

# Extreme SLX-OS RESTCONF Guide, 17r.2.01a

Supporting the ExtremeRouting SLX 9850 and  
ExtremeSwitching SLX 9540 Devices

© 2018, Extreme Networks, Inc. All Rights Reserved.

Extreme Networks and the Extreme Networks logo are trademarks or registered trademarks of Extreme Networks, Inc. in the United States and/or other countries. All other names are the property of their respective owners. For additional information on Extreme Networks Trademarks please see [www.extremenetworks.com/company/legal/trademarks](http://www.extremenetworks.com/company/legal/trademarks). Specifications and product availability are subject to change without notice.

# Contents

---

<b>Preface</b> .....	<b>5</b>
Document conventions.....	5
Notes, cautions, and warnings.....	5
Text formatting conventions.....	5
Command syntax conventions.....	6
Extreme resources.....	6
Document feedback.....	6
Contacting Extreme Technical Support.....	7
<b>About This Document</b> .....	<b>9</b>
Supported hardware and software.....	9
Interface module capabilities.....	9
What's new in this document.....	10
<b>Extreme SLX-OS RESTCONF</b> .....	<b>11</b>
About RESTCONF.....	11
Before you begin .....	12
Logging in and out.....	12
Base URI.....	12
Data.....	12
YANG-library version.....	13
Operations resource.....	13
Transport protocol requirements.....	13
URI.....	14
Operations.....	14
POST Method.....	14
PUT Method.....	15
PATCH Method.....	16
DELETE Method.....	17
XML representation.....	17
JSON representation.....	18
Media types.....	19
Capabilities.....	19
Schema resources.....	19
Yang module retrieval.....	20
Query parameter.....	21
Root resource discovery.....	22
Error Reporting and Response Messages.....	22
<b>Configuration RESTCONFs</b> .....	<b>25</b>
aaa/accounting.....	25
aaa/authentication.....	28
acl-policy.....	31
arp.....	34
bridge-domain.....	36
chassis.....	40
clock.....	43
control-plane.....	45

dot1x.....	47
ip/access-list.....	50
ipv6/access-list.....	53
node.....	57
ntp.....	59
router/isis.....	62
rmon.....	68
sflow.....	71
topology-group.....	75
uda-access-list.....	78
vrf.....	80

# Preface

---

- Document conventions..... 5
- Extreme resources..... 6
- Document feedback..... 6
- Contacting Extreme Technical Support..... 7

## 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
<b>bold text</b>	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
<b>bold text</b>	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](http://www.extremenetworks.com). Product documentation for all supported releases is available to registered users at [www.extremenetworks.com/support/documentation](http://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 <https://www.extremenetworks.com/documentation-feedback/>.
- Email us at [documentation@extremenetworks.com](mailto:documentation@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](http://www.extremenetworks.com/support/contact).
  - Email: [support@extremenetworks.com](mailto: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





# About This Document

- Supported hardware and software.....9
- What's new in this document..... 10

## Supported hardware and software

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 and which are not.

Although many different software and hardware configurations are tested and supported by Extreme Networks for SLX-OS Release 17r.2.01, 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
- 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

This document is released in conjunction with SLX-OS 17r.2.01a.

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.

For the complete list of supported features and the summary of enhancements and configuration notes for this release, refer to the Extreme SLX-OS Release Notes.

# Extreme SLX-OS RESTCONF

---

• About RESTCONF.....	11
• Before you begin .....	12
• Logging in and out.....	12
• Base URI.....	12
• Data.....	12
• YANG-library version.....	13
• Operations resource.....	13
• Transport protocol requirements.....	13
• URI.....	14
• Operations.....	14
• XML representation.....	17
• JSON representation.....	18
• Media types.....	19
• Capabilities.....	19
• Schema resources.....	19
• Yang module retrieval.....	20
• Query parameter.....	21
• Root resource discovery.....	22
• Error Reporting and Response Messages.....	22

## 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
<	&lt;	less than
>	&gt;	greater than
&	&amp;	ampersand
'	&apos;	apostrophe
"	&quot;	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 2 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

- aaa/accounting.....25
- aaa/authentication.....28
- acl-policy.....31
- arp.....34
- bridge-domain.....36
- chassis.....40
- clock.....43
- control-plane.....45
- dot1x.....47
- ip/access-list.....50
- ipv6/access-list.....53
- node.....57
- ntp.....59
- router/isis.....62
- rmon.....68
- sflow.....71
- topology-group.....75
- uda-access-list.....78
- vrf.....80

## 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:

<b>None</b>	Disables login accounting.
<b>tacacs+</b>	Configures to use TACACS+ server.
<b>radius</b>	Configures to use radius server.
<b>exec</b>	Login accounting.
<b>default</b>	Sends the logged information to the default server.
<b>start-stop</b>	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.
<b>server-type</b>	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

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
</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	Configures attributes for IPv6 address family.

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

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

## 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&gt;[loopback:intf-loopback-port-type]&lt;/interface-name&gt;&lt;/source-interface&gt;</code>	
<code>/restconf/data/brocade-interface:interface/ethernet=%name%/brocade-sflow:sflow/polling-interval</code>	<code>&lt;sflow&gt;&lt;polling-interval&gt;{uint32}&lt;/polling-interval&gt;&lt;/sflow&gt;</code>	Configures sFlow polling interval.
<code>/restconf/data/brocade-interface:interface/ethernet=%name%/brocade-sflow:sflow/sample-rate</code>	<code>&lt;sflow&gt;&lt;sample-rate&gt;{uint32}&lt;/sample-rate&gt;&lt;/sflow&gt;</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.