "collector-port-number": "6343",
        "use-vrf": "mgmt-vrf",
      },
      {
        "collector-ip-address": "1.2.3.4",
        "collector-port-number": "23",
        "use-vrf": "mgmt-vrf",
      }
    ],
    "polling-interval": "12",
    "sample-rate": "32",
  }
}

```

Media types

Media types the form of the data contained within a resource representation.

There are two media to identify the different kinds of resources. It is specified in the Accept and Content-Type header's value for the request and in the response respectively.

TABLE 3 Media types

| Media type | Resources |
|----------------------------|---|
| application/yang-data+xml | Represents the data resource derived from a YANG module in the XML format. |
| application/yang-data+json | Represents any data resource derived from a YANG module in the JSON format. |

Capabilities

The HTTP methods are used for manipulating the resource defined in the YANG model for the CRUD operations. You must employ appropriate access control mechanisms to limit what operations can be allowed by a user.

The RESTCONF protocol capability URIs are present in the container `/restconf-state/capabilities` defined in the `ietf-restconf-monitoring` module. The server must include a "capability" URI leaf-list entry for the "defaults" mode or the optional query parameters used by the server. The server must include a "capability" leaf-list entry for each optional query parameter that it supports. The name and the supported URIs are as follows.

```
GET /restconf/data/ietf-restconf-monitoring:restconf-state/capabilities HTTP/1.1
Host: example.com
Accept: application/yang.data+xml

HTTP/1.1 200 OK
Date: Mon, 23 Apr 2012 17:02:00 GMT
Server: example-server
Cache-Control: no-cache
Pragma: no-cache
Last-Modified: Sun, 22 Apr 2012 01:00:14 GMT
Content-Type: application/yang.data+xml

<capabilities xmlns="urn:ietf:params:xml:ns:yang:ietf-restconf-monitoring">
  <capability>urn:ietf:params:restconf:capability:depth:1.0</capability>
  <capability>urn:ietf:params:restconf:capability:with-defaults:1.0</capability>
  <capability>urn:ietf:params:restconf:capability:defaults:1.0?basic-mode=trim</capability>
```

Schema resources

Retrieval of the YANG modules is supported. The leaf "schema" must be present in the associated "module" list entry. To retrieve a YANG module, you must first needs to get the URL for retrieving the schema, which is stored in the "schema" leaf.

The client can get the URL to retrieve the schema. When the client responds the URL, the corresponding YANG can be obtained.

```
GET /restconf/data/ietf-yang-library:modules-state/module=
  brocade-interface,2015-04-04/schema HTTP/1.1
Host: 10.24.12.109
Accept: application/yang-data+xml
```

The server responds with following URL.

```
HTTP/1.1 200 OK
Date: Mon, 23 Apr 2012 17:01:00 GMT
Server: example-server
Content-Type: application/yang-data
<?xml version="1.0" encoding="UTF-8" ?>
<ietf-yang-library:schema>http://10.11.12.109/restconf/yang-modules/ brocade-interface/2015-04-04</ietf-
yang-library:schema>
```

To get the YANG schema, use the following.

```
GET http://10.24.12.109/restconf/yang-modules/ brocade-interface/2015-04-04
HTTP/1.1
Host: 10.11.12.109
Accept: application/yang
```

The server responds with following URL.

```
HTTP/1.1 200 OK
Date: Thu, 11 Feb 2016 11:10:31 GMT
Server: 10.24.12.109
Content-Type: application/yang

module brocade-interface {
  namespace "urn:brocade.com:mgmt:brocade-interface";
  prefix "brocade-interface";

  // contents of YANG module deleted for this example...
  ...
  ...
}
```

Yang module retrieval

The "ietf-yang-library" module provides the information about the YANG modules and submodules defined in the SLX-OS. All YANG modules and submodules must be identified in the YANG module library.

- **modules:** This mandatory container holds the identifiers for the YANG data model modules supported by the server.
- **modules/module:** This mandatory list contains one entry for each YANG data model module supported by the server. There must be an instance of this list for every YANG module that is used by the server.

This ietf-yang-library module is defined in the RFC7895 . The YANG tree diagram for ietf-yang-library.

```
+--ro modules-state
  +--ro module-set-id    string
  +--ro module* [name revision]
    +--ro name           yang:yang-identifier
    +--ro revision       union
    +--ro schema?       inet:uri
    +--ro namespace     inet:uri
    +--ro feature*      yang:yang-identifier
    +--ro deviation* [name revision]
      | +--ro name       yang:yang-identifier
      | +--ro revision  union
    +--ro conformance-type enumeration
```

Query parameter

Each RESTCONF operation allows one or more query parameters to be present in the request URI. The specific parameters that are allowed depends on the resource type, and sometimes the specific target resource used, in the request.

- Query parameters can be given in any order.
- Each parameter can appear at most once in a request URI. They are optional to implement by the server and optional to use by the client
- If more than one instance of a query parameter is present, then a "400 Bad Request" status-line MUST be returned by the server.
- A default value may apply if the parameter is missing.
- Query parameter names and values are case-sensitive
- A server MUST return an error with a '400 Bad Request' status-line if a query parameter is unexpected.
- The contents of the any query parameter value MUST be encoded according to RFC3986. Any reserved characters MUST be percent-encoded, according to RFC3986.

The following are the query parameter which will be supported in this release.

- Depth
- Content
- With-Default

Depth

- The "depth" parameter is used to specify the number of nest levels returned in a response for a GET method.
- The first nest-level will be the requested data node itself.
- The value of the "depth" parameter will be either an integer between 1 and 65535, or the string "unbounded". "unbounded" is the default.
- This parameter will be only allowed for GET methods on API, datastore, and data resources
- A "400 Bad Request" status-line will be returned if it used for other methods or resource types
- To retrieve all the child resources, the "depth" parameter should be set to the default value "unbounded".
- If an unsupported value is used, the RESTCONF server must return an <rpc-error> response with an 'invalid-value' error-tag.

For example, the below mentioned URL retrieves all the child resources of the "interface", with the default value "unbounded" set to param "depth".

```
GET /restconf/data/brocade-interface:interface?depth=unbounded
```

Content

- This query parameter will be used to select config and non-config data resources to be retrieved.
- This will be supported only on GET methods on data store and data resources.
- A "400 Bad Request" status-line is returned if used for other methods or resource types.
- The content is mandatory and the value can be either config or non-config.
- If an unsupported value is used, the RESTCONF server MUST return an <rpc-error> response with an 'invalid-value' error-tag.

You must mention the value of the content as "config" in the URI to retrieve the configuration data.

```
GET /restconf/data/interface?content=config
```

With Default

The "with-defaults" parameter is used to specify how information about default data nodes should be returned in response to GET requests on data resources.

- The value of the "basic-mode" will be returned as trim in the "defaults" protocol capabilities URI response to mention that default values will not be retrieved
- If an unsupported value is used, the RESTCONF server must return an <rpc-error> response with an 'invalid-value' error-tag.

When data is retrieved with a <with-defaults> parameter equal to 'trim', data nodes must not be reported if they contain the schema default value.

```
GET /restconf/data/interfaces/interface=eth1?with-defaults=trim HTTP/1.1
Host: 10.24.12.77
Accept: application/yang.data+json
```

This is the server responds.

```
HTTP/1.1 200 OK
Date: Mon, 23 Apr 2012 17:01:00 GMT
Server: SLX-OS WWW
Content-Type: application/yang.data+json
{
  "example:interface": [
    {
      "name" : "eth1",
      "status" : "up"
    }
  ]
}
```

Root resource discovery

The RESTCONF client can determine the root of the RESTCONF API by sending the request to the server using the URI /.well-known/host-meta as follows:

```
curl -v -X GET -u admin:password https://<>/.well-known/host-meta
```

The following is the response of the request.

```
<data xmlns='http://docs.oasis-open.org/ns/xri/xrd-1.0'>
  <Link rel='restconf' href='/restconf'/>
</data>
```

The response contains the "restconf" link relation returned by the server. The client can use the path "/restconf" as the RESTCONF entry point, prepend it to any subsequent request to a RESTCONF resource.

Error Reporting and Response Messages

In SLX-OS, an HTTP status code reports success or failure for RESTCONF operation. The error information is returned for "4xx" and "5xx" class of status code.

The following table shows the supported are the error-tag with status -code .

| Status Code | Error Tag |
|-------------------------|------------|
| Invalid-value | 400 |
| unknown-element | 400 |
| operation-not-supported | 404 or 501 |

| Status Code | Error Tag |
|-------------------|------------|
| operation-failed | 412 or 500 |
| Access-denied | 401 or 403 |
| Data-exists | 409 |
| Unknown-namespace | 400 |
| Bad-element | 400 |
| Unknown-element | 400 |
| Malformed-message | 400 |
| Missing-attribute | 400 |
| Unknown-attribute | 400 |
| Bad-attribute | 400 |
| data-exists | 409 |
| In-use | 409 |

When an error occurs for a request message on any resource type, and the status code that is returned is in the "4xx" range, the server sends a response message-body containing the information described by the "yang-errors". The Content-Type of this response message is a subtype of application/yang-data.

The following is an example of an error message.

```
HTTP/1.1 401 Not Found
Date: Tue, 2 Aug 2016 17:11:00 GMT
Server: SLX-OS WWW
Content-Type: application/yang-data+json
{
  "ietf-restconf:errors": {
    "error": [
      {
        "error-type": " application",
        "error-tag": "unknown-element",
        "error-message": "Element not found"
      }
    ]
  }
}
```


Configuration RESTCONFs

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aaa/accounting

Configures, modifies, or retrieves login or command accounting configuration.

Resource URIs

| URI | Description |
|---|---|
| /restconf/data/brocade-aaa:aaa-config/accounting | Login or command accounting. |
| /restconf/data/brocade-aaa:aaa-config/accounting/commands | Enables or disabled command accounting. |
| /restconf/data/brocade-aaa:aaa-config/aaa/accounting/exec | Enables or disables login accounting. |

| PUT URIs | Payload | Description |
|---|---|-----------------------------|
| /restconf/data/brocade-aaa:aaa-config/aaa/accounting/exec/defaultacc/start-stop/server-type | <server-type>{acc_srv_type}</server-type> | Enables login accounting. |
| /restconf/data/brocade-aaa:aaa-config/aaa/accounting/commands/defaultacc/start-stop/server-type | <server-type>{acc_srv_type}</server-type> | Enables command accounting. |

Parameters

server-type

Specifies server for accounting. Possible values are:

| | |
|--------------------|--|
| None | Disables login accounting. |
| tacacs+ | Configures to use TACACS+ server. |
| radius | Configures to use radius server. |
| exec | Login accounting. |
| default | Sends the logged information to the default server. |
| start-stop | Sends a "start" accounting notice at the beginning of a process and a "stop" accounting notice at the end of a process. The "start" accounting record is sent in the background. |
| server-type | Specifies server for accounting : tacas+ or radius |

Usage Guidelines

GET, OPTIONS, and HEAD operations are supported.

Examples

The following example uses the GET option to retrieve the configuration details.

URI

http://host:443/restconf/data/brocade-aaa:aaa-config/accounting

Request Body

None

Response Body

```
<aaa-config xmlns="urn:brocade.com:mgmt:brocade-aaa">
  <aaa>
    <accounting>
      <exec>
        <defaultacc>
          <start-stop>
            <server-type/>
          </start-stop>
        </defaultacc>
      </exec>
    </accounting>
  </aaa>
</aaa-config>
```

History

| Release version | History |
|-----------------|------------------------------------|
| 17r.2.00 | This RESTCONF call was introduced. |

aaa/authentication

Configures, retrieves, and modifies AAA login sequence.

Resource URIs

| URI | Description |
|--|--------------------------------|
| /restconf/data/brocade-aaa:aaa-config/aaa/authentication | Configures AAA login sequence. |

| GET URIs | Description |
|---|--|
| /restconf/data/brocade-aaa:aaa-config/aaa/authentication | Configures AAA login sequence. |
| /data/brocade-aaa:aaa-config/aaa/authentication/login | Specifies the type of server that will be used for authentication, authorization, and accounting (AAA) on the device. The local server is the default. |
| /restconf/data/brocade-aaa:aaa-config/aaa/authentication/login/first | Configures the primary source of authentication. |
| /restconf/data/brocade-aaa:aaa-config/aaa/authentication/login/second | Configures the secondary source of authentication. |

| PATCH URIs | Payload | Description |
|---|---|--|
| /data/brocade-aaa:aaa-config/aaa/authentication/login | <login><first>{enumeration}</first></login> | Configures the order of sources for login and sets the primary source of authentication. |

| PUT URIs | Payload | Description |
|---|--------------------------------|--|
| /restconf/data/brocade-aaa:aaa-config/aaa/authentication/login/first | <first>{enumeration}</first> | Configures the order of sources for login and sets the primary source of authentication. |
| /restconf/data/brocade-aaa:aaa-config/aaa/authentication/login/second | <second>{enumeration}</second> | Configures the order of sources for login and sets the secondary source of authentication. |

| DELETE URIs |
|---|
| /restconf/data/brocade-aaa:aaa-config/aaa/authentication/login/first |
| /restconf/data/brocade-aaa:aaa-config/aaa/authentication/login/second |

Usage Guidelines

GET, POST, PUT, PATCH, DELETE, OPTIONS, and HEAD operations are supported.

Examples

The following example uses the GET option to retrieve the configuration details.

URI

http://host:443/data/brocade-aaa:aaa-config/aaa/authentication

Request Body

None

Response Body

```
<aaa-config xmlns="urn:brocade.com:mgmt:brocade-aaa">
  <aaa>
    <authentication>
      <login>
        <second/>
      </login>
    </authentication>
  </aaa>
</aaa-config>
```

The following example uses the PUT option to configure AAA login sequence.

URI

http://host:443/data/brocade-aaa:aaa-config/aaa/authentication/login/first

Request Body

```
<first>radius</first>
```

Response Body

None

The following example uses the DELETE option to remove AAA login sequence.

URI

http://host:443/data/brocade-aaa:aaa-config/aaa/authentication/login/first

Request Body

None

Response Body

None

History

| Release version | History |
|-----------------|------------------------------------|
| 17r.2.00 | This RESTCONF call was introduced. |

acl-policy

Configures, modifies, or retrieves ACL configuration.

Resource URIs

| URI | Description |
|--|------------------------|
| /restconf/data/brocade-acl-policy:acl-policy | Configures ACL policy. |

| GET URIs | Description |
|--|--|
| /config/restconf/data/brocade-acl-policy:acl-policy | Configures ACL policy. |
| /restconf/data/brocade-acl-policy:acl-policy/global-acl-policy-conf-cmds/allow-conflicting-rules | Allows conflicting rules in a ACL table. |
| /restconf/data/brocade-acl-policy:acl-policy/global-acl-policy-conf-cmds/allow-duplicate-rules | Allows duplicate rules in a ACL table. |

| PUT URIs | Payload | Description |
|---|---|--|
| /restconf/data/brocade-acl-policy:acl-policy/global-acl-policy-conf-cmds/allow-conflicting-rules | <allow-conflicting-rules>true</allow-conflicting-rules> | Allows conflicting rules in a ACL table. |
| /restconf/data/brocade-acl-policy:acl-policy/global-acl-policy-conf-cmds/acl-policy/allow-duplicate-rules | <allow-duplicate-rules>true<allow-duplicate-rules> | Allows duplicate rules in a ACL table. |

| DELETE URIs |
|--|
| /config/restconf/data/brocade-acl-policy:acl-policy |
| /restconf/data/brocade-acl-policy:acl-policy/global-acl-policy-conf-cmds/allow-conflicting-rules |
| /restconf/data/brocade-acl-policy:acl-policy/global-acl-policy-conf-cmds/allow-duplicate-rules |

Parameters

allow-conflicting-rules

Allows conflicting rules in a ACL table.

allow-duplicate-rules

Allows duplicate rules in a ACL table.

Usage Guidelines

GET, POST, PUT, PATCH, DELETE, OPTIONS, and HEAD operations are supported.

Examples

The following example uses the GET option to display whether duplicate rules are allowed.

URI

http://host:443/restconf/data/brocade-acl-policy:acl-policy/allow-conflicting-rules

Request Body

None

Response Body

```
<acl-policy xmlns="urn:brocade.com:mgmt:brocade-acl-policy">
  <global-acl-policy-conf-cmds>
    <allow-conflicting-rules/>
  </global-acl-policy-conf-cmds>
</acl-policy>
```

The following is an example PATCH operation to allow duplicate rules in a ACL table.

URI

http://host:443/restconf/data/brocade-acl-policy:acl-policy/allow-conflicting-rules

Request Body

```
<allow-conflicting-rules />
```

Response Body

None

The following is an example of the DELETE operation to remove the ACL policy.

URI

http://host:443/restconf/data/brocade-acl-policy:acl-policy

Request Body

None

Response Body

None

History

| Release version | History |
|-----------------|------------------------------------|
| 17r.2.00 | This RESTCONF call was introduced. |

arp

Configures, modifies, or retrieves Address Resolution Protocol (ARP).

Resource URIs

| URI | Description |
|--------------------------------------|------------------------------------|
| /restconf/data/brocade-arp:arp-entry | Address Resolution Protocol (ARP). |

| GET URIs | Description |
|--|--|
| /restconf/data/brocade-arp:arp-entry=%arp--ip-address% | Retrieves Address Resolution Protocol (ARP) configuration information. |

| DELETE URIs |
|--|
| /restconf/data/brocade-arp:arp-entry=%arp--ip-address% |

Parameters

arp-ip-address

Specifies the IP address of the ARP entry.

mac-address-value

Specifies the MAC address in HHHH.HHHH.HHHH format.

interfacename

Specifies the interface to use.

Usage Guidelines

GET, DELETE, OPTIONS, and HEAD operations are supported.

Examples

The following is an example of the DELETE operation to remove the ARP configuration.

URI

http://host:443/restconf/data/brocade-arp:arp-entry=%arp--ip-address%

Request Body

```
<arp-entry operation="delete" xmlns="urn:brocade.com:mgmt:brocade-arp">  
  <arp-ip-address>%req_val%</arp-ip-address>  
</arp-entry>
```

Response Body

None

History

| Release version | History |
|-----------------|------------------------------------|
| 17r.2.00 | This RESTCONF call was introduced. |

bridge-domain

Configures a bridge domain.

Resource URIs

| URI | Description |
|--|-----------------------------|
| /restconf/data/brocade-bridge-domain:bridge-domain | Configures a bridge domain. |

| GET URIs | Description |
|---|--|
| /restconf/data/brocade-bridge-domain:bridge-domain | Retrieves a bridge domain configuration information. |
| /restconf/data/brocade-bridge-domain:bridge-domain=%bridge-domain-id%.%bridge-domain-type%/vc-id-num | Retrieves information about a virtual circuit with the specified ID. |
| /data/brocade-bridge-domain:bridge-domain=%bridge-domain-id%.%bridge-domain-type%/peer=%peer-ip%/load-balance | Retrieves load-balancing details. |
| /restconf/data/brocade-bridge-domain:bridge-domain=%bridge-domain-id%.%bridge-domain-type%/peer=%peer-ip%/cos | Sets the cos value in the range 0 to 7. |
| /restconf/data/brocade-bridge-domain:bridge-domain=%bridge-domain-id%.%bridge-domain-type%/statistics | Configures statistics. |
| /restconf/data/brocade-bridge-domain:bridge-domain=%bridge-domain-id%.%bridge-domain-type%/pw-profile-name | Sets the Pw-profile name. The maximum size is 64. |
| /restconf/data/brocade-bridge-domain:bridge-domain=%bridge-domain-id%.%bridge-domain-type%/bpdu-drop-enable | Enables bpdu-drop functionality. |
| /data/brocade-bridge-domain:bridge-domain=%bridge-domain-id%.%bridge-domain-type%/local-switching | Configures local switching. |

| POST URIs | Payload | Description |
|---|---|---|
| /restconf/data/brocade-bridge-domain:bridge-domain | <bridge-domain><bridge-domain-id>{req_val}</bridge-domain-id><bridge-domain-type>{req_val}</bridge-domain-type></bridge-domain> | Configures a bridge domain. |
| /restconf/data/brocade-bridge-domain:bridge-domain=%bridge-domain-id%.%bridge-domain-type% | <peer><peer-ip>{req_val}</peer-ip></peer> | Configures bridge domain peer. |
| /restconf/data/brocade-bridge-domain:bridge-domain=%bridge-domain-id%.%bridge-domain-type%/logical-interface | <ethernet><lif-bind-id>{req_val}</lif-bind-id></ethernet> | Configures logical interface. |
| restconf/data/brocade-bridge-domain:bridge-domain=%bridge-domain-id%.%bridge-domain-type%/logical-interface/port-channel=%pc-lif-bind-id% | <port-channel><pc-lif-bind-id>{req_val}</pc-lif-bind-id></port-channel> | Configures logical interface as port-channel. |

| DELETE URIs |
|---|
| /restconf/data/brocade-bridge-domain:bridge-domain=%bridge-domain-id%.%bridge-domain-type% |
| /restconf/data/brocade-bridge-domain:bridge-domain=%bridge-domain-id%.%bridge-domain-type%/vc-id-num |
| /restconf/data/brocade-bridge-domain:bridge-domain=%bridge-domain-id%.%bridge-domain-type%/description |
| /restconf/data/brocade-bridge-domain:bridge-domain=%bridge-domain-id%.%bridge-domain-type%/peer=%peer-ip% |
| /restconf/data/brocade-bridge-domain:bridge-domain=%bridge-domain-id%.%bridge-domain-type%/statistics |

| DELETE URIs |
|--|
| /restconf/data/brocade-bridge-domain:bridge-domain=%bridge-domain-id%,%bridge-domain-type%/router-interface=%router-ve% |
| /restconf/data/brocade-bridge-domain:bridge-domain=%bridge-domain-id%,%bridge-domain-type%/router-interface=%router-ve%/disallow-oar-ac |
| /restconf/data/brocade-bridge-domain:bridge-domain=%bridge-domain-id%,%bridge-domain-type%/logical-interface |
| /restconf/data/brocade-bridge-domain:bridge-domain=%bridge-domain-id%,%bridge-domain-type%/logical-interface/ethernet=%lif-bind-id% |
| /restconf/data/brocade-bridge-domain:bridge-domain=%bridge-domain-id%,%bridge-domain-type%/logical-interface/port-channel=%pc-lif-bind-id% |
| /restconf/data/brocade-bridge-domain:bridge-domain=%bridge-domain-id%,%bridge-domain-type%/pw-profile-name |
| /restconf/data/brocade-bridge-domain:bridge-domain=%bridge-domain-id%,%bridge-domain-type%/bpdu-drop-enable |
| /restconf/data/brocade-bridge-domain:bridge-domain=%bridge-domain-id%,%bridge-domain-type%/local-switching |
| /restconf/data/brocade-bridge-domain:bridge-domain=%bridge-domain-id%,%bridge-domain-type%/mac-address |

Parameters

bridge-domain-id

The bridge domain ID.

bridge-domain-type

The bridge domain type.

peer

Specifies the peer.

peer-ip

The peer IP address.

load-balance

Specifies load balancing.

lsp

Specifies the LSP.

logical-interface

Specifies the logical interface.

pw-profile

Specifies the PW-profile.

bpdu-drop-enable

Specifies the BPDU drop enable feature.

local-switching

Specifies local switching.

Usage Guidelines

GET, POST, PUT, PATCH, DELETE, OPTIONS, and HEAD operations are supported.

Examples

The following example uses the GET option to retrieve the configuration details.

URI

http://host:443/restconf/data/brocade-bridge-domain:bridge-domain

Request Body

None

Response Body

```
<bridge-domain xmlns="urn:brocade.com:mgmt:brocade-bridge-domain">
  <bridge-domain-id>%req_val%</bridge-domain-id>
  <bridge-domain-type>%req_val%</bridge-domain-type>
</bridge-domain>
```

The following example uses the POST option to configure a bridge domain.

URI

http://host:443/restconf/data/brocade-bridge-domain:bridge-domain

Request Body

```
<bridge-domain xmlns="urn:brocade.com:mgmt:brocade-bridge-domain">
  <bridge-domain-id>%req_val%</bridge-domain-id>
  <bridge-domain-type>%req_val%</bridge-domain-type>
  <description/>
</bridge-domain>
```

Response Body

None

The following example uses the DELETE option to remove a bridge domain.

URI

http://host:443/restconf/data/brocade-bridge-domain:bridge-domain

Request Body

None

Response Body

None

History

| Release version | History |
|-----------------|-------------------------------|
| 17r.2.00 | This API call was introduced. |

chassis

Configures, modifies, or retrieves the Chassis Virtual address.

Resource URIs

| URI | Description |
|---|--------------------------|
| /restconf/data/brocade-chassis:hide-virtual-ip-holder | Chassis Virtual address. |

| GET URIs | Description |
|---|------------------------------------|
| /restconf/data/brocade-chassis:hide-virtual-ip-holder/chassis | Configure Chassis Virtual address. |
| /rest/restconf/data/brocade-chassis:hide-virtual-ip-holder/chassis/virtual-ip | Chassis Virtual IPv4 address. |
| /restconf/data/brocade-chassis:hide-virtual-ip-holder/chassis/virtual-ipv6 | Chassis Virtual IPv6 address. |
| /restconf/data/brocade-chassis:hide-virtual-ip-holder/chassis/oper-address | Chassis operational address. |

| PATCH URIs | Payload | Description |
|---|--|------------------------------|
| /restconf/data/brocade-chassis:hide-virtual-ip-holder/chassis | <chassis><virtual-ip>(string)</virtual-ip></chassis> | Chassis Virtual IPv4 address |
| /restconf/data/brocade-chassis:hide-virtual-ip-holder/chassis | <chassis><virtual-ipv6>(string)</virtual-ipv6></chassis> | Chassis Virtual IPv6 address |

| PUT URIs | Payload | Description |
|---|---------------------------------------|------------------------------|
| /restconf/data/brocade-chassis:hide-virtual-ip-holder/chassis | <virtual-ip>(string)</virtual-ip> | Chassis Virtual IPv4 address |
| /restconf/data/brocade-chassis:hide-virtual-ip-holder/chassis | <virtual-ipv6>(string)</virtual-ipv6> | Chassis Virtual IPv6 address |

| DELETE URIs | Payload | Description |
|---|---------------------------------------|------------------------------|
| /restconf/data/brocade-chassis:hide-virtual-ip-holder/chassis | <virtual-ip>(string)</virtual-ip> | Chassis Virtual IPv4 address |
| /restconf/data/brocade-chassis:hide-virtual-ip-holder/chassis | <virtual-ipv6>(string)</virtual-ipv6> | Chassis Virtual IPv6 address |

| POST URIs | Payload | Description |
|---|---------------------------------------|------------------------------|
| /restconf/data/brocade-chassis:hide-virtual-ip-holder/chassis | <virtual-ip>(string)</virtual-ip> | Chassis Virtual IPv4 address |
| /restconf/data/brocade-chassis:hide-virtual-ip-holder/chassis | <virtual-ipv6>(string)</virtual-ipv6> | Chassis Virtual IPv6 address |

Parameters

virtual-ip

Sets an IPv4 address in dotted-decimal notation with a CIDR prefix (mask).

virtual-ipv6

Sets an IPv6 address in colon-separated hexadecimal notation with a CIDR prefix.

Usage Guidelines

GET, POST, PUT, PATCH, DELETE, OPTIONS, and HEAD operations are supported.

Examples

The following example uses the GET option to retrieve the configuration details.

URI

http://host:443/restconf/data/brocade-chassis:hide-virtual-ip-holder/chassis

Request Body

None

Response Body

```
<hide-virtual-ip-holder xmlns="urn:brocade.com:mgmt:brocade-chassis">
  <chassis>
    <virtual-ip/>
  </chassis>
</hide-virtual-ip-holder>
```

The following example of the PATCH operation to set virtual IPv4 address.

URI

http://host:443/restconf/data/brocade-chassis:hide-virtual-ip-holder/chassis/virtual-ip

Request Body

```
<chassis>
  <virtual-ip>10.20.108.66/20</virtual-ip>
</chassis>
```

Response Body

None

The following example of the DELETE operation to remove virtual IPv4 address.

URI

http://host:443/restconf/data/brocade-chassis:hide-virtual-ip-holder/chassis/virtual-ip

Request Body

None

Response Body

None

History

| Release version | History |
|-----------------|------------------------------------|
| 17r.2.00 | This RESTCONF call was introduced. |

clock

Configures, modifies, or retrieves system time zone.

Resource URIs

| URI | Description |
|---------------------------------------|-----------------------------|
| /restconf/data/brocade-clock:clock-sa | Configure system time zone. |

| GET URIs | Description |
|--|---|
| /restconf/data/brocade-clock:clock-sa/clock | Configure System Timezone |
| /restconf/data/brocade-clock:clock-sa/clock/timezone | Timezone region or city. Regions are Africa, America, Antarctica, Arctic, Asia, Atlantic, Australia, Europe, Indian, and Pacific. |

| PATCH URIs | Payload | Description |
|---------------------------------------|--|---|
| /restconf/data/brocade-clock:clock-sa | <clock><timezone>(string)</timezone></clock> | Modifies or updates the system time zone. |

| PUT URIs | Payload | Description |
|--|-------------------------------|---|
| /restconf/data/brocade-clock:clock-sa/clock/timezone | <timezone>(string)</timezone> | Modifies or updates the system time zone. |

| DELETE URIs | Payload | Description |
|--|-------------------------------|-------------------------------|
| /restconf/data/brocade-clock:clock-sa/clock/timezone | <timezone>(string)</timezone> | Deletes the system time zone. |

Parameters

timezone

Specifies the local clock time zone.

Usage Guidelines

GET, POST, PUT, PATCH, DELETE, OPTIONS, and HEAD operations are supported.

Examples

The following example uses the GET option to retrieve the configuration details.

URI

http://host:443/restconf/data/brocade-clock:clock-sa/clock/timezone

Request Body

None

Response Body

```
<clock-sa xmlns="urn:brocade.com:mgmt:brocade-clock">
  <clock>
    <timezone/>
  </clock>
</clock-sa>
```

History

| Release version | History |
|-----------------|------------------------------------|
| 17r.2.00 | This RESTCONF call was introduced. |

control-plane

Configures, modifies, or retrieves control plane configuration.

Resource URIs

| URI | Description |
|---|---|
| /restconf/data/brocade-control-plane:control-plane | Control plane configuration. |
| /restconf/data/brocade-control-plane:control-plane/ipv6 | IPv6 Control plane configuration. |
| /data/brocade-control-plane:control-plane/ipv6/subnet-rate-limit | Configure the rate limit for the subnet |
| /restconf/data/brocade-control-plane:control-plane/ipv6/subnet-rate-limit/cbr | Configures the CBR. |

Parameters

cir

Specifies rate value. The range is from 0 to 100000.

cbr

Specifies the burst value in Kbytes. The range is from 1 to 64.

Usage Guidelines

GET, POST, PUT, PATCH, DELETE, OPTIONS, and HEAD operations are supported.

Examples

The following example uses the GET option to retrieve the configuration details.

URI

http://host:80restconf/data/brocade-control-plane:control-plane

Request Body

None

Response Body

```
control-plane xmlns="urn:brocade.com:mgmt:brocade-control-plane">
  <ipv6>
    <subnet-rate-limit>
      <cbr/>
    </subnet-rate-limit>
  </ipv6>
</control-plane>>
```

The following example uses the DELETE option to remove the control plane configuration.

URI

http://host:443/restconf/data/brocade-control-plane:control-plane

Request Body

None

Response Body

None

History

| Release version | History |
|-----------------|------------------------------------|
| 17r.2.00 | This RESTCONF call was introduced. |

dot1x

Configures, retrieves, and modifies 802.1X authentication.

Resource URIs

| URI | Description |
|------------------------------------|-----------------------------------|
| /restconf/data/brocade-dot1x:dot1x | Configures 802.1X authentication. |

| GET URIs | Description |
|--|--|
| /restconf/data/brocade-dot1x:dot1x | IEEE 802.1X port-based access control. |
| /restconf/data/brocade-dot1x:dot1x/enable | Enables global port authentication. |
| /restconf/data/brocade-dot1x:dot1x/test | Configures 802.1X readiness check. |
| /restconf/data/brocade-dot1x:dot1x/timeout | Configures timeout for dot1x readiness check |

| PATCH URIs | Payload | Description |
|---|---|--|
| /restconf/data/brocade-dot1x:dot1x | <dot1x><enable>(enumeration)</enable></dot1x> | Configures IEEE 802.1X port-based access control and enables global port authentication. |
| /restconf/data/brocade-dot1x:dot1x/test | <test><timeout>{dot1x-readiness-test-timeout-interval}</timeout></test> | Configures timeout for dot1x readiness check. |

| PUT URIs | Payload | Description |
|--|--|---|
| /restconf/data/brocade-dot1x:dot1x/enable | <enable>(enumeration)</enable> | Enables global port authentication. |
| /restconf/data/brocade-dot1x:dot1x/timeout | <timeout>{dot1x-readiness-test-timeout-interval}</timeout> | Configures timeout for dot1x readiness check. |

| DELETE URIs |
|--|
| /restconf/data/brocade-dot1x:dot1x/enable |
| /restconf/data/brocade-dot1x:dot1x/timeout |

Parameters

test timeout

Specifies the readiness test interval value in seconds. Valid values range from 1 through 65535. The default readiness test interval is 10 seconds.

Usage Guidelines

GET, POST, PUT, PATCH, DELETE, OPTIONS, and HEAD operations are supported.

Examples

The following example uses the GET option to retrieve the configuration details.

URI

http://host:443/restconf/data/brocade-dot1x:dot1x

Request Body

None

Response Body

```
<dot1x xmlns="urn:brocade.com:mgmt:brocade-dot1x">
  <timeout>
    <tx-period>%dot1x-tx-timeout-interval%</tx-period>
  </timeout>
</dot1x>
```

The following example uses the PATCH option to configure dot1x.

URI

http://host:443/restconf/data/brocade-dot1x:dot1x

Request Body

```
<dot1x><enable>true</enable></dot1x>
```

Response Body

None

The following example uses the DELETE option to remove dot1x.

URI

http://host:443/restconf/data/brocade-dot1x:dot1x/enable

Request Body

None

Response Body

None

History

| Release version | History |
|-----------------|------------------------------------|
| 17r.2.00 | This RESTCONF call was introduced. |

ip/access-list

Configures, modifies, or retrieves the Internet Protocol (IP) access list configuration.

Resource URIs

| URI | Description |
|--|--------------------------------------|
| /restconf/data/brocade-ip-access-list:ip-acl | The Internet Protocol configuration. |
| /restconf/data/brocade-ip-access-list:ip-acl/ip/access-list/standard | Standard IP ACL configuration. |
| /restconf/data/brocade-ip-access-list:ip-acl/ip/access-list/extended | Extended IP ACL configuration. |

| POST URIs | Payload | Description |
|---|--|-----------------------------|
| /restconf/data/brocade-ip-access-list:ip-acl/ip/access-list | <standard><name>{acl-name}</name></standard> | Configures a standard ACL. |
| /restconf/data/brocade-ip-access-list:ip-acl/ip/access-list | <extended><name>{acl-name}</name></extended> | Configures an extended ACL. |

| DELETE URIs |
|--|
| /restconf/data/brocade-ip-access-list:ip-acl |
| /restconf/data/brocade-ip-access-list:ip-acl/ip/access-list/standard=%name% |
| /restconf/data/brocade-ip-access-list:ip-acl/ip/access-list/extended=%name% |
| /restconf/data/brocade-interface:interface/ethernet=%name%/brocade-ip-access-list:ip-acl-interface |
| /restconf/data/brocade-interface:interface/ethernet=%name%/brocade-ip-access-list:ip-acl-interface/ip/access-group=%ip-access-list%,%ip-direction% |
| /restconf/data/brocade-interface:interface/ethernet=%name%/brocade-ip-access-list:ip-acl-interface/ip/access-group=%ip-access-list%,%ip-direction%/traffic-type |
| /restconf/data/brocade-interface:interface/port-channel=%name%/brocade-ip-access-list:ip-acl-interface |
| /restconf/data/brocade-common-def:routing-system/brocade-interface:interface/ve=%name%/brocade-ip-access-list:ip-acl-interface |
| /restconf/data/brocade-common-def:routing-system/brocade-interface:interface/ve=%name%/brocade-ip-access-list:ip-acl-interface/ip/access-group=%ip-access-list%,%ip-direction% |

Parameters

name

Specifies the IPv4 access list name.

Usage Guidelines

GET, POST, PUT, PATCH, DELETE, OPTIONS, and HEAD operations are supported.

Examples

The following example uses the GET option to retrieve the access list configurations.

URI

http://host:443/restconf/data/brocade-ip-access-list:ip-acl/ip/access-list/standard=%name%

Request Body

None

Response Body

```
<ip-acl xmlns="urn:brocade.com:mgmt:brocade-ip-access-list">
  <ip>
    <access-list>
      <standard>
        <name>%req_val%</name>
      </standard>
    </access-list>
  </ip>
</ip-acl>
```

The following example uses the POST option to configure a standard access list.

URI

http://host:443/restconf/data/brocade-ip-access-list:ip-acl/ip/access-list/standard=%name%

Request Body

```
<standard >
  <name>std10</name>
</standard>
```

Response Body

None

The following example uses the DELETE option to remove a standard access list.

URI

http://host:443/restconf/data/brocade-ip-access-list:ip-acl/ip/access-list/standard=%name%

Request Body

None

Response Body

None

History

| Release version | History |
|-----------------|------------------------------------|
| 17r.2.00 | This RESTCONF call was introduced. |

ipv6/access-list

Configures, modifies, or retrieves the Internet Protocol version 6 (IPv6) access list configuration.

Resource URIs

| URI | Description |
|--|--------------------------------------|
| /restconf/data/brocade-ipv6-access-list:ipv6-acl/ipv6 | The Internet Protocol configuration. |
| /restconf/data/brocade-ipv6-access-list:ipv6-acl/ipv6/access-list/standard | Standard IP ACL configuration. |
| /restconf/data/brocade-ipv6-access-list:ipv6-acl/ipv6/access-list/standard=%name%/seq=%seq-id% | Sequence number configuration. |
| /restconf/data/brocade-ipv6-access-list:ipv6-acl/ipv6/access-list/extended | Extended IP ACL configuration. |
| /restconf/data/brocade-ipv6-access-list:ipv6-acl/ipv6/access-list/extended=%name%/seq=%seq-id% | Sequence number configuration. |

| GET URIs | Description |
|--|--|
| /restconf/data/brocade-ipv6-access-list:ipv6-acl/ipv6/access-list/standard=%name%/seq=%seq-id%/src-host-ip | Retrieves the source host IP of a specific standard ACL with a sequence ID. |
| /restconf/data/brocade-ipv6-access-list:ipv6-acl/ipv6/access-list/standard=%name%/seq=%seq-id%/src-mask | Displays whether count is enabled for a standard ACL. |
| /restconf/data/brocade-ipv6-access-list:ipv6-acl/ipv6/access-list/standard=%name%/seq=%seq-id%/count | Displays whether count is enabled for a specific standard ACL. |
| /restconf/data/brocade-ipv6-access-list:ipv6-acl/ipv6/access-list/standard=%name%/seq=%seq-id%/log | Displays whether log is configured for a specific standard ACL. |
| /restconf/data/brocade-ipv6-access-list:ipv6-acl/ipv6/access-list/standard=%name%/seq=%seq-id%/copy-sflow | Sends matching inbound packets to the sFlow collector. |
| /restconf/data/brocade-ipv6-access-list:ipv6-acl/ipv6/access-list/extended%name%/seq=%seq-id%/sport-number-lt-tcp | s-port numbers less than or equal to Transmission Control Protocol (TCP). |
| /restconf/data/brocade-ipv6-access-list:ipv6-acl/ipv6/access-list/extended=%name%/seq=%seq-id%/sport-number-gt-tcp | s-port numbers greater than or equal to Transmission Control Protocol (TCP). |
| /restconf/data/brocade-ipv6-access-list:ipv6-acl/ipv6/access-list/extended=%name%/seq=%seq-id%/sport-number-eq-neq-udp | All TCP or User Datagram Protocol (UDP) port numbers except the s-port number. |
| /restconf/data/brocade-ipv6-access-list:ipv6-acl/ipv6/access-list/extended=%name%/seq=%seq-id%/sport-number-lt-udp | s-port numbers less than or equal to User Datagram Protocol (UDP). |
| /restconf/data/brocade-ipv6-access-list:ipv6-acl/ipv6/access-list/extended=%name%/seq=%seq-id%/sport-number-gt-udp | s-port numbers greater than or equal to User Datagram Protocol (UDP). |
| /restconf/data/brocade-ipv6-access-list:ipv6-acl/ipv6/access-list/extended=%name%/seq=%seq-id%/vlan | Displays the VLAN interface to which the ACL is bound. |
| /restconf/data/brocade-ipv6-access-list:ipv6-acl/ipv6/access-list/extended=%name%/seq=%seq-id%/count | Displays whether count is enabled for an extended ACL. |
| /restconf/data/brocade-ipv6-access-list:ipv6-acl/ipv6/access-list/extended=%name%/seq=%seq-id%/log | Displays whether log is configured for an extended ACL. |
| /restconf/data/brocade-ipv6-access-list:ipv6-acl/ipv6/access-list/extended=%name%/seq=%seq-id%/mirror | Mirrors packets matching the rule. |

| POST URIs | Payload | Description |
|---|--|---|
| /config/restconf/data/brocade-ipv6-access-list:ipv6-acl/ipv6/access-list | <standard><name>[name]</name></standard> | Configures a standard IPv6 access list. |
| /restconf/data/brocade-ipv6-access-list:ipv6-acl/ipv6/access-list/extended=%name% | <seq><seq-id>{seq-id}</seq-id><action>{enumeration}</action><src-host-any-sip>{sip-cid}</src-host-any-sip></seq> | Configures the parameters of a standard IPv6 access list. |
| /restconf/data/brocade-ipv6-access-list:ipv6-acl/ipv6/access-list | <extended><name>[name]</name></extended> | Configures an extended IPv6 access list. |

| DELETE URIs |
|--|
| /restconf/data/data/brocade-ipv6-access-list:ipv6-acl/ipv6/access-list/standard=%name% |
| /restconf/data/brocade-ipv6-access-list:ipv6-acl/ipv6/access-list/extended=%name% |

Parameters

name

Specifies the IPv6 access list name.

seq

Specifies the sequence number.

seq-id

Specifies the sequence number for the rule.

action

Specifies the action to be performed. Supported actions are **deny**, **hard-drop**, and **permit**. Configuring deny drops traffic. Configuring hard-drop force drops traffic. Configuring permit allows traffic.

src-host-any-sip

Specifies any source host IP address.

src-host-ip

Specifies the source host IP address.

count

Enables the counting of the packets matching the rule.

log

Packets matching the filter are sent to the CPU and a corresponding log entry is generated by enabling the logging mechanism. This parameter is only available with permit and deny.

protocol-type

The type of protocol used.

dst-host-any-dip

Specifies any destination host IP address.

dst-host-ip

Specifies the destination host IP address.

Usage Guidelines

GET, POST, PUT, PATCH, DELETE, OPTIONS, and HEAD operations are supported.

Examples

The following example uses the GET option to retrieve the source host IP address.

URI

http://host:443/restconf/data/brocade-ipv6-access-list:ipv6-acl/ipv6/access-list/standard=%name%/seq=%seq-id%/src-host-ip

Request Body

None

Response Body

```
<ipv6-acl xmlns="urn:brocade.com:mgmt:brocade-ipv6-access-list">
  <ipv6>
    <access-list>
      <standard>
        <name>%req_val%</name>
      </standard>
    </access-list>
  </ipv6>
</ipv6-acl>
```

The following example uses the POST option to configure a standard access list (rest1).

URI

http://host:443/restconf/data/brocade-ipv6-access-list:ipv6-acl/ipv6/access-list/standard=%name%/seq=%seq-id%/src-host-ip

Request Body

```
<standard><name>rest1</name></standard>
```

Response Body

None

The following example uses the DELETE option to remove a standard access list.

URI

http://host:443/restconf/data/brocade-ip-access-list:ip-acl/ip/access-list/standard=%name%

Request Body

None

Response Body

None

History

| Release version | History |
|-----------------|------------------------------------|
| 17r.2.00 | This RESTCONF call was introduced. |

node

Penalizes all links originating from the node IP address.

Resource URIs

| URI | Description |
|-------------------------------------|--|
| /restconf/data/brocade-node:node-id | Penalizes all links originating from the node IP address.. |

| POST URIs | Payload | Description |
|---|-----------|-----------------------------|
| /restconf/data/brocade-node:node-id=%node-id% | <node-id> | Configures sFlow collector. |

| DELETE URIs |
|---|
| /restconf/data/brocade-node:node-id=%node-id% |

Parameters

node-id

Specifies the the node ID.

Usage Guidelines

GET, POST, and DELETE operations are supported.

Examples

The following example uses the GET option to retrieve the configuration details.

URI

http://host:443/restconf/data/brocade-node:node-id=%node-id%

Request Body

None

Response Body

None

node

The following example uses the DELETE option to remove the sFlow sampling rate.

URI

http://host:443/restconf/data/brocade-node:node-id=%node-id%

Request Body

None

Response Body

None

History

| Release version | History |
|-----------------|------------------------------------|
| 17r.2.00 | This RESTCONF call was introduced. |

ntp

Configures, modifies, or retrieves NTP commands.

Resource URIs

| URI | Description |
|--------------------------------|-----------------|
| /restconf/data/brocade-ntp:ntp | Configures NTP. |

| GET URIs | Description |
|---|----------------------------------|
| /restconf/data/brocade-ntp:ntp | Displays NTP configuration. |
| /restconf/data/brocade-ntp:ntp/authentication-key | Displays authentication key. |
| /restconf/data/brocade-ntp:ntp/server | Displays NTP server information. |

| POST URIs | Payload | Description |
|---|--|---|
| /restconf/data/brocade-ntp:ntp/server | <server><ip>(ip-address)</ip><use-vrf>(vrf-name)</use-vrf></server> | Configures NTP server. |
| /restconf/data/brocade-ntp:ntp/authentication-key | <authentication-key><keyid>(unit32)</keyid><md5>{string}</md5></authentication-key> | Configures authentication key and MD5 message-digest algorithm. |
| /restconf/data/brocade-ntp:ntp/server | <server><ip>(ip-address)</ip><use-vrf>(vrf-name)</use-vrf><key>(unit32)</key></server> | Configures NTP server key. |
| /restconf/data/brocade-ntp:ntp/disable | <all> <server> | Disables the NTP server/client mode. Disabling the NTP server/client mode does not remove the configuration. |
| /restconf/data/brocade-ntp:ntp/authenticate | <key-id-1 > <key-id-2> <key-id-n> | This command enables or disables the NTP authentication at global level. If the authentication is enabled, the NTP packets from servers, peers, clients not having MAC is dropped. Only those servers/peers configured with key authentication is considered for time synchronization. Client requests only with authentication is served, whose key-IDs match with one of the trusted key-IDs. |
| /restconf/data/brocade-ntp:ntp/master | < key key-id > < use-vrf vrf-name > | Configures the device as an authoritative NTP Server. ntp master enables device to use its own clock to synchronize with peers/clients. This command is not effective, if the NTP is enabled in client-only mode. |
| /restconf/data/brocade-ntp:ntp/server | <ipv4 ipv6 > <vrf name > | Specifies or adds an NTP server IP address and optionally associates an authentication key to the server. |
| /restconf/data/brocade-ntp:ntp/trusted-key | <key-id-1 > <key-id-2> <key-id-n> | Configures additional subset of trusted key-IDs which can be used for NTP and client authentication. The keys |

| POST URIs | Payload | Description |
|-------------------------------------|----------------------------|---|
| | | configured for server/peer is implicitly considered as part of trusted keys. |
| /restconf/data/brocade-ntp:ntp/peer | <ipv4 ipv6 > <vrf name > | Configures the NTP peers and specify the peers to synchronize the system clock. Maximum 8 NTP peers can be configured |

| DELETE URIs |
|---|
| /restconf/data/brocade-ntp:ntp/server |
| /restconf/data/brocade-ntp:ntp/authentication-key |
| //restconf/data/brocade-ntp:ntp/source-ip |

Parameters

authentication-key

Configures authentication key parameters.

server

Configures NTP server parameters.

ip

Configures the source ip to be used for NTP.

keyid

Specifies authentication key ID. Valid range is from 0 to 65535.

use-vrf

Specifies the VRF to be used.

key

Specifies the key.

md5

Specifies a string for the MD5 message-digest algorithm. The string can be a maximum of 15 ASCII characters.

Usage Guidelines

GET, POST, PUT, PATCH, DELETE, OPTIONS, and HEAD operations are supported.

Examples

The following example uses the GET option to retrieve the configuration details.

URI

http://host:443/restconf/data/brocade-ntp:ntp/server

Request Body

None

Response Body

```
<server y:self="restconf/data/brocade-ntp:ntp/server/10.1.1.2%2Cmgmt-vrf">
  <ip>10.1.1.2</ip>
  <use-vrf>mgmt-vrf</use-vrf>
</server>
```

The following example uses the POST option to configure authentication-key.

URI

http://host:443/restconf/data/brocade-ntp:ntp/authenticate

Request Body

```
<authentication-key>
  <keyid>50</keyid>
  <md5>{teesting}</md5>
</authentication-key>
```

Response Body

The following example uses the DELETE option to remove NTP configuration.

URI

http://host:443/restconf/data/brocade-ntp:ntp/server

Request Body

None

Response Body

History

| Release version | History |
|-----------------|------------------------------------|
| 17r.2.00 | This RESTCONF call was introduced. |

router/isis

Configures IS-IS protocol.

Resource URIs

| URI | Description |
|---|----------------------------|
| /restconf/data/brocade-interface:interface/ethernet=%name%/ip/brocade-isis:intf-router-isis | Configures IS-IS protocol. |

| GET URIs | Description |
|---|--|
| /restconf/data/brocade-interface:interface/ethernet=%name%/ip/brocade-isis:intf-router-isis | Enables IS-IS. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/net=%net-cmd% | Defines NSAP address. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/auth-check/auth-check | Authenticate incoming PDUs for LSPs, CSNP, and PSNP. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/auth-check/auth-check-level1 | Authenticate incoming PDUs for Level-1 LSPs, CSNP, and PSNP. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/auth-check/auth-check-level1/auth-check-level1-disable | Disables authentication of incoming PDUs for Level-1 LSPs, CSNP, and PSNP. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/auth-check/auth-check-level2 | Authenticate incoming PDUs for Level-2 LSPs, CSNP, and PSNP. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/auth-check/auth-check-level2/auth-check-level2-disable | Disables the authenticate incoming PDUs for Level-2 LSPs, CSNP, and PSNP. |
| estconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/auth-mode | Define authentication mode. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/auth-mode/md5 | HMAC-MD5 authentication. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/auth-mode/md5/auth-mode-md5-level1 | Authentication mode for Level-1 LSPs, CSNP, and PSNP. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/auth-mode/md5/auth-mode-md5-level2 | Authentication mode for Level-2 LSPs, CSNP, and PSNP. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/auth-key | Define authentication key |
| /estconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/auth-key/auth-key-level1-str | Auth-key for Level-1 ISIS Router |
| /estconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/auth-key/auth-key-level2-str | Auth-key for Level-2 ISIS Router |

| GET URIs | Description |
|--|--|
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/csnp-interval | Rate of transmission of CSNPs |
| /estconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/disable-inc-stct-spf-opt | Disables Incremental Shortcut SPF Optimizations; resorts to Full SPF |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/disable-incremental-spf-opt | Disables Incremental SPF Optimizations; resorts to Full SPF |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/disable-partial-spf-opt | Disables Partial SPF Optimizations; resorts to Full SPF |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/fast-flood | Defines the number of LSPs to be flooded before SPF Run |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/fast-flood/fast-flood-value | The number of LSPs to be flooded before SPF Run. Range is 1-15; default is 4 |
| /estconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes//graceful-restart | Enables the ISIS graceful restart capability |
| /estconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes//graceful-restart/helper-disable | Disables Helper Mode |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/hostname | Integrated IS-IS dynamic hostname |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/hostname/disable | Disables integrated IS-IS dynamic hostname |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/is-type | Define inter-area/intra area operation mode |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/log | Enable Logging IS-IS activities |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/log / adjacency | Logging Adjacency Changes |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/log / invalid-lsp-packets | Logging Invalid LSP Packets |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/lsp-gen-interval | Minimum interval between regenerating same LSP |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/lsp-interval | Rate of transmission of LSPs |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/lsp-refresh-interval | LSP refresh interval |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/max-lsp-lifetime | Maximum LSP lifetime |

| GET URIs | Description |
|--|--|
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/nonstop-routing | Enables the ISIS nonstop routing capability |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/partial-spf-interval | Partial SPF Calculation Timers |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/partial-spf-interval/pspf-max-hold-time | Max hold time (msec) between two PSPF calculations. Range is 0-120000. Default is 5000. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/partial-spf-interval/pspf-init-delay | Initial delay (msec) between receiving a LSP change to PSPF calculation. Range is 0-120000. Default is 2000. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/partial-spf-interval/pspf-hold-time | Hold time (msec) between two PSPF calculations. 0-120000. Default is 5000 |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/retransmit-interval | Time between retransmission of LSP. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/set-debug | Enabling isis debug configuration. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/set-debug/nsr | Sets NSR debug. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/set-overload-bit | Configures a device to signal other devices not to use it as an intermediate hop in their shortest path first (SPF) calculations if an IS's resources are overloaded and are preventing the IS from properly performing IS-IS routing. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/set-overload-bit/on-startup | Set overload-bit only temporarily on reboot. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/spf-interval/level-1 | SPF calculation Timers |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/reverse-metric | Configure IS-IS reverse metric at the router level. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/reverse-metric/reverse_metric_tlv | Configure reverse metric TLV. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/reverse-metric/tlv-type | Configure reverse metric TLV type. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/reverse-metric/rev-metric-val | Configure IS-IS reverse metric value. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/reverse-metric/whole-lan | Change metric for whole LAN. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes/reverse-metric/te-def-metric | Update TE default metric sub-tlv. |

| GET URIs | Description |
|---|---|
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/address-family | Enter Address Family command mode. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/address-family/ipv4 | IPv4 address Family. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/address-family/ipv4/unicast | IPv4 unicast address Family. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/address-family/ipv4/af-ipv4-unicast/af-ipv4-attributes/metric-style | Use narrow or wide metric type. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/address-family/ipv4/af-ipv4-unicast/af-ipv4-attributes/metric-style/wide | Use new style of TLVs to carry wider metric. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/address-family/ipv4/af-ipv4-unicast/af-ipv4-attributes/metric-style/wide/level1 | Level-1 only. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/address-family/ipv4/af-ipv4-unicast/af-ipv4-attributes/metric-style/wide/metric-style-wide-level2 | Level-2 only. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/address-family/ipv4/af-ipv4-unicast/af-ipv4-attributes/summary-address=%summary-ip%,%summary-ip-mask% | Configure Integrated IS-IS address summaries |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/address-family/ipv4/af-ipv4-unicast/af-ipv4-attributes/summary-address=%summary-ip%,%summary-ip-mask%/summary-ip-level2 | Configure Integrated IS-IS address summaries. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/address-family/ipv4/af-ipv4-unicast/af-ipv4-attributes/ldp-sync | Enable LDP-SYNC on all eligible ISIS interfaces. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/address-family/ipv4/af-ipv4-unicast/af-ipv4-attributes/ldp-sync/hold-down | Length (in seconds) of hold-down timer. Range is 1-65535. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/address-family/ipv4/af-ipv4-unicast/af-ipv4-attributes/default-link-metric | Default Link Metric. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/address-family/ipv4/af-ipv4-unicast/af-ipv4-attributes/default-link-metric/level1 | Default Link Metric for Level-1. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/address-family/ipv4/af-ipv4-unicast/af-ipv4-attributes/default-link-metric/level2 | Default Link Metric for Level-2. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/address-family/ipv4/af-ipv4-unicast/af-ipv4-attributes/af-common-attributes/default-information-originate | Controls origination of default route. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/address-family/ipv4/af-ipv4-unicast/af-ipv4-attributes/af-common-attributes/default-information-originate/default-information-originate-route-map | Uses route map. |
| /restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/address-family/ipv4/af-ipv4-unicast/af-ipv4-attributes/af-common-attributes | Configures attributes for IPv4 address family. |

| GET URIs | Description |
|--|--|
| <code></restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/address-family/ipv4/af-ipv6-unicast/af-ipv6-attributes/af-common-attributes</code> | Configures attributes for IPv6 address family. |

| POST URIs | Payload | Description |
|---|---|--|
| <code>/restconf/data/brocade-interface:interface/ethernet=%name%/brocade-isis:interface-eth-isis-conf/intf-isis/interface-isis</code> | <code><interface-auth-key><interface-auth-key-level>%enumeration%</interface-auth-key-level><interface-auth-key-str>%string%</interface-auth-key-str></interface-auth-key></code> | Configures IS-IS Protocol (ISIS). |
| <code>/restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder</code> | <code><net><net-cmd>[net-cmd]</net-cmd></net></code> | Define NSAP address |
| <code>/restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes</code> | <code><fast-flood-value> {unit32} < /fast-flood-value ></code> | Define number of LSPs to be flooded before SPF Run |
| <code>/restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes</code> | <code><spf-interval><spf-interval-level>level-1</spf-interval-level><spf-interval-max-hold-time>{unit32}</spf-interval-max-hold-time><spf-interval-initial-delay>{unit32}</spf-interval-initial-delay><spf-interval-hold-time>{unit32}</spf-interval-hold-time></spf-interval></code> | SPF calculation Timers. |
| <code>/restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/address-family/ipv4/af-ipv4-unicast/af-ipv4-attributes</code> | <code><summary-address><summary-ip>[inet:ipv4-address]</summary-ip><summary-ip-mask>[inet:ipv4-address]</summary-ip-mask><Level-1>[enumeration]</Level-1></summary-address></code> | Configures Integrated IS-IS address summaries. |
| <code>/restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/address-family/ipv4/af-ipv6-unicast/af-ipv6-attributes</code> | <code><summary-prefix><summary-prefix-ipv6>[common-def:ipv6-address-prefix]</summary-prefix-ipv6><Level-1>true</Level-1></summary-prefix></code> | Configure Integrated IS-IS address summaries |

| DELETE URIs |
|---|
| <code>/restconf/data/brocade-interface:interface/ethernet=%name%/ip/brocade-isis:intf-router-isis</code> |
| <code>/restconf/data/brocade-interface:interface/ethernet=%name%/ip/brocade-isis:intf-router-isis/int-router-isis/interface-ip-router-isis</code> |
| <code>/restconf/data/brocade-interface:interface/ethernet=%name%/ipv6/brocade-isis:intf-ipv6-router-isis</code> |
| <code>/restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder</code> |
| <code>/restconf/data/brocade-common-def:routing-system/router/brocade-isis:isis/router-isis-cmds-holder/router-isis-attributes</code> |

Usage Guidelines

GET, POST, PUT, PATCH, DELETE, OPTIONS, and HEAD operations are supported.

Examples

The following example uses the GET option to retrieve the configuration details.

URI

http://host:443/rrestconf/data/brocade-interface:interface/ethernet=%name%/ip/brocade-isis:intf-router-isis/int-router-isis

Request Body

None

Response Body

The following is an example of the POST operation to configure an IS-IS network entity title (NET) for the routing process.

URI

http://host:443/restconf/data/brocade-interface:interface/ethernet=%name%/ip/brocade-isis:intf-router-isis/int-router-isis

Request Body

```
<net><net-cmd>01.1111.1111.1111.00</net-cmd></net>
```

Response Body

None

The following is an example of the DELETE operation to remove IS-IS configuration.

URI

http://host:443/restconf/data/brocade-interface:interface/ethernet=%name%/ip/brocade-isis:intf-router-isis/int-router-isis

Request Body

None

Response Body

None

History

| Release version | History |
|-----------------|------------------------------------|
| 17r.2.00 | This RESTCONF call was introduced. |

rmon

Configures, modifies, or retrieves Remote Monitoring Protocol (RMON) information.

Resource URIs

| URI | Description |
|----------------------------------|------------------------------------|
| /restconf/data/brocade-rmon:rmon | Remote Monitoring Protocol (RMON). |

| GET URIs | Description |
|--|------------------------------------|
| /restconf/data/brocade-rmon:rmon | Remote Monitoring Protocol (RMON). |
| /restconf/data/brocade-rmon:rmon/event-entry=%event-index%/event-description | Retrieves event description. |
| /restconf/data/brocade-rmon:rmon/event-entry=%event-index%/log | Retrieves logged events. |
| /restconf/data/brocade-rmon:rmon/event-entry=%event-index%/event-owner | Retrieves event owner identity. |
| /restconf/data/brocade-rmon:rmon/alarm-entry=%alarm-index%/alarm-owner | Retrieves alarm owner identity. |

| POST URIs | Payload | Description |
|----------------------------------|--|------------------------|
| /restconf/data/brocade-rmon:rmon | <event><event-index>(int32)</event-index></event> | Configures RMON event. |
| /restconf/data/brocade-rmon:rmon | <alarm><alarm-index>(int32)</alarm-index><snmp-oid>(string)</snmp-oid><interval>(int32)</interval><type>(string)</type><rising-threshold>(uint32)</rising-threshold><event>(int32)</event></alarm> | Configures RMON alarm. |

| PATCH URIs | Payload | Description |
|--|--|-------------------------------------|
| /restconf/data/brocade-rmon:rmon/event-entry=%event-index% | <event><description>(string)</description></event> | Configures RMON event description. |
| /restconf/data/brocade-rmon:rmon/event-entry=%event-index% | <event><log>(string)</log></event> | Configures event log. |
| /restconf/data/brocade-rmon:rmon/event-entry=%event-index% | <event><trap>(string)</trap></event> | Configures event trap. |
| /restconf/data/brocade-rmon:rmon/event-entry=%event-index% | <event><owner>(string)</owner></event> | Configures event owner. |
| /restconf/data/brocade-rmon:rmon/event-entry=%event-index% | <alarm><snmp-oid>(string)</snmp-oid><interval>(int32)</interval><type>(string)</type><rising-threshold>(uint32)</rising-threshold><event>(int32)</event></alarm> | Configures RMON alarm. |
| /restconf/data/brocade-rmon:rmon/event-entry=%event-index% | <alarm><falling-threshold>(uint32)</falling-threshold><event>(int32)</event></alarm> | Configures alarm falling threshold. |
| /restconf/data/brocade-rmon:rmon/event-entry=%event-index% | <alarm><owner>(string)</owner></alarm> | Configures alarm owner. |

| DELETE URIs |
|---|
| /restconf/data/brocade-rmon:rmon/event-entry=%event-index% |
| /restconf/data/brocade-rmon:rmon/alarm-entry=%alarm-index% |
| /restconf/data/brocade-interface:interface/ethernet=%name%/brocade-rmon:rmon/collection/ether-stats-entry=%ether-stats-index% |
| /restconf/data/brocade-interface:interface/ethernet=%name%/brocade-rmon:rmon/collection/history-control-entry=%history-control-index% |

Parameters

alarm-index

Configures RMON alarm. The range is from 1 to 65535.

rising-threshold

Configures rising threshold. The range is from 0 to 4294967295.

falling-threshold

Configures falling threshold. The range is from 0 to 4294967295.

snmp-oid

Configures SNMP OID.

interval

Configures alarm sample interval.

event-index

Configures RMON event. The range is from 1 to 65535.

Usage Guidelines

GET, PUT, PATCH, DELETE, OPTIONS, and HEAD operations are supported.

Examples

The following example uses the GET option to retrieve the configuration details.

URI

http://host:443/restconf/data/brocade-rmon:rmon/event-entry=%event-index%/event-description

Request Body

None

Response Body

```
<rmon xmlns="urn:brocade.com:mgmt:brocade-rmon">
  <event-entry>
    <event-index>%req_val%</event-index>
    <event-community/>
  </event-entry>
</rmon>
```

The following example uses the POST option to configure alarm.

URI

http://host:443/restconf/data/brocade-rmon:rmon

Request Body

```
<alarm>
  <alarm-index>100</alarm-index>
  <snmp-oid>1.3.6.1.2.1.16.1.1.1.5.65535</snmp-oid>
  <interval>10</interval>
  <type>absolute</type>
  <rising-threshold>10000</rising-threshold>
  <event>100</event>
</alarm>
```

Response Body

None

The following example uses the DELETE option to remove RMON event.

URI

http://host:443/restconf/data/brocade-rmon:rmon/event-entry=%event-index%/event-description

Request Body

None

Response Body

None

History

| Release version | History |
|-----------------|------------------------------------|
| 17r.2.00 | This RESTCONF call was introduced. |

sflow

Configures, modifies, or retrieves sFlow configuration.

Resource URIs

| URI | Description |
|------------------------------------|----------------------|
| /restconf/data/brocade-sflow:sflow | sFlow configuration. |

| GET URIs | Description |
|---|---|
| /restconf/data/brocade-sflow:sflow | Retrieves sFlow configuration. |
| /restconf/data/brocade-sflow:sflow/agent-address | Retrieves sFlow agent-ID address. |
| /restconf/data/brocade-sflow:sflow/enable | Retrieves if sFlow is enabled globally or not. |
| /config/running/sflow/source-interface | Retrieves sFlow source IP interface. |
| /restconf/data/brocade-sflow:sflow/agent-address/agent-interface-name | Retrieves the sFlow interface information. |
| /restconf/data/brocade-sflow:sflow/collector=%collector-ip-address%/%collector-port-number%/%use-vrf% | Retrieves sFlow collector configuration. |
| /restconf/data/brocade-interface:interface/ethernet=%name%/brocade-sflow:sflow/polling-interval | Retrieves interface counter polling interval details. |
| /restconf/data/brocade-interface:interface/ethernet=%name%/brocade-sflow:sflow/sample-rate | Retrieves interface sampling rate. |

| POST URIs | Payload | Description |
|------------------------------------|--|-----------------------------|
| /restconf/data/brocade-sflow:sflow | <collector><collector-ip-address>{inet:ip-address}</collector-ip-address><collector-port-number>{uint32}</collector-port-number><use-vrf>{common-def:vrf-name}</use-vrf></collector> | Configures sFlow collector. |

| PATCH URIs | Payload | Description |
|---|--|------------------------------------|
| /restconf/data/brocade-sflow:sflow | <sflow><enable>true</enable></sflow> | Enables sFlow. |
| /restconf/data/brocade-sflow:sflow/agent-address/agent-interface-name | <source-interface><interface-type>{source-interface-type}</interface-type><interface-name>{loopback:intf-loopback-port-type}</interface-name></source-interface> | Configures sFlow source interface. |
| /restconf/data/brocade-interface:interface/ethernet=%name%/brocade-sflow:sflow/polling-interval | <sflow><polling-interval>{uint32}</polling-interval></sflow> | Configures sFlow polling interval. |
| /restconf/data/brocade-interface:interface/ethernet=%name%/brocade-sflow:sflow/sample-rate | <sflow><sample-rate>{uint32}</sample-rate></sflow> | Configures sFlow sampling rate. |

| PUT URIs | Payload | Description |
|---|---|------------------------------------|
| /restconf/data/brocade-sflow:sflow | <sflow><enable>true</enable></sflow> | Enables sFlow. |
| /restconf/data/brocade-sflow:sflow/agent-address/agent-interface-name | <source-interface><interface-type>{source-interface-type}</interface-type><interface- | Configures sFlow source interface. |

| PUT URIs | Payload | Description |
|--|---|------------------------------------|
| | <code>name>[loopback:intf-loopback-port-type]</interface-name></source-interface></code> | |
| <code>/restconf/data/brocade-interface:interface/ethernet=%name%/brocade-sflow:sflow/polling-interval</code> | <code><sflow><polling-interval>{uint32}</polling-interval></sflow></code> | Configures sFlow polling interval. |
| <code>/restconf/data/brocade-interface:interface/ethernet=%name%/brocade-sflow:sflow/sample-rate</code> | <code><sflow><sample-rate>{uint32}</sample-rate></sflow></code> | Configures sFlow sampling rate. |

| DELETE URIs |
|--|
| <code>/restconf/data/brocade-sflow:sflow/enable</code> |
| <code>/restconf/data/brocade-sflow:sflow/agent-address</code> |
| <code>/restconf/data/brocade-sflow:sflow/source-interface</code> |
| <code>/restconf/data/brocade-interface:interface/ethernet=%name%/brocade-sflow:sflow/polling-interval</code> |
| <code>/restconf/data/brocade-interface:interface/ethernet=%name%/brocade-sflow:sflow/sample-rate</code> |

Parameters

collector-ip-address

Specifies the IP address of the sFlow collector.

collector-port-number

Specifies the port number used by the sFlow collector. The value can range from 1 through 65535.

use-vrf

VRF to use for sending data to the collector (default = mgmt-vrf).

source-ip

Specifies the source IP address to use.

polling-interval

Specifies polling interval value. The value can range from 1 through 65535. The default value is 20.

sample-rate

Specifies sampling rate value. The value can range from 2 through 16777215. The default value is 32768.

Usage Guidelines

GET, POST, PUT, PATCH, DELETE, OPTIONS, and HEAD operations are supported.

Examples

The following example uses the GET option to retrieve the configuration details.

URI

http://host:443/restconf/data/brocade-sflow:sflow/enable

Request Body

None

Response Body

The following example uses the POST option to configure sFlow collector.

URI

http://host:443/restconf/data/brocade-sflow:sflow

Request Body

```
<collector>
  <collector-ip-address>fdd1:a123:b123:c123:112:1:1:2</collector-ip-address>
  <collector-port-number>6343</collector-port-number>
  <use-vrf>default-vrf</use-vrf>
</collector>
```

Response Body

None

The following example uses the DELETE option to remove the sFlow sampling rate.

URI

http://host:443/restconf/data/brocade-sflow:sflow/sample-rate

Request Body

None

Response Body

None

History

| Release version | History |
|-----------------|------------------------------------|
| 17r.2.00 | This RESTCONF call was introduced. |

topology-group

Configures topology VLAN group for L2 protocols.

Resource URIs

| URI | Description |
|--|--|
| /brocade-topology-group:topology-group | Configures topology vlan group for L2 protocols. |

| GET URIs | Description |
|---|--|
| /restconf/data/brocade-topology-group:topology-group | Retrieves topology group configuration details. |
| /restconf/data/brocade-topology-group:topology-group=%topology-group-id% | Retrieves information for a particular topology group. |
| /restconf/data/brocade-topology-group:topology-group=%topology-group-id%}/master-vlan | Retrieves information about master VLAN. |
| /restconf/data/brocade-topology-group:topology-group=%topology-group-id%}/member-vlan | Retrieves information about member VLAN. |

| POST URIs | Payload | Description |
|---|--|----------------------------|
| restconf/data/brocade-topology-group:topology-group | <topology-group><topology-group-id>(unit32)</topology-group-id></topology-group> | Configures topology group. |

| PATCH URIs | Payload | Description |
|--|--|-------------------------|
| /restconf/data/brocade-topology-group:topology-group=%topology-group-id%}/master-vlan | <master-vlan>(unit32)</master-vlan> | Configures master VLAN. |
| /restconf/data/brocade-topology-group:topology-group=%topology-group-id%}/member-vlan | <member-vlan><add>(unit32)</add></member-vlan> | Adds member VLAN. |
| /restconf/data/brocade-topology-group:topology-group=%topology-group-id%}/member-vlan | <member-vlan><remove>(unit32)</remove></member-vlan> | Removes member VLAN. |
| /restconf/data/brocade-topology-group:topology-group=%topology-group-id%}/member-vlan-remove | <remove>(unit32)</remove> | Removes member VLAN. |

| PUT URIs | Payload | Description |
|---|--|-------------------------|
| /restconf/data/brocade-topology-group:topology-group=%topology-group-id%}/master-vlan | <master-vlan>(unit32)</master-vlan> | Configures master VLAN. |
| /restconf/data/brocade-topology-group:topology-group=%topology-group-id%}/member-vlan | <member-vlan><add>(unit32)</add></member-vlan> | Adds member VLAN. |
| /restconf/data/brocade-topology-group:topology-group=%topology-group-id%}/member-bridge-domain/member-bridge-domain-add | <add>(unit32)</add> | Removes member VLAN. |

| PUT URIs | Payload | Description |
|---|---------------------------|----------------------|
| /restconf/data/brocade-topology-group:topology-group=%topology-group-id%/member-vlan-remove | <remove>(unit32)</remove> | Removes member VLAN. |

| DELETE URIs |
|--|
| /restconf/data/brocade-topology-group:topology-group=%topology-group-id% |

Parameters

group-id

Specifies topology group ID.

member-vlan

Configures member VLANs.

master-vlan

Configures master VLANs.

Usage Guidelines

GET, POST, PUT, PATCH, DELETE, OPTIONS, and HEAD operations are supported.

Examples

The following example uses the GET option to retrieve the configuration details.

URI

http://host:443/restconf/data/brocade-topology-group:topology-group=%topology-group-id%/member-vlan

Request Body

```
<topology-group>
  <topology-group-id>1</topology-group-id>
</topology-group>
```

Response Body

None

The following example uses the DELETE option to remove Topology group master VLAN.

URI

http://host:443/restconf/data/brocade-topology-group:topology-group=%topology-group-id%

Request Body

None

Response Body

None

History

| Release version | History |
|-----------------|------------------------------------|
| 17r.2.00 | This RESTCONF call was introduced. |

uda-access-list

Creates a user-defined ACL (UDA).

Resource URIs

| URI | Description |
|--|-----------------------------|
| /restconf/data/brocade-uda-access-list:uda/access-list | Creates a user-defined ACL. |

| GET URIs | Description |
|---|---|
| /restconf/data/brocade-interface:interface/ethernet=%name%/brocade-uda-access-list:uda/access-group | Displays a user-defined ACL to traffic entering an interface. |
| /restconf/data/brocade-uda-access-list:uda/access-list | Displays a user-defined ACL. |
| /restconf/data/brocade-uda-access-list:uda-key/profile | Creates a user-defined ACL profile. |

| POST URIs | Payload | Description |
|--|--|---|
| /restconf/data/brocade-uda-access-list:uda/access-list | <uda-acl-name> | Creates a user-defined ACL (UDA). |
| /restconf/data/brocade-uda-access-list:uda/access-list/extended=%name% | <extended><name>{name}</name></extended> | Creates an extended ACL. Extended ACLs contain rules that permit or deny traffic according to source and destination addresses. |
| /restconf/data/brocade-uda-access-list:uda/access-list/standard=%name% | <standard><name>{name}</name></standard> | Creates an ACL name unique among all ACLs (Layer 2, Layer 3, and UDAs). |

| DELETE URIs |
|---|
| /restconf/data/brocade-uda-access-list:uda/access-list/extended=%name% |
| restconf/data/brocade-uda-access-list:uda/access-list/extended=%name%/uda-acl-ext/seq=%seq-id% |
| /restconf/data/brocade-interface:interface/ethernet=%name%/brocade-uda-access-list:uda |
| /uda/access-group/%uda-access-list%/%uda-direction% |
| /restconf/data/brocade-interface:interface/ethernet=%name%/brocade-uda-access-list:uda/access-group=%uda-access-list%,%uda-direction% |
| /restconf/data/brocade-interface:interface/port-channel=%name%/brocade-uda-access-list:uda/access-group=%uda-access-list%,%uda-direction% |
| /restconf/data/brocade-uda-access-list:uda-key/profile=%name% |
| /restconf/data/brocade-interface:interface/ethernet=%name%/brocade-uda-access-list:offsets-container |

Parameters

Usage Guidelines

GET, POST, PUT, PATCH, DELETE, OPTIONS, and HEAD operations are supported.

Examples

The following example uses the GET option to retrieve the configuration details.

URI

http://host:443/restconf/data/brocade-interface:interface/ethernet=%name%/brocade-uda-access-list:uda

Request Body

None

Response Body

None

The following is an example of the POST operation.

URI

http://host:443/restconf/data/brocade-uda-access-list:uda-key

Request Body

None

Response Body

None

The following is an example of the DELETE operation.

URI

http://host:443/rest/config/running/interface/Ethernet/%name%/uda-profile-apply

Request Body

None

Response Body

None

History

| Release version | History |
|-----------------|------------------------------------|
| 17r.2.00 | This RESTCONF call was introduced. |

vrf

Configures, modifies, or retrieves VRF configurations.

Resource URIs

| URI | Description |
|--------------------------------|---------------------|
| /restconf/data/brocade-vrf:vrf | VRF configurations. |

| GET URIs | Description |
|---|---|
| /restconf/data/brocade-vrf:vrf | VRF configurations. |
| /data/brocade-vrf:vrf=%vrf-name%/address-family/ip/unicast | Retrieves IPv4 address family configurations. |
| /restconf/data/brocade-vrf:vrf=%vrf-name%/address-family/ip/unicast/max-route | Retrieves IPv4 address family max route. |
| /restconf/data/brocade-vrf:vrf=%vrf-name%/address-family/ipv6/unicast | Retrieves IPv6 address family configurations. |
| /restconf/data/brocade-vrf:vrf=%vrf-name%/address-family/ipv6/unicast/max-route | Retrieves IPv6 address family max route. |
| /restconf/data/brocade-vrf:vrf=%vrf-name%/address-family/ip/unicast/import | Imports a map. |
| /restconf/data/brocade-vrf:vrf=%vrf-name%/address-family/ip/unicast/export | Exports a map. |
| /restconf/data/brocade-vrf:vrf=%vrf-name%/ip/vrf-router-id | Retrieves IP route details. |

| POST URIs | Payload | Description |
|--|-------------------|---|
| /restconf/data/brocade-vrf:vrf | <vrf>(name)</vrf> | Configures VRF. |
| /restconf/data/brocade-vrf:vrf=%vrf-name%/address-family/ipv4 | <unicast /> | Configures unicast IPv4 address family. |
| /restconf/data/brocade-vrf:vrf=%vrf-name%/address-family//ipv6 | <unicast /> | Configures unicast IPv6 address family. |

| PUT URIs | Payload | Description |
|---|-------------------------------------|---|
| /restconf/data/brocade-vrf:vrf=%vrf-name%/ip/vrf-router-id | <router-id>(ip-address)</router-id> | Configures IP route. |
| /restconf/data/brocade-vrf:vrf=%vrf-name%/address-family/ip/unicast/max-route | <max-route>(unit32)</max-route> | Configures unicast IPv4 address family max-route. |
| /restconf/data/brocade-vrf:vrf=%vrf-name%/address-family/ipv6/unicast/max-route | <max-route>(unit32)</max-route> | Configures unicast IPv6 address family max route. |

| DELETE URIs |
|---|
| /restconf/data/brocade-vrf:vrf=%vrf-name% |
| /data/brocade-vrf:vrf=%vrf-name%/address-family/ip/unicast |
| /restconf/data/brocade-vrf:vrf=%vrf-name%/address-family/ip/unicast/max-route |
| /restconf/data/brocade-vrf:vrf=%vrf-name%/address-family/ipv6/unicast |

Parameters

| | |
|------------------|---|
| <i>vrf-name</i> | Specifies the VRF name. |
| <i>rd</i> | Specifies the ASN number. |
| <i>max-route</i> | Specifies the maximum number of routes. |
| <i>router-id</i> | Specifies IP address. |

Usage Guidelines

GET, POST, PUT, PATCH, DELETE, OPTIONS, and HEAD operations are supported.

Examples

The following example uses the GET option to retrieve the configuration details.

URI

http://host:443/rrestconf/data/brocade-vrf.vrf

Request Body

None

Response Body

```
<vrf xmlns="urn:brocade.com:mgmt:brocade-vrf">
  <vrf-name>%req_val%</vrf-name>
  <address-family>
    <ip>
      <unicast>
        <max-route/>
      </unicast>
    </ip>
  </address-family>
</vrf>
```

The following is an example of the POST operation to add a VRF.

URI

http://host:443/restconf/data/brocade-vrf:vrf

Request Body

```
<vrf>vrf1</vrf>
```

Response Body

None

The following is an example of the DELETE operation to remove a VRF.

URI

http://host:443/restconf/data/brocade-vrf:vrf/vrf-name

Request Body

None

Response Body

None

History

| Release version | History |
|-----------------|------------------------------------|
| 17r.2.00 | This RESTCONF call was introduced. |