Pluribus Netvisor ONE

Version 5.2.1 - Command Reference P-Z

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P Commands

pager

Syntax `pager on|off`

Defaults None

Access CLI

History Command introduced in nvOS Version 1.2.1.

Usage This command is used to paginate long show output in the CLI.

Examples To set the pagination to on, use the following command:

```
CLI network-admin@switch > pager on
```

ping

This command is used to verify connectivity on the network.

Syntax `ping [-s] host`

Defaults None.

Access CLI

History Command introduced in nvOS Version 1.2.1

Usage Ping another device on the network to ensure connectivity on the network.

Examples Ping 192.10.10.1 using the following syntax:

```
CLI network-admin@switch > ping 192.10.10.1

192.10.1.1 is alive
```

or

```
CLI network-admin@switch > ping 10.9.9.1
PING 10.9.9.1 (10.9.9.1) 56(84) bytes of data.
64 bytes from 10.9.9.1: icmp_seq=1 ttl=255 time=0.229 ms
64 bytes from 10.9.9.1: icmp_seq=2 ttl=255 time=0.224 ms
64 bytes from 10.9.9.1: icmp_seq=3 ttl=255 time=0.248 ms
64 bytes from 10.9.9.1: icmp_seq=4 ttl=255 time=0.164 ms
64 bytes from 10.9.9.1: icmp_seq=5 ttl=255 time=0.123 ms
64 bytes from 10.9.9.1: icmp_seq=6 ttl=255 time=0.180 ms
64 bytes from 10.9.9.1: icmp_seq=7 ttl=255 time=0.121 ms
64 bytes from 10.9.9.1: icmp_seq=8 ttl=255 time=0.160 ms
64 bytes from 10.9.9.1: icmp_seq=9 ttl=255 time=0.149 ms
64 bytes from 10.9.9.1: icmp_seq=10 ttl=255 time=0.164 ms
```

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pn-script-run

Netvisor ONE version 5.1.0 provides the ability to run shell commands or scripts using a REST API or through CLI commands. As a network administrator or as an admin user, you can run the scripts from the directories /opt/nvOS/bin/pn-scripts directory for packaged scripts or /usr/bin/pn-scripts directory for custom scripts, as Netvisor delivers all files as part of pn-upgrade agent package.

Syntax `pn-script-run`

name *name-string*	Specify the name of the script.

Defaults None.

Access CLI

History Command introduced in Version 5.1.0

Usage Run built-in or user scripts on a switch.

Example To run a built-in script, use the following syntax:

```
CLI network-admin@switch01> pn-script-run name testscript.sh
```

pn-script-show

Syntax `pn-script-show`

name *name-string*	Specify the name of the script.

Defaults None.

Access CLI

History Command introduced in Version 5.1.0

Usage Displays built-in or user scripts on a switch.

Example To display built-in scripts, use the following syntax:

```
CLI network-admin@switch > pn-script-show

  switch: pn-lab1
  pn-lab1: /opt/nvOS/bin/pn-scripts/:
  testscript.sh
  pn-testscript.sh
```

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port-association-create

This command is used to create port associations and assign policies to them. Port association groups are used to enable switch failover. It requires a 10G link between two switches.

> **Caution**!Using the virtual-wire parameter places the switch into the Virtual Wire mode and disables other features on the switch. This parameter requires a license. Please contact your sales person or local partner for more information.

Syntax `port-association-create`

`name` *`name-string`*	Specify a name for the port association.
`master-ports` *`port-list`*	Specify a list of ports to act as master ports.
`slave-ports` *`port-list`*	Specify a list of ports to act as slave ports.
`virtual-wire|no-virtual-wire`	Specify if you want the associated ports to form a "virtual wire". Once you put the switch into virtual wire mode, you disable all other features on the switch.
`bidir|no-bidir`	Specify if you want the port state tracking to be bi-directional or not.
`policy all-masters|any-master`	Specify a policy for the port association. The default is `all-masters`.
`monitor-ports` *`port-list`*	Specify a list of ports not used by port association to monitor.
`enable|no-enable`	Specify if you want to enable port association in hardware.

Defaults None

Access CLI

History

Version 2.2.6	Command introduced.
Version 2.4	The parameter, `virtual-wire`, and `bidir` added.
Version 2.5.2	The parameter, `monitor-ports` *`port-list`*, added.
Version 3.0.0	The parameter, `enable`, added.

Usage Use this command to create port associations.

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Examples To create a port association, ports-assoc, with a master port list of ports 11-12, and slave port list of 45-46, use the following command:

```
CLI network-admin@switch > port-association-create name ports-assoc
master-ports 11-12 slave-ports 45-46
```

port-association-delete

This command is used to delete port associations.

Syntax `port-association-delete name name-string`

Defaults None

Access CLI

History Command added in Version 2.2.6.

Usage Use this command to delete port associations.

Examples To delete a port association, ports-assoc, use the following command:

```
CLI network-admin@switch > port-association-delete name ports-assoc
```

port-association-modify

This command is used to modify port associations.

Syntax `port-association-modify`

name *name-string*	Specify a name for the port association.
Specify one or more of the following options:	
master-ports *port-list*	Specify a list of ports to act as master ports.
slave-ports *port-list*	Specify a list of ports to act as slave ports.
policy all-masters|any-master	Specify a policy for the port association. The default is `all-masters`.
virtual-wire|no-virtual-wire	Specify if you want the associated ports to form a "virtual wire". Once you put the switch into virtual wire mode, you disable all other features on the switch.
bidir|no-bidir	Specify if you want the port state tracking to be bi-directional or not.
monitor-ports *port-list*	Specify a list of ports not used by port association to monitor.
enable|no-enable	Specify if you want to enable port association in hardware.

Defaults None

Access CLI

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History

Version 2.2.6	Command introduced.
Version 2.4	The parameter, `virtual-wire`, and `bidir` added.
Version 2.5.2	The parameter, `monitor-ports` *`port-list`*, added.
Version 3.0.0	The parameter, `enable`, added.

Usage Use this command to modify port associations.

Examples To modify a port association, ports-assoc, and change the slave port list to 71-72, use the following command:

```
CLI network-admin@switch > port-association-modify name ports-assoc
slave-ports 71-72
```

port-association-show

Use this command to display port associations.

Syntax `port-association-show`

`name` *`name-string`*	Specify a name for the port association.
`master-ports` *`port-list`*	Specify a list of ports to act as master ports.
`slave-ports` *`port-list`*	Specify a list of ports to act as slave ports.
`policy all-masters|any-master`	Specify a policy for the port association.
`virtual-wire|no-virtual-wire`	Specify if you want the associated ports to form a "virtual wire". Once you put the switch into virtual wire mode, you disable all other features on the switch.
`bidir|no-bidir`	Specify if you want the port state tracking to be bi-directional or not.
`monitor-ports` *`port-list`*	Specify a list of ports not used by port association to monitor.
`enable|no-enable`	Specify if you want to enable port association in hardware.

Defaults None

Access CLI

History

Version 2.2.6	Command introduced.
Version 2.4	The parameter, `virtual-wire`, and `bidir` added.
Version 2.5.2	The parameter, `monitor-ports` *`port-list`*, added.

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Version 3.0.0	The parameter, `enable`, added.

Usage Use this command to display port associations.

Examples To display a port association, ports-assoc, with a master port list of ports 11-12, and slave port list of 45-46, use the following command:

```
CLI network-admin@switch > port-association-show name ports-assoc
```

port-association-service-add

The Inline Service feature manages service chains for Layer 1 Virtual Wire switches. The term, Inline Services, refers to services attached to a Layer 1 Virtual Wire switch such as Next-Generation Firewall (NGFW), Intrusion Detection System (IDS), Intrusion Prevention System (IPS), and Distributed Denial of Service attack (DDoS) Prevention.

When an Inline Service fails, a policy determines if traffic is allowed to bypass the Inline Services or if the traffic is blocked until the Inline Services recovers.

This command is used to add a port association service.

Syntax `port-association-service-add`

`port-association-name` *`name-string`*	Displays the name of the port association to apply the service.
`switch` *`name-string`*	Displays the switch name where the service is located.
`inline-service` *`inline-service-name`*	Displays the name of the Inline Service.
`order` *`number`*	Displays a number to designate the order of the service. This is a value between 1 and 65535
`policy-action fail-open|fail-closed`	Displays a policy action when the service fails on the network.

Defaults None

Access Network Administrator

History Command introduced in Version 2.6.0.

Usage Use this command to add a port association service.

Examples To add a port association service on leaf1, inline-service, NGFW, order 1, and fail-policy fail-open, use the following syntax:

```
CLI network-admin@switch > port-association-service-add port-association-name CHAIN switch leaf1 inline-service NGFW order 1 fail-policy fail-open
```

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port-association-service-modify

The Inline Service feature manages service chains for Layer 1 Virtual Wire switches. The term, Inline Services, refers to services attached to a Layer 1 Virtual Wire switch such as Next-Generation Firewall (NGFW), Intrusion Detection System (IDS), Intrusion Prevention System (IPS), and Distributed Denial of Service attack (DDoS) Prevention.

When an Inline Service fails, a policy determines if traffic is allowed to bypass the Inline Services or if the traffic is blocked until the Inline Services recovers.

This command is used to modify a port association service.

Syntax `port-association-service-modify`

`port-association-name` *name-string*	Displays the name of the port association to apply the service.
`switch` *name-string*	Displays the switch name where the service is located.
`inline-service` *inline-service-name*	Displays the name of the Inline Service.
`order` *number*	Displays a number to designate the order of the service. This is a value between 1 and 65535
`policy-action fail-open|fail-closed`	Displays a policy action when the service fails on the network.

Defaults None

Access Network Administrator

History Command introduced in Version 2.6.0.

Usage Use this command to add a port association service.

Examples To modify a port association service and change the inline-service to IDS, use the following syntax:

```
CLI network-admin@switch > port-association-service-modify port-association-name CHAIN inline-service NGFW
```

port-association-service-remove

The Inline Service feature manages service chains for Layer 1 Virtual Wire switches. The term, Inline Services, refers to services attached to a Layer 1 Virtual Wire switch such as Next-Generation Firewall (NGFW), Intrusion Detection System (IDS), Intrusion Prevention System (IPS), and Distributed Denial of Service attack (DDoS) Prevention.

When an Inline Service fails, a policy determines if traffic is allowed to bypass the Inline Services or if the traffic is blocked until the Inline Services recovers.

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This command is used to remove a port association service.

Syntax `port-association-service-add`

`port-association-name` *`name-string`*	Displays the name of the port association to apply the service.
`switch` *`name-string`*	Displays the switch name where the service is located.
`inline-service` *`inline-service-name`*	Displays the name of the Inline Service.

Defaults None

Access Network Administrator

History Command introduced in Version 2.6.0.

Usage Use this command to remove a port association service.

Examples To remove a port association service on leaf1, inline-service, NGFW, use the following syntax:

```
CLI network-admin@switch > port-association-service-remove port-association-name CHAIN switch leaf1 inline-service NGFW
```

port-association-service-show

The Inline Service feature manages service chains for Layer 1 Virtual Wire switches. The term, Inline Services, refers to services attached to a Layer 1 Virtual Wire switch such as Next-Generation Firewall (NGFW), Intrusion Detection System (IDS), Intrusion Prevention System (IPS), and Distributed Denial of Service attack (DDoS) Prevention.

When an Inline Service fails, a policy determines if traffic is allowed to bypass the Inline Services or if the traffic is blocked until the Inline Services recovers.

This command is used to display information about a port association service.

Syntax `port-association-service-show`

`port-association-name` *`name-string`*	Displays the name of the port association to apply the service.
`switch` *`name-string`*	Displays the switch name where the service is located.
`inline-service` *`inline-service-name`*	Displays the name of the Inline Service.
`order` *`number`*	Displays a number to designate the order of the service. This is a value between 1 and 65535

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`policy-action`	`fail-open|fail-closed`	Displays a policy action when the service fails on the network.

Defaults None

Access Network Administrator

History Command introduced in Version 2.6.0.

Usage Use this command to display information about a port association service.

Examples To display information about a port association service, use the following syntax:

```
CLI network-admin@switch > port-association-service-show
```

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port-buffer-settings-modify

You can modify the buffer utilization settings for ports on a switch.

Syntax `port-buffer-settings-modify`

Specify one or more of the following options:	
`enable|disable`	Specify if you want to disable port buffering. Port buffering is enabled by default.
`interval duration: #d#h#m#s`	Specify the interval for buffering on the port.
`disk-space disk-space-number`	Specify the disk space for storing the buffer.

Defaults None

Access CLI

History Command introduced in Version 2.2.1.

Usage In some cases, you may want to buffer packets leaving and entering the ports on the switch.

Examples To modify the interval from the default value of 1 minute to 2 minutes, use the following command:

```
CLI network-admin@switch > port-buffer-settings-modify interval 2m
```

port-buffer-settings-show

You can display the buffer utilization settings for ports on a switch.

Syntax `port-buffer-settings-show`

Defaults None

Access CLI

History Command introduced in Version 2.2.1.

Usage In some cases, you may want to buffer packets leaving and entering the ports on the switch.

Examples To display the buffer information, use following command:

```
CLI network-admin@switch > port-buffer-settings-show
switch:     Spine-1
enable:     yes
interval:   1m
disk-space: 50M
```

port-buffer-show

You can display the buffer utilization, percentage and size, for ports on a switch.

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Syntax `port-buffer-show`

`time date/time: yyyy-mm-ddThh:mm:ss`	Specify a time to display port buffering.
`start-time date/time: yyyy-mm-ddThh:mm:ss`	Specify a start time to display port buffering.
`end-time date/time: yyyy-mm-ddThh:mm:ss`	Specify an end time to display port buffering.
`duration duration: #d#h#m#s`	Specify a duration to display port buffering.
`interval duration: #d#h#m#s`	Specify an interval to display port buffering.
`since-start`	Specify a start time to display port buffering.
`older-than duration: #d#h#m#s`	Specify an older-than time period to display port buffering.
`within-last duration: #d#h#m#s`	Specify a within last time period to display port buffering.
`port port-list`	Specify a port list.

Defaults None

Access CLI

History Command introduced in Version 2.2.1.

Usage In some cases, you may want to buffer packets leaving and entering the ports on the switch.

Examples To display the buffer information, use following command:

```
CLI network-admin@switch > port-buffer-show format all layout vertical
switch:               Pleiades24
port:                 65
ingress-used-buf:     0%
ingress-used-buf-val: 0
egress-used-buf:      0%
egress-used-buf-val:  0
switch:               Pleiades24
port:                 66
ingress-used-buf:     0%
ingress-used-buf-val: 0
egress-used-buf:      0%
egress-used-buf-val:  0
switch:               Pleiades24
port:                 69
ingress-used-buf:     0%
ingress-used-buf-val: 0
```

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```
egress-used-buf:      0%
egress-used-buf-val:  0
switch:               Pleiades24
port:                 70
ingress-used-buf:     0%
ingress-used-buf-val: 0
egress-used-buf:      0%
egress-used-buf-val:  0
switch:               Pleiades24
port:                 71
ingress-used-buf:     0%
ingress-used-buf-val: 0
egress-used-buf:      0%
egress-used-buf-val:  0
switch:               Pleiades24
port:                 72
ingress-used-buf:     0%
ingress-used-buf-val: 0
egress-used-buf:      0%
egress-used-buf-val:  0
```

Port Configuration Commands

port-config-modify

This command is used to modify port settings on the switch.

Syntax `port-config-modify`

`port` *`port-list`*	Specify a single port or a list of ports. Note: If more than one port is specified, the list must be comma-separated without spaces.
Specify any of the following options:	
`intf` *`intf-number`*	Specify a physical interface for the port.
`speed disable|10m|100m|1g|2.5g|10g|25|40g|50g|100g`	Specify the port speed. Ports configured for speeds of 1G must be equipped with SFP transceivers. Ports configured for 10G or higher must be equipped with SFP+ or QSFP+ transceivers.
`egress-rate-limit unlimited`	Specify an egress rate limit for the port.
`eth-mode 1000base-x|sgmii|xlaui|gmii|sfi|xfi|cx|kr4|sr4|lr4|er4|cr4|kx4|kx4|caui4|kr2|er2|cr2|sr2|lr2|xlaui2|cx2|sr|lr|er|cr|kx|kr|r|base-x|sys-default`	Specify the Ethernet mode as 1000 base or Serial Gigabit Media Independent Interface (SGMII).
`autoneg|no-autoneg`	Specify if the port auto-negotiates the port speed with a peer.

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`jumbo|no-jumbo`	Specify if the port forwards jumbo frames. Jumbo frames are Ethernet frames with more than 1500 bytes of payload.
`enable|disable`	Specify if the port is enabled and forwards or drops frames.
`lacp-priority` *`integer`*	Specify the LACP priority for the port. If you specify a low value for the priority, the port has a higher priority. This is a value between 1 and 65535.
`reflect|no-reflect`	Specify if the port reflects frames received for loopback testing.
`edge-switch|` `no-edge-switch`	Specify if the port connects to another Pluribus Networks device or is an uplink to a third-party switch or host.
`pause|no-pause`	Specify if you want to pause traffic on the port.
`description` *`description-string`*	Specify a description for the port.
`loopback|no-loopback`	Specify to use loopback or no loopback.
`vxlan-termination|` `no-vxlan-termination`	Specify if a VXLAN terminates on a port.
`mirror-receive-only|` `no-mirror-receive-only`	Specify if the port receives mirrored traffic only.
`port-mac-address` *`mac-address`*	Specify the MAC address for the physical port.
`loop-vlans` *`vlan-list`*	Specifies VLANs that are looping on the network.
`send-port` *`send-port-number`*	Specify the port to send traffic.
`routing|no-routing`	Specify if the port is participating in routing on the switch.
`defer-bringup|no-defer-bringup`	Specify if you want to delay port activation.
`host-enable|host-disable`	Specify if you want host-facing ports enabled or disabled.

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`crc-check-enable|crc-check-disable`	Specify if you want CRC checking performed by the port. This is applicable to a switch in Virtual Wire mode. The default value is `crc-check-disable`.
`dscp-map dscp-map name | none`	Specify a DSCP map name to enable on port.
`local-switching|no-local-switching`	Specify if local switching is allowed on the port.
`allowed-tpid vlan|q-in-q|q-in-q-old`	Specify the allowed TPID in addition to 0x8100 on VLAN header
`fabric-guard|no-fabric-guard`	Specify if you want loop detection enabled on the port.
`fec|no-fec|fec-auto`	Specify to enable port forward correction error (FEC) mode.

Defaults The default port speed is 10G per second. Autonegotiation and jumbo frames are disabled by default. The port is enabled by default.

Access CLI

History

Version 1.2	Command introduced.
Version 1.2.6	The optional parameters for LACP added.
Version 2.1	The parameters, `loopback`, `mirror-receive`, `port-mac-address`, `vlag-failover`, and `send-port` added. The parameter, `lacp-mode`, deprecated.
Version 2.2.6	The parameter, `egress-rate-limit`, introduced.
Version 2.3	The parameters, `rem-rswitch-port-mac`, and `routing|no-routing` added.
Version 2.4	The parameter, `host-enable`, and `loop-vlans` added.
Version 2.4.1	The parameter, `rem-port-mac-address`, deprecated. The parameter, `intf`, added.
Version 2.5.2	The parameter, `crc-check-enable|crc-`

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	`check-disable`, introduced.
Version 2.5.3	The parameters, `reflect|no-reflect`, `vxlan-termination`, `dscp-map`, and `local-switching` added.
Version 2.6.0	The parameter, `fabric-guard`, and `allowed-tpid`, added.
Version 3.0.0	The parameter, `bw-bps`, added.
Version 5.1.0	The following parameter deprecated: • `bw-bps` The following parameters introduced: • additional Ethernet modes • `defer-bringup|no-defer-bringup` • `fec|no-fec|fec-auto`

Usage Server-switches are equipped with network data ports for host or inter-switch communication. This command configures the settings of a specific network data port of all data ports on the local switch.

Examples To configure port 17 on a switch to operate at 1 Gbps without jumbo frames, use the following command:

```
CLI network-admin@switch > port-config-modify port 17 speed 1G autoneg
off jumbo off
```

port-config-show

This command is used to display port settings on the switch.

Syntax `port-config-show`

`intf` *`intf-number`*	Displays the interface number.
`name` *`name-string`*	If configured, displays the name of the port. Otherwise, the field is blank.
`port` *`port-list`*	Displays a port or list of ports.
`speed disable|10m|100m|1g|2.5g|10g|25g|40g|50g|100g`	Displays the port speed. Ports configured for speeds of 1G must be equipped with SFP transceivers. Ports configured for 10G or higher must be equipped with SFP+ or QSFP+ transceivers.

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egress-rate-limit unlimited	Displays the egress rate limit for the port.
bw-bps *bw-bps-number*	Specify the bandwidth bps for the port.
eth-mode 1000base-x|sgmii| disabled|1000base-kx|2500base-x| 6Gbase-kr|6Gbase-cr|10Gbase-kr| 10Gbase-cr|10Gbase-sr|AN-73|Xaui| 10Gbase-kx4|10Gbase-cx4|24Gbase-kr4|24Gbase-cr4|40Gbase-kr4|XLaui| 40Gbase-cr4|40Gbase-sr4| no-phy-present|MII|GMII|TBI|10G-XGMII|1G-RGMII|10G-SFI|10G-XFI	Displays the Ethernet mode.
autoneg|no-autoneg	Displays if the port auto-negotiates the port speed with a peer.
jumbo|no-jumbo	Displays if the port forwards jumbo frames. Jumbo frames are Ethernet frames with more than 1500 bytes of payload.
enable|disable	Displays if the port is enabled and forwards or drops frames.
lacp-priority *integer*	Displays the LACP priority for the port. This is a value between 1 and 65535 with a default value of 32768.
reflect|no-reflect	Displays if the port reflects frames received for loopback testing.
edge-switch| no-edge-switch	Displays if the port connects to another Pluribus Networks device or is an uplink to a third-party switch or host.
pause|no-pause	Displays if the port traffic is paused or not.
description *description-string*	Displays a description for the port.
loopback|no-loopback	Displays to use loopback or no loopback.
vxlan-termination|no-vxlan-termination	Displays if a VXLAN terminates on a port.
mirror-receive-only|no-mirror-receive-only	Displays if you want the port to receive mirrored traffic only.
vle *vle name*	Displays the VLE on this port.

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`trunk-hw-id` *`trunk-hw-id-number`*	DisplaysDisplaysDisplays the trunk hardware ID assigned..
`trunk` *`trunk-name`*	Displays the trunk name for the port.
`vlag` *`vlag-name`*	Displays the VLAG for the port.
`send-port` *`send-port-number`*	Displays the port number to send in packets.
`loop-vlans` *`vlan-list`*	Displays the VLANs that are looping on the network.
`routing|no-routing`	Displays if the port is participating in routing on the switch.
`host-enable|host-disable`	Displays if you want host-facing ports enabled or disabled.
`crc-check-enable|crc-check-disable`	Displays if you want CRC checking performed by the port. This is applicable to a switch in Virtual Wire mode. The default value is `crc-check-disable`.
`defer-bringup|no-defer-bringup`	Specify if you want to delay port activation.
`dscp-map dscp-map name | none`	Displays a DSCP map name to enable on port.
`local-switching|no-local-switching`	Displays if local switching is allowed on the port.
`rhost` *`rhost-string`*	Displays the physical remote host.
`allowed-tpid q-in-q|q-in-q-old`	Specify the allowed TPID in addition to 0x8100 on VLAN header
`fabric-guard|no-fabric-guard`	Displays if you want loop detection enabled on the port.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 1.2.6	The optional parameters for LACP added.

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Version 2.1	The parameters, `loopback`, `mirror-receive`, `vlag-failover`, and `send-port` added.
Version 2.2.6	The parameter, `egress-rate-limit`, introduced.
Version 2.3.1	Multiple parameters for LACP added.
Version 2.4	The parameter, `host-enable`, and `loop-vlans` added.
Version 2.4.1	The parameters, `lacp-fallback`, `lacp-fallback-timeout` and `lacp-individual` deprecated.
Version 2.5.2	The parameter, `crc-check-enable|crc-check-disable`, introduced.
Version 2.5.3	The parameters, `reflect|no-reflect`, `vxlan-termination`, `dscp-map`, and `local-switching` added.
Version 2.6.0	The parameter, `fabric-guard`, and `allowed-tpid`, added.
Version 3.0.0	The parameter, `bw-bps`, added.
Version 5.1.0	The following parameter deprecated: • `bw-bps` The following parameters introduced: • additional Ethernet modes • `defer-bringup|no-defer-bringup` • `fec|no-fec|fec-auto`

Usage Server-switches are equipped with network data ports for host or inter-switch communication. This command configures the settings of a specific network data port of all data ports on the local switch.

Examples To display information about all ports on a switch, use the following command :

```
CLI network-admin@switch > port-config-show
switch:                 pleiades25
intf:                   10
name:
port:                   10
speed:                  10g
autoneg:                off
```

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```
jumbo:                  off
enable:                 on
lacp-priority:          32768
reflect:                off
edge-switch:            no
pause:                  no
description:
loopback:               default
mirror_only:            default
rswitch-default-vlan:   0
port-mac-address:       06:b0:00:02:30:0a
```

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port-cos-bw-modify

You can modify bandwidth guarantees on switch ports. Currently, Pluribus Networks switches allow rate limiting only for CPU facing (PCIe, data and span) ports. Using this feature, you can configure bandwidth guarantees at egress CoS (Class of Service) queue level and manage prioritized traffic. The feature is also used for setting SLAs (Service Level Agreements).

Once you modify the bandwidth, using the command, `post-cos-weight-modify`, no longer works to modify the CoS weight.

Syntax `port-cos-bw-modify`

`cos` *`integer`*	Specify the CoS priority between 0 and 7.
`port` *`port-list`*	Specify the physical port(s).
`min-bw-guarantee` *`min-bw-guarantee-string`*	Specify the minimum bandwidth as a percentage.
`max-bw-limit` *`max-bw-limit-string`*	Specify the maximum bandwidth as a percentage greater than 0.
`weight` *`priority`* `|no-priority`	Specify the scheduling weight, from 1 to 127, after the bandwidth guarantee is met.

Defaults None

Access Network Administrator

History

Version 2.6.0	Command introduced.
Version 3.0.0	The parameter, `weight`, added.

Usage Use this command to modify CoS bandwidth on a port or range of ports.

Examples To modify the CoS bandwidth to 10 for ports 2-10, use the following syntax:

```
CLI network-admin@switch > port-cos-bw-modify port 2-10 cos 5 min-bw 10
```

port-cos-bw-show

You can modify bandwidth guarantees on switch ports. Currently, Pluribus Networks switches allow rate limiting only for CPU facing (PCIe, data and span) ports. Using this feature, you can configure bandwidth guarantees at egress CoS (Class of Service) queue level and manage prioritized traffic. The feature is also used for setting SLAs (Service Level Agreements).

Syntax `port-cos-bw-show`

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`cos` *`integer`*	Specify the CoS priority between 0 and 7.
`port` *`port-list`*	Specify the physical port(s).
`min-bw-guarantee` *`min-bw-guarantee-string`*	Specify the minimum bandwidth as a percentage.
`max-bw-limit` *`max-bw-limit-string`*	Specify the maximum bandwidth as a percentage.
`weight` *`priority`*	Specify the scheduling weight after the bandwidth guarantee is met.

Defaults None

Access Network Administrator

History

Version 2.6.0	Command introduced.
Version 3.0.0	The parameter, `weight`, added.

Usage Use this command to display CoS bandwidth information for a port or range of ports.

Examples To display the CoS bandwidth, use the following syntax:

```
CLI (network-admin@Spine1) > port-cos-bw-show

switch      cos port  min-bw-guarantee max-bw-limit weight
----------- --- ----- ---------------- ------------ ------
Spine1      0   1-104 0%               100%         16
Spine1      1   1-104 0%               100%         32
Spine1      2   1-104 0%               100%         32
Spine1      3   1-104 0%               100%         32
Spine1      4   1-104 0%               100%         32
Spine1      5   1-104 0%               100%         32
Spine1      6   1-104 0%               100%         64
Spine1      7   1-104 0%               100%         127
```

port-cos-rate-setting-modify

You can modify the Class of Service (CoS) rate settings for ports on a switch.

Syntax `port-cos-rate-setting-modify`

`port pci-e|data-port|span-ports`	Specify the port to set the CoS rate.
`cos0-rate` *`unlimited`* `cos1-rate` *`unlimited`* `cos2-rate` *`unlimited`* `cos3-rate` *`unlimited`* `cos4-rate`	Specify the CoS rate for the specified port. On the F64, the default CoS rate is 1,000,000

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unlimited cos5-rate *unlimited* cos6-rate *unlimited* cos7-rate *unlimited* cos8-rate *unlimited* cos9-rate *unlimited* cos10-rate *unlimited* cos11-rate *unlimited*	pps for pci-e port and 100,000 pps for data port and span ports. On E68 and E28Q, the default CoS rate is 100,000 pps for all internal ports. On ONVL platforms, the default CoS rate is 5000.

Access CLI

History Command introduced in Version 2.3.2

Usage In some cases, you may want to limit the number of packets leaving and entering the ports on the switch.

Examples To set the span port to a CoS0 rate of 500,00 pps, use the following command:

```
CLI network-admin@switch > port-cos-rate-settings-modify span-ports
cos0-rate 500000
```

port-cos-rate-settings-show

You can display the Class of Service (CoS) rate settings for ports on a switch.

Syntax `port-cos-rate-settings-modify`

port pci-e|data-port|span-ports	Specify the port to set the CoS rate.
cos0-rate *unlimited* cos1-rate *unlimited* cos2-rate *unlimited* cos3-rate *unlimited* cos4-rate *unlimited* cos5-rate *unlimited* cos6-rate *unlimited* cos7-rate *unlimited* cos8-rate *unlimited* cos9-rate *unlimited* cos10-rate *unlimited* cos11-rate *unlimited*	Specify the CoS rate for the specified port. On the F64, the default CoS rate is 1,000,000 pps for pci-e port and 100,000 pps for data port and span ports. On E68 and E28Q, the default CoS rate is 100,000 pps for all internal ports.

Access CLI

History Command introduced in Version 2.3.2

Usage In some cases, you may want to limit the number of packets leaving and entering the ports on the switch.

Examples To set the span port to a CoS0 rate of 500,00 pps, use the following command:

```
CLI network-admin@switch > port-cos-rate-settings-show span-ports cos0-
rate 500000
```

port-cos-stats-clear

You can clear the Class of Service (CoS) rate stats for ports on a switch.

Syntax `port-cos-stats-clear port port-list`

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port *port-list*	Specify the port list to clear CoS stats.

Access CLI

History Command introduced in Version 2.4

Usage In some cases, you may want to display CoS statistics for ports

Examples To clear port CoS stats from ports 21-25, use the following command:

```
CLI network-admin@switch > port-cos-stats-clear port 21-25
```

port-cos-stats-show

You can display the Class of Service (CoS) rate settings for ports on a switch.

Syntax `port-cos-stats-show port port-list`

time date/time: yyyy-mm-ddTHH:mm:ss	Specify a time of statistics collection.
start-time date/time: yyyy-mm-ddTHH:mm:ss	Specify a start time for statistics collection.
end-time date/time: yyyy-mm-ddTHH:mm:ss	Specify an end time for statistics collection.
duration duration: #d#h#m#s	Specify a duration time for statistics collection.
interval duration: #d#h#m#s	Specify an interval between statistics collection.
since-start	Specify statistics collection from a start time.
older-than duration: #d#h#m#s	Specify to display statistics collection older than the specified time.
within-last duration: #d#h#m#s	Specify a within-last time for statistics collection.
port *port-list*	Specify the port list to display CoS stats.

Access CLI

History

Version 2.4.0	Command introduced.
Version 3.0.0	Output changed from bytes to bits.

Usage In some cases, you may want to display CoS statistics for ports.

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Examples To display port CoS stats from ports 21-25, use the following command:

```
CLI network-admin@switch > port-cos-stats-show port 21-25
```

```
switch:         pubdev03
time:           09:02:51
port:           0
cos0-tx-bits:  10.9M
cos1-tx-bits:  0
cos2-tx-bits:  0
cos3-tx-bits:  0
cos4-tx-bits:  0
cos5-tx-bits:  0
cos6-tx-bits:  0
cos7-tx-bits:  0
cos8-tx-bits:  0
cos9-tx-bits:  0
cos10-tx-bits: 68.6M
cos11-tx-bits: 209M
```

port-cos-stats-settings-modify

You can modify the Class of Service (CoS) statistics settings for ports on a switch.

Syntax `port-st-stats-settings-modify enable|disable interval duration: #d#h#m#s disk-space disk-space-number`

`enable|disable`	Specify if you want to enable statistics collection for CoS.
`interval duration: #d#h#m#s`	Specify the interval between statistic collection.
`disk-space` *`disk-space-number`*	Specify the amount of disk space to store statistics after collection.

Access CLI

History Command introduced in Version 2.4.1

Usage In some cases, you may want to collect statistics on CoS.

Examples To enable statistic collection, use the following command:

```
CLI network-admin@switch > port-cos-stats-settings-modify enable
```

port-cos-stats-settings-show

You can display the Class of Service (CoS) statistics collection settings for ports on a switch.

Syntax `port-cos-stats-settings-show`

Access CLI

History Command introduced in Version 2.4.1

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Usage In some cases, you may want to display the statistics collection settings for CoS on a port.

Examples To display the settings, use the following command:

```
CLI network-admin@switch > port-cos-rate-settings-show
switch:          pubdev03
port:            control-port
ports:           0
cos0-rate(pps):  1000000
cos1-rate(pps):  1000000
cos2-rate(pps):  1000000
cos3-rate(pps):  1000000
cos4-rate(pps):  1000000
cos5-rate(pps):  1000000
cos6-rate(pps):  1000000
cos7-rate(pps):  1000000
cos8-rate(pps):  1000000
cos9-rate:       1000000
cos10-rate(pps): 1000000
cos11-rate(pps): 1000000
switch:          pubdev03
port:            data-port
ports:           65
cos0-rate(pps):  100000
cos1-rate(pps):  100000
cos2-rate(pps):  100000
cos3-rate(pps):  100000
cos4-rate(pps):  100000
cos5-rate(pps):  100000
cos6-rate(pps):  100000
cos7-rate(pps):  100000
cos8-rate(pps):  100000
cos9-rate:       100000
cos10-rate(pps): 100000
cos11-rate(pps): 100000
switch:          pubdev03
port:            span-ports
ports:           66-68
cos0-rate(pps):  100000
cos1-rate(pps):  100000
cos2-rate(pps):  100000
cos3-rate(pps):  100000
cos4-rate(pps):  100000
cos5-rate(pps):  100000
cos6-rate(pps):  100000
cos7-rate(pps):  100000
cos8-rate(pps):  100000
cos9-rate:       100000
cos10-rate(pps): 100000
cos11-rate(pps): 100000
```

port-cos-weight-modify

You can modify the Class of Service (CoS) weight settings for ports on a switch. However, if you have modified the CoS weights using the command, `port-cos-bw-modify`, this command no longer works.

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Syntax `port-cos-weight-modify cos0-weight integer cos1-weight integer cos2-weight integer cos3-weight integer cos4-weight integer cos5-weight integer cos6-weight integer cos7-weight integer cos8-weight integer cos9-weight integer cos10-weight integer cos11-weight integer`

`cos0-weight` *`integer`* `cos1-weight` *`integer`* `cos2-weight` *`integer`* `cos3-weight` *`integer`* `cos4-weight` *`integer`* `cos5-weight` *`integer`* `cos6-weight` *`integer`* `cos7-weight` *`integer`* `cos8-weight` *`integer`* `cos9-weight` *`integer`* `cos10-weight` *`integer`* `cos11-weight` *`integer`*	Specify the CoS weight for CoS packets as an integer between 0 and 127..

Access CLI

History Command introduced in Version 2.4

Usage In some cases, you may want to modify the Cos weight for a port.

Examples To modify the weight of CoS packets, use the following command:

```
CLI network-admin@switch > port-cos-weight-modify cos0-weight 100
```

port-cos-weight-show

You can display the Class of Service (CoS) weight settings for ports on a switch.

Syntax `port-cos-weight-show`

Access CLI

History Command introduced in Version 2.4

Usage In some cases, you may want to display the weight of CoS packets.

Examples To display the weight of CoS packets, use the following command:

```
CLI network-admin@switch > port-cos-weight-show
switch:       pubdev03
cos0-weight:  16
cos1-weight:  32
cos2-weight:  32
cos3-weight:  32
cos4-weight:  32
cos5-weight:  32
cos6-weight:  32
cos7-weight:  32
cos8-weight:  32
cos9-weight:  64
cos10-weight: 64
cos11-weight: 127
```

Informational Note: The number of available CoS Weight parameters may vary from platform to platform.

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port-egress-check

You can use this command to check fabric communications when a connection error occurs while using show commands.

Syntax `port-egress-check`

Defaults None

Access CLI

History Command introduced in Version 2.2.6

Usage Occasionally, the fabric returns a communication error when show commands are executed at the CLI. This command checks for possible communication on fabric ports.

Examples To use this command, use the following syntax :

```
CLI network-admin@switch > port-egress-check
pubdev02: Port 1 -> 1-68 but should be 1 -> 1-72
pubdev02: Port 2 -> 1-68 but should be 2 -> 1-72
pubdev02: Port 3 -> 1-68 but should be 3 -> 1-72
pubdev02: Port 4 -> 1-68 but should be 4 -> 1-72
pubdev02: Port 5 -> 1-68 but should be 5 -> 1-72
pubdev02: Port 6 -> 1-68 but should be 6 -> 1-72
pubdev02: Port 7 -> 1-68 but should be 7 -> 1-72
pubdev02: Port 8 -> 1-68 but should be 8 -> 1-72
pubdev02: Port 9 -> 1-68 but should be 9 -> 1-72
pubdev02: Port 10 -> 1-68 but should be 10 -> 1-72
pubdev02: Port 11 -> 1-68 but should be 11 -> 1-72
pubdev02: Port 12 -> 1-68 but should be 12 -> 1-72
pubdev02: Port 13 -> 1-68 but should be 13 -> 1-72
pubdev02: Port 14 -> 1-68 but should be 14 -> 1-72
pubdev02: Port 15 -> 1-68 but should be 15 -> 1-72
pubdev02: Port 16 -> 1-68 but should be 16 -> 1-72
pubdev02: Port 17 -> 1-68 but should be 17 -> 1-72
pubdev02: Port 18 -> 1-68 but should be 18 -> 1-72
pubdev02: Port 19 -> 1-68 but should be 19 -> 1-72
pubdev02: Port 20 -> 1-68 but should be 20 -> 1-72
pubdev02: Port 21 -> 1-68 but should be 21 -> 1-72
```

port-egress-fix

You can use this command to fix fabric communications when a connection error occurs while using show commands.

Syntax `port-egress-fix`

Defaults None

Access CLI

History Command introduced in Version 2.2.6

Usage Occasionally, the fabric returns a communication error when show commands are executed at the CLI. This command fixes communication errors on fabric ports.

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Examples To use this command, use the following syntax:

```
CLI network-admin@switch > port-egress-fix
pubdev02: Port 1 -> 1-68 but should be 1 -> 1-72
pubdev02: Fixed port 1 -> 1-72
pubdev02: Port 2 -> 1-68 but should be 2 -> 1-72
pubdev02: Fixed port 2 -> 1-72
pubdev02: Port 3 -> 1-68 but should be 3 -> 1-72
pubdev02: Fixed port 3 -> 1-72
pubdev02: Port 4 -> 1-68 but should be 4 -> 1-72
pubdev02: Fixed port 4 -> 1-72
pubdev02: Port 5 -> 1-68 but should be 5 -> 1-72
pubdev02: Fixed port 5 -> 1-72
pubdev02: Port 6 -> 1-68 but should be 6 -> 1-72
pubdev02: Fixed port 6 -> 1-72
pubdev02: Port 7 -> 1-68 but should be 7 -> 1-72
pubdev02: Fixed port 7 -> 1-72
pubdev02: Port 8 -> 1-68 but should be 8 -> 1-72
pubdev02: Fixed port 8 -> 1-72
pubdev02: Port 9 -> 1-68 but should be 9 -> 1-72
pubdev02: Fixed port 9 -> 1-72
pubdev02: Port 10 -> 1-68 but should be 10 -> 1-72
pubdev02: Fixed port 10 -> 1-72
pubdev02: Port 11 -> 1-68 but should be 11 -> 1-72
pubdev02: Fixed port 11 -> 1-72
pubdev02: Port 12 -> 1-68 but should be 12 -> 1-72
pubdev02: Fixed port 12 -> 1-72
pubdev02: Port 13 -> 1-68 but should be 13 -> 1-72
pubdev02: Fixed port 13 -> 1-72
pubdev02: Port 14 -> 1-68 but should be 14 -> 1-72
pubdev02: Fixed port 14 -> 1-72
pubdev02: Port 15 -> 1-68 but should be 15 -> 1-72
pubdev02: Fixed port 15 -> 1-72
```

port-egress-show

You can use this command to display information about fabric communications when a connection error occurs while using show commands.

Syntax `port-egress-show`

port *port-list*	Displays the physical port list.
egress *port-list*	Displays allowed egress ports.
rx-only *port-list*	Displays receive only ports.
active-active-vlags *port-list*	Displays active-active VLAG ports.
loopback *port-list*	Displays loopback ports.
mir_prevent_out *port-list*	Displays ports not participating in mirroring

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	traffic.
`no-local-switching` *`port-list`*	Displays ports that are impacted by the `no-local-switching` command

Defaults None

Access CLI

History

Version 2.3	Command introduced.
Version 2.5.3	The optional parameter, local-switching| no-local-switching, added.
Version 2.6.2	The parameter, local-switching, deprecated.

Usage Occasionally, the fabric returns a communication error when show commands are executed at the CLI. This command displays communication on fabric ports.

Examples To use this command, use the following syntax:

```
CLI network-admin@switch > port-egress-show
switch   port egress     rx-only active-active-vlags loopback mir_prevent_out
-------- ---- ---------- ------- ------------------- -------- ---------------
pubdev03 1    1-65,67-72 none    none                none     66
pubdev03 2    1-65,67-72 none    none                none     66
pubdev03 3    1-65,67-72 none    none                none     66
pubdev03 4    1-65,67-72 none    none                none     66
pubdev03 5    1-65,67-72 none    none                none     66
pubdev03 6    1-65,67-72 none    none                none     66
pubdev03 7    1-65,67-72 none    none                none     66
pubdev03 8    1-65,67-72 none    none                none     66
pubdev03 9    1-65,67-72 none    none                none     66
pubdev03 10   1-65,67-72 none    none                none     66
...
```

Informational Note: The port egress values may vary from platform to platform.

port-lacp-modify

This command allows you to run a port configured with LACP in test mode.

Syntax `port-lacp-modify`

`port` *`port-list`*	Specifies the switch network data port number, list of ports, or range of ports. Port numbers must be in the range of 1 to 64.

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`test-mode none|no-tx|no-rx|no-rx-or-tx`	Specify the test mode for the port.

Defaults None

Access CLI

History Command introduced in Version 1.2.2.

Usage Use this command to modify a port and run it in test mode .

Examples To modify port 54 and place it in test mode, no-tx, use the following command:

```
CLI network-admin@switch > port-lacp-modify port 54 test-mode no-tx
```

port-lacp-show

This command displays information about network LACP port status.

Syntax `port-lacp-show`

`port` *`port-list`*	Specifies the switch network data port number, list of ports, or range of ports. Port numbers must be in the range of 1 to 64.
`neighbor|no-neighbor`	Specify to display neighbors of the LACP port.
`name` *`name-string`*	Specifies the name of the LACP port.
`port-type none|vlag|trunk`	Specifies if the port is a VLAG or a trunk.
`mode off|passive|active`	Specifies the mode as off, passive, or active.
`timeout slow|fast`	Specifies the timeout for LACP connections. Slow timeout sends requests after 30 seconds and fast timeout sends requests after 3 seconds.
`system-id` *`mac-address`*	Specifies the MAC address as the system ID.
`lacp-key` *`lacp-key-number`*	Specifies the LACP key.
`system-priority` *`system-priority-number`*	Specifies the system priority.
`port-priority` *`port-priority-number`*	Specifies the port priority.
`aggregatable yes|no`	Specifies if you can aggregate the port or not.

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`sync yes|no`	Specifies if the port is synchronized.
`coll yes|no`	Specifies if the port is collecting packets or not.
`dist yes|no`	Specifies if the port is distributing packets or not.
`defaulted yes|no`	Specifies if the port is defaulted or not.
`expired yes|no`	Specifies if the port is expired or not.
`port-state` *`port-state-number`*	Specifies a single port state instead of all ports.
`test-mode none|no-tx|no-rx|no-rx-or-tx`	Specifies if a port is in test mode.

Defaults None

Access CLI

History

Version 1.2.1	Command introduced.
Version 2.6.2	The parameters, `lacp-key`, `system-priority`, and `port-priority` added.

Usage Use this command to display information about port status on the switch.

Examples To display the port status for port 12, use the following command:

```
CLI network-admin@switch > port-lacp-show
switch:          leo-ext-32
port:            22
name:            t2
port-type:       trunk
mode:            active
timeout:         slow
system-id:       06:c0:00:16:f0:00
lacp-key:        32879
system-priority: 32768
port-priority:   32768
aggregatable:    no
sync:            no
coll:            no
dist:            no
defaulted:       no
expired:         yes
```

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port-lacp-stats-clear

This command clears stats about network LACP ports.

Syntax `port-lacp-stats-clear`

port *port-list*	Specifies the switch network data port number, list of ports, or range of ports. Port numbers must be in the range of 1 to 64.

Defaults None

Access CLI

History Command introduced in Version 2.6.2.

Usage Use this command to clear information about LACP port status on the switch.

Examples To clear the port status for port 12, use the following command:

```
CLI network-admin@switch > port-lacp-stats-clear
```

port-lacp-stats-show

This command displays information about network LACP port stats.

Syntax `port-lacp-stats-show`

start-time date/time: yyyy-mm-ddTHH:mm:ss	Displays the start date and time for statistics collection.
end-time date/time: yyyy-mm-ddTHH:mm:ss	Displays the end date and time for statistics collection.
duration duration: #d#h#m#s	Displays the duration for statistics collection.
interval duration: #d#h#m#s	Displays the interval between statistics collection.
since-start	Displays the statistics since the start time.
older-than duration: #d#h#m#s	Displays the statistics older than the specified time.
within-last duration: #d#h#m#s	Displays the statistics within a specified time.
port *port-list*	Displays the port list.
lacp-port-up *lacp-port-up-number*	Displays LACP port up counter.

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`lacp-port-down` *`lacp-port-down-number`*	Displays LACP port down counter.
`lacp-pdu-tx` *`lacp-pdu-tx-number`*	Displays LACP PDU TX counter.
`lacp-pdu-rx` *`lacp-pdu-rx-number`*	Displays LACP PDU RX counter.
`lacp-marker-tx` *`lacp-marker-tx-number`*	Displays LACP Marker TX counter.
`lacp-marker-rx lacp-marker-rx-number`	Displays LACP Marker RX counter
`lacp-allocate-failure` *`lacp-allocate-failure-number`*	Displays LACP Allocate tx failure counter.
`lacp-expired` *`lacp-expired-number`*	Displays LACP Port Expired counter.
`lacp-defaulted` *`lacp-defaulted-number`*	Displays LACP Port defaulted counter.

Defaults None

Access CLI

History Command introduced in Version 2.6.2.

Usage Use this command to display information about port status on the switch.

Examples To display the port status for port 12, use the following command:

```
CLI network-admin@switch > port-lacp-stats-show port 12 layout vertical
```

Port LLDP Commands

port-lldp-modify

This command is used to modify LLDP properties for ports.

Syntax `port-lldp-modify`

`port` *`port-list`*	Specify a list of ports to modify.
`lldp|no-lld`	Specify LLDP or no LLDP.

Defaults None.

Access CLI

History Command introduced in Version 2.5.3.

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Usage Use this command to modify LLDP parameters.

Examples To disable LLDP on port 35, use the following command:

```
CLI network-admin@switch > port-lldp-modify port 35 no-lldp
```

port-lldp-show

This command is used to display LLDP properties for ports.

Syntax `port-lldp-modify`

port *port-list*	Displays a list of ports.
lldp|no-lld	Displays if LLDP is on or off.

Defaults None.

Access CLI

History Command introduced in Version 2.5.3.

Usage Use this command to display LLDP information for a port or list of ports.

Examples To display LLDP information about port 35, use the following syntax:

```
CLI network-admin@switch > port-lldp-show port 35
```

port-pfc-create

Priority Flow Control (PFC) is an IEEE standard (802.1qbb) for link level flow control on Ethernet networks. Functionally, this feature is similar to the IEEE standard 802.3 for PAUSE mechanism, except that it operates at the granularity of individual packet priorities or traffic class, instead of port level. When a queue corresponding to traffic with a particular traffic class reaches a predetermined, either auto or statically set, threshold, the switch chip generates a PFC frame and sends it back to the sender. For PFC to work effectively end to end on the network, all switches and hosts in the traffic path are configured to enable PFC, and configured for traffic class to priority mappings.

This command allows you to configure PFC on ports.

Syntax `port-pfc-create`

priority *priority*	Specify a priority for PFC. This is a number between 0 and 7.
port-list *port-list*	Specify a port list to apply PFC.

Defaults None

Access Network administrator

History Command introduced in Version 2.5.4.

Usage This command is used to set PFC for link level flow control for traffic on the network.

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Examples To create a new PFC configuration on port 2 with a priority group of 2, use the following command:

```
CLI (network-admin@Spine1)port-pfc-create priority 2 port 1-10 Priority
configuration will be effective after restart.
```

port-pfc-delete

Priority Flow Control (PFC) is an IEEE standard (802.1qbb) for link level flow control on Ethernet networks. Functionally, this feature is similar to the IEEE standard 802.3 for PAUSE mechanism, except that it operates at the granularity of individual packet priorities or traffic class, instead of port level. When a queue corresponding to traffic with a particular traffic class reaches a predetermined, either auto or statically set, threshold, the switch chip generates a PFC frame and sends it back to the sender. For PFC to work effectively end to end on the network, all switches and hosts in the traffic path are configured to enable PFC, and configured for traffic class to priority mappings.

This command allows you to delete PFC configurations on ports.

Syntax `port-pfc-delete`

`priority` *`priority`*	Specify a priority for PFC. This is a number between 0 and 7.

Defaults None

Access Network administrator

History Command introduced in Version 2.5.4.

Usage This command is used to delete a PFC priority for link level flow control for traffic on the network.

Examples To delete the PFC priority 2, use the following command:

```
CLI network-admin@switch > port-pfc-delete priority 2
```

port-pfc-modify

Priority Flow Control (PFC) is an IEEE standard (802.1qbb) for link level flow control on Ethernet networks. Functionally, this feature is similar to the IEEE standard 802.3 for PAUSE mechanism, except that it operates at the granularity of individual packet priorities or traffic class, instead of port level. When a queue corresponding to traffic with a particular traffic class reaches a predetermined, either auto or statically set, threshold, the switch chip generates a PFC frame and sends it back to the sender. For PFC to work effectively end to end on the network, all switches and hosts in the traffic path are configured to enable PFC, and configured for traffic class to priority mappings.

This command allows you to modify PFC priority on ports.

Syntax `port-pfc-modify`

`priority` *`priority`*	Specify a priority for PFC. This is a number between 0 and 7.
`port-list` *`port-list`*	Specify a port list to apply PFC.

Defaults None

Access Network administrator

History Command introduced in Version 2.5.4.

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Usage This command is used to modify PFC for link level flow control for traffic on the network. You can create up to three configurations.

Examples To modify the PFC configuration to port 11-15 with a priority group of 2, use the following command:

```
CLI network-admin@switch > port-pfc-modify priority 2 port 11-15

Priority configuration will be effective after restart.
```

port-pfc-show

Priority Flow Control (PFC) is an IEEE standard (802.1qbb) for link level flow control on Ethernet networks. Functionally, this feature is similar to the IEEE standard 802.3 for PAUSE mechanism, except that it operates at the granularity of individual packet priorities or traffic class, instead of port level. When a queue corresponding to traffic with a particular traffic class reaches a predetermined, either auto or statically set, threshold, the switch chip generates a PFC frame and sends it back to the sender. For PFC to work effectively end to end on the network, all switches and hosts in the traffic path are configured to enable PFC, and configured for traffic class to priority mappings.

This command allows you to display PFC on ports.

Syntax `port-pfc-show`

`priority` *`priority`*	Displays the priority for PFC. This is a number between 0 and 7.
`port-list` *`port-list`*	Displays the port list to apply PFC.
`error` *`error-string`*	Displays any errors on the port or ports.

Defaults None

Access Network administrator

History Command introduced in Version 2.5.4.

Usage This command is used to displays PFC information about link level flow control for traffic on the network.

Examples To display a PFC configuration on port 2 with a priority group of 2, use the following command:

```
CLI   (network-admin@Spine1)port-pfc-show
switch  priority port  error
------- -------- ----- -----
Spine1  2        11-20
Spine1  3        11-20
```

port-pfc-stats-clear

Priority Flow Control (PFC) is an IEEE standard (802.1qbb) for link level flow control on Ethernet networks. Functionally, this feature is similar to the IEEE standard 802.3 for PAUSE mechanism, except that it operates at the granularity of individual packet priorities or traffic class, instead of port level. When a queue corresponding to traffic with a particular traffic class reaches a predetermined, either auto or statically set, threshold, the switch chip generates a PFC frame and sends it back to the sender. For PFC to work effectively end to end on the network, all switches and hosts in the traffic path are configured to enable PFC, and configured for traffic class to priority mappings.

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This command allows you to clear PFC stats on ports.

Syntax `port-pfc-stats-clear`

`port` *`port-list`*	Specify the ports to delete PFC statistics.

Defaults None

Access Network administrator

History Command introduced in Version 2.5.4.

Usage This command is used to clear PFC stats information about link level flow control for traffic on the network.

Examples To clear PFC stats, use the following command:

```
CLI   (network-admin@Spine1)port-pfc-stats-clear
```

port-pfc-stats-show

Priority Flow Control (PFC) is an IEEE standard (802.1qbb) for link level flow control on Ethernet networks. Functionally, this feature is similar to the IEEE standard 802.3 for PAUSE mechanism, except that it operates at the granularity of individual packet priorities or traffic class, instead of port level. When a queue corresponding to traffic with a particular traffic class reaches a predetermined, either auto or statically set, threshold, the switch chip generates a PFC frame and sends it back to the sender. For PFC to work effectively end to end on the network, all switches and hosts in the traffic path are configured to enable PFC, and configured for traffic class to priority mappings.

This command allows you to display PFC stats on ports.

Syntax `port-pfc-stats-show`

`time date/time: yyyy-mm-ddTHH:mm:ss`	Displays the date and time for statistics collection.
`start-time date/time: yyyy-mm-ddTHH:mm:ss`	Displays the start date and time for statistics collection.
`end-time date/time: yyyy-mm-ddTHH:mm:ss`	Displays the end date and time for statistics collection.
`duration duration: #d#h#m#s`	Displays the duration for statistics collection.
`interval duration: #d#h#m#s`	Displays the interval between statistics collection.
`since-start`	Displays the statistics since the start time.
`older-than duration: #d#h#m#s`	Displays the statistics older than the specified time.

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within-last duration: #d#h#m#s	Displays the statistics within a specified time.
port *port-list*	Displays the port list.

Defaults None

Access Network administrator

History Command introduced in Version 2.5.4.

Usage This command is used to displays PFC stats information about link level flow control for traffic on the network.

Examples To display PFC stats, use the following command:

```
CLI   (network-admin@Spine1)port-pfc-stats-show
switch  priority port  error
------- -------- ----- -----
Spine1  2        11-20
Spine1  3        11-20
```

port-pfc-stats-settings-modify

Priority Flow Control (PFC) is an IEEE standard (802.1qbb) for link level flow control on Ethernet networks. Functionally, this feature is similar to the IEEE standard 802.3 for PAUSE mechanism, except that it operates at the granularity of individual packet priorities or traffic class, instead of port level. When a queue corresponding to traffic with a particular traffic class reaches a predetermined, either auto or statically set, threshold, the switch chip generates a PFC frame and sends it back to the sender. For PFC to work effectively end to end on the network, all switches and hosts in the traffic path are configured to enable PFC, and configured for traffic class to priority mappings.

This command allows you to modify PFC stats settings on ports.

Syntax port-pfc-stats-settings-modify

enable|disable	Specify if you want to enable or disable PFC statistics collection.
interval duration: *#d#h#m#*	Specify the interval between statistics collection.
disk-space *disk-space-number*	Specify the amount of disk space for statistics collection.

Defaults None

Access Network administrator

History Command introduced in Version 2.5.4.

Usage This command is used to modify PFC stats settings.

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Examples To modify PFC stats, use the following command:

```
CLI   (network-admin@Spine1)port-pfc-stats-settings-modify
```

port-pfc-stats-settings-show

Priority Flow Control (PFC) is an IEEE standard (802.1qbb) for link level flow control on Ethernet networks. Functionally, this feature is similar to the IEEE standard 802.3 for PAUSE mechanism, except that it operates at the granularity of individual packet priorities or traffic class, instead of port level. When a queue corresponding to traffic with a particular traffic class reaches a predetermined, either auto or statically set, threshold, the switch chip generates a PFC frame and sends it back to the sender. For PFC to work effectively end to end on the network, all switches and hosts in the traffic path are configured to enable PFC, and configured for traffic class to priority mappings.

This command allows you to display PFC stats on ports.

Syntax `port-pfc-stats-settings-show`

`enable|disable`	Displays if PFC statistics collection is enabled or disabled.
`interval duration: #d#h#m#`	Displays the interval between statistics collection.
`disk-space` *`disk-space-number`*	Displays the amount of disk space for statistics collection.

Defaults None

Access Network administrator

History Command introduced in Version 2.5.4.

Usage This command is used to display PFC stats settings information about link level flow control for traffic on the network.

Examples To display PFC stats, use the following command:

CLI network-admin@switch > port-pfc-stats-settings-show

port-phy-show

This command is used to display information about the physical Layer 1 status of the local switch.

Syntax `port-phy-show`

`port` *`port-list`*	Specifies the switch data port number, list of ports, or range of ports. Port numbers must be in the range of 1-64.
`state off|admin-down|adminpwrdown|bist|dfe-tuning|down|local-fault|partially-up|remote-fault|up|failed`	Specifies the state of the port PHY.

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`mode off|admin-down|adminpwrdown| bist|dfe-tuning|down|local-fault| partially-up| remote-fault|up|failed`	Specifies the mode of the port PHY.
`autoneg` *`autoneg-string`*	Specifies the auto-negotiation setting of the port PHY.
`speed` *`speed-number`*	Specifies the speed of the port PHY.
`eth-mode 1000base-x|sgmii| disabled|1000base-kx| 2500base-x|6Gbase-kr| 6Gbase-cr|10Gbase-kr| 10Gbase-cr|10Gbase-sr|AN-73|Xaui| 10Gbase-kx4| 10Gbase-cx4|24Gbase-kr4|24Gbase-cr4| 40Gbase-kr4| XLaui|40Gbase-cr4| 40Gbase-sr4| no-phy-present|MII|GMII|TBI|10G-XGMII|1G-RGMII|10G-SFI|10G-XFI| GMII|disabled`	Specify the Ethernet mode as 1000 base or Serial Gigabit Media Independent Interface (SGMII).
`max-frame` *`max-frame-number`*	Specifies the maximum number of frames.
`learning on|off`	Specifies the learning mode of the port PHY.
`def-vlan` *`def-vlan-number`*	Specifies the default VLAN identifier of the port PHY.
`dfe-mode static|one-shot| continuous|kr]`	Specifies the Decision Feedback Equalizer (DFE) mode of the port PHY.
`dfe-coarse not-started|in-progress|complete|error`	Specifies the DFE status of the port PHY.
`dfe-fine not-started|in-progress| complete|error`	Specifies the DFE status of the port PHY.
`fec` *`fec-string`*	Specifies the FEC.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The parameter, `eth-mode`, added.

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Version 2.2	The options, `disabled|1000base-kx|2500base-x|6Gbase-kr|6Gbase-cr|10Gbase-kr|10Gbase-cr|10Gbase-sr|AN-73|Xaui|10Gbase-kx4|10Gbase-cx4|24Gbase-kr4|24Gbase-cr4|40Gbase-kr4|XLaui|40Gbase-cr4|40Gbase-sr4|no-phy-present|MII|GMII|TBI| 10G-XGMII|1G-RGMII|10G-SFI|10G-XFI` added.
Version 3.0.0	The parameter, `link-quality`, deprecated.
Version 3.1.0	The parameters, `GII` and `disabled`, added.

Usage Switches are equipped with network data ports for host or inter-switch communication. Use this command to display the status of network data ports on the local switch.

Examples To display the status of network data ports on the switch, use the following command:

```
CLI network-admin@switch > port-phy-show
port    state    speed    eth-mode       max-frame  link-
quality   learning    def-vlan
17      up       1000     1000base-x     1540        n/a              on          1
19      up       10000    10Gbase-cr     10232       n/a              on          1
21      up       10000    10Gbase-cr     10232       n/a              on          1
23      up       10000    10Gbase-cr     10232       n/a              on          1
45      up       10000    10Gbase-cr     10232       n/a              on          1
65      up       10000    10Gbase-cr     10232       n/a              on          1
69      up       10000    10Gbase-cr     10232       n/a              on          1
```

Port Show Commands

port-show

This command displays information about network data port status.

Syntax `port-show`

`port` *`port-list`*	Specifies the switch network data port number, list of ports, or range of ports. Port numbers must be in the range of 1 to 64.
`bezel-port` *`bezel-port-string`*	Specifies the bezel port.
`ip` *`ip-address`*	Specifies the IP address of a host connected to a switch data port.
`mac` *`mac-address`*	Specifies the MAC address of a host connected to a switch data port.
`vlan` *`vlan-id`*	Specifies the VLAN identifier. This is a value between 0 and 4095.
`vxlan` *`vxlan-id`*	Specifies the VXLAN identifier. This is a value

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	between 0 and 16777215.
hostname *hostname*	Specifies the name of a host connected to a switch data port.
status phy-up|up|disabled|hw-nat-loop|mirror-loop|mirror-to|inuse| PN-switch|PN-fabric|PN-other|PN-cluster|PN-internal| PN-hypervisor|PN-guest|snmp-host| host|uplink|drop-pkts|no-pktin|no-fwd|no-flood|STP-BPDUs|LLDP|trunk| l3-port|remote-l3-port|vdp|dhcp| dhcpsvrblocked|no-BPDU|LACP-PDUs| vlag-active|vlag-blocked|stp-edge-port|LACP-wait|adjacency-wait| adjacency-check|vlag-wait| multicast-router| host-disabled| loop|vxlan-loopback|vlan-up|vle| vle-wait|phy-down|down| enabled| err-disabled|err-bpdu-guard|mac-violation| stp-bpdu-guard|stp-root-guard||defer-bringup-wait	Specifies the status of a switch data port.
loop-vlans vlan-list	Specifies VLANs looping on the ports.
rem-ip *ip-address*	Specifies the IP address of the remote switch.
lport *lport-number*	Specifies the logical port number on the switch.
rport *rport-number*	Specifies the port number on the remote switch.
config fd|hd|10m|100m|1g|2.5g|10g| 40g|loopback|mirror-only|autoneg| fiber|copper|qos|jumbo|pause| asymetric-pause|vxlan-termination| no-local-switching|fec	Specifies the settings of a switch data port.
description *description-string*	Specifies the description of the port.
trunk *trunk-name*	Specifies the identifier of the trunk that a switch data port is a member of.
hide-connections	Specifies whether the connections on switch data ports should be displayed.
recover-time duration: #d#h#m#s	Specifies the time left for recovery from err-disable state.

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`err-bpduguard` *`err-bpduguard-number`*	Specifies the total count of err-disables by BPDU guard.
`err-maclimit` *`err-maclimit-number`*	Specifies the total count of err-disables by MAC address limit.
`hide-connections`	Specifies if the connections are hidden.
`link-detail`	Specifies the details of the link such as PHY, link, etc.

Defaults None

Access CLI

History

Version 1.2	Command introduced.
Version 2.2.2	Options for `status` and `config` changed.
Version 2.2.6	The parameters, `LACP-wait|adjacency-wait|adjacency-check| vlag-wait|multicast-router` added.
Version 2.4	The options, `host-disabled|loop| vxlan-loopback|vlan-up`, added. The parameter, `loop-vlans`, added.
Version 2.6.2	The parameters, `rem-ip`, `recover-time`, `err-bpduguard`, `err-maclimit`, `hide-connections`, `link-detail`, added.

Usage Use this command to display information about port status on the switch.

Examples To display the port status for port 12, use the following command:

```
CLI network-admin@switch > port-show port 12 layout vertical
switch:           pubdev03
port:             45
ip:               192.168.42.10
mac:              64:0e:94:28:00:8e
hostname:         pubdev01
status:           up,PN-fabric,LLDP,trunk
lport:            45
rport:            45
config:           fd,10g
trunk:            trunk-info
```

port-stats-clear

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This command is used to clear statistics from a port.

Syntax `port-stats-clear port port-list`

port *port-list*	Specify a list of ports to clear statistics.

Defaults None

Access CLI

History Command introduced in Version 2.0.

Usage Use this command to clear statistics from a list of ports

Examples To clear statistics from ports 43-47, use the following command:

```
CLI network-admin@switch > port-stats-clear port 43-47
```

port-stats-show

This command displays packet count statistics for switch data ports.

Syntax `port-stats-show`

Specify any of the following options:

time date/time: yyyy-mm-ddThh:mm:ss	Specifies a time for the packet count statistics using the timestamp format YYYY-MM-DDTHH:MM:SS, where: • YYYY specifies the 4 digit calendar year; • MM specifies the 2 digit month of the year; • DD specifies the 2 digit day of the month; • HH specifies the 2 digit time of the day (24H notation); • MM specifies the 2 digit minute of the hour; SS specifies the 2 digit second of the minute
start-time *start-time*	Specifies a start time for the packet count statistics using the timestamp format YYYY-MM-DDTHH:MM:SS, where: • YYYY specifies the 4 digit calendar year; • MM specifies the 2 digit month of the year; • DD specifies the 2 digit day of the month; • HH specifies the 2 digit time of the day (24H notation); • MM specifies the 2 digit minute of the hour;

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	• SS specifies the 2 digit second of the minute.
end-time *end-time*	Specifies an end time for the packet count statistics using the timestamp format YYYY-MM-DDTHH:MM:SS, where: • YYYY specifies the 4 digit calendar year; • MM specifies the 2 digit month of the year; • DD specifies the 2 digit day of the month; • HH specifies the 2 digit time of the day (24H notation); • MM specifies the 2 digit minute of the hour; • SS specifies the 2 digit second of the minute.
duration *duration*	Specifies the duration in seconds.
interval duration: #d#h#m#s	Specifies the interval between statistics collection.
since-start| no-since-start	Specifies if the statistics are collected from the start of collecting statistics.
older-than duration: #d#h#m#s	Specifies if the statistics are older than the duration in days, hours, minutes, and seconds.
within-last duration: #d#h#m#s	Specifies if the statistics are within the duration in days, hours, minutes, and seconds.
port *port-list*	Specifies one or more switch network data port numbers. The port number must be in the range of 1 to 64. Multiple ports can be specified as a comma-separated list of numbers or a range (-).
description *description*	Displays the port description.
counter *counter-number*	Displays the counter number.
ibytes ibytes-number	Displays the incoming number of bytes.
ibits *ibits-number*	Displays the number of bits.
iUpkts *iUpkts-number*	Displays the number of incoming unicast packets.

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iBpkts *iBpkts-number*	Displays the number of incoming broadcast packets.
iMpkts *iMpkts-number*	Displays the number of incoming multicast packets.
iPauseFs *iPauseFs-number*	Displays the number of incoming pause frames.
iCongDrops *iCongDrops-number*	Displays the number of incoming packets dropped due to congestion.
idiscards *idiscards-number*	Displays the number of incoming packets discarded.
ierrs *ierrs-number*	Displays the number of incoming errors.
obytes *obytes-number*	Displays the number of outgoing bytes.
oUpkts *oUpkts-number*	Displays the number of outgoing unicast packets.
oBpkts *oBpkts-number*	Displays the number of outgoing broadcast packets.
oMpkts *oMpkts-number*	Displays the number of outgoing multicast packets.
oPauseFs *oPauseFs-number*	Displays the number of outgoing pause frames.
oCongDrops *oCongDrops*-number	DisplaysDisplays the number of outgoing packets dropped due to congestion.
odiscards *odiscards-number*	Displays the number of outgoing discarded packets.
oerrs *oerrs-number*	Displays the number of outgoing errors.
mtu-errs *mtu-errs-number*	Displays the number of MTU errors.
HER-packets *HER-pts-number*	Displays the number of Head End Replicated (HER) packets.
HER-bytes *HER-bytes-number*	Displays the number of Head End Replicated (HER) bytes.

Defaults None.

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Access CLI

History

Version 1.2	Command introduced.
Version 2.2.3	The parameter, `timestamp`, removed.
Version 2.4.1	The parameter, `mtu-errs`, added.
Version 2.6.0	The parameters, `HER-pkts and HER-bytes`, added.

Usage Switches are equipped with network data ports for host or inter-switch communication. This command shows the status of a specific network data port or all network data ports on the local switch. To see the output in bits, use the option format all.

Examples To display the packet count statistics for network data ports on the switch, use the following command:

```
CLI (network-admin@Spine-1) > port-stats-show format all layout
vertical
```

```
switch:      Spine-1
port:        10
counter:     0
timestamp:   09:24:21
ibytes:      66.6M
iUpkts:      451K
iBpkts:      173
iMpkts:      24
iPauseFs:    0
iCongDrops:  0
idiscards:   23
ierrs:       0
obytes:      1.37G
oUpkts:      1.19M
oBpkts:      2.23K
oMpkts:      10.5K
oPauseFs:    0
oCongDrops:  512
odiscards:   0
oerrs:       0
oPauseFs:    0
oCongDrops:  0
odiscards:   3
oerrs:       0
```

port-stats-settings-modify

This command is used to modify collecting statistics from a port.

Syntax `port-stats-settings-modify`

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Specify one or more of the following options:	
`enable|disable`	Specify if you want to enable or disable statistics collection.
`duration: #d#h#m#s disk-space`	Specify the duration of the interval between collecting statistics.
`disk-space` *`disk-space-number`*	Specify the amount of disk space to store the port statistics.

Defaults None

Access CLI

History Command introduced in Version 2.0.

Usage Use this command to clear statistics from a list of ports

Examples To clear statistics from ports 43-47, use the following command:

```
CLI network-admin@switch > port-stats-settings-modify port 43-47
```

port-stats-settings-show

This command displays the settings for collecting statistics on a port.

Syntax `port-stats-settings-show`

Defaults None

Access CLI

History Command introduced in Version 2.1.

Usage Use this command to display the settings for collecting statistics from ports

Examples To display settings for port statistics collection, use the following command:

```
CLI (network-admin@Spine-1) > port-stats-settings-show
switch:     Spine-1
enable:     yes
interval:   1m
disk-space: 8G
```

port-stats-snmp-show

This command displays SNMP statistics for switch data ports.

Syntax `port-stats-show`

Specify any of the following options:	
`port` *`port-list`*	Specifies one or more switch network data port numbers. The port number must be in the

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	range of 1 to 64. Multiple ports can be specified as a comma-separated list of numbers or a range (-).
`port-clear-count` *`port-clear-count-number`*	Displays the port clear count.
`port_clear_time high resolution time: #ns`	Displays when the port was cleared.
`port-clear-time duration: #d#h#m#s`	Displays duration that the port was cleared.
`all-ports`	Displays all ports.
`counter` *`counter-number`*	Displays the counter number.
`ibytes ibytes-number`	Displays the incoming number of bytes.
`ibits` *`ibits-number`*	Displays the number of bits.
`iUpkts` *`iUpkts-number`*	Displays the number of incoming unicast packets.
`iBpkts` *`iBpkts-number`*	Displays the number of incoming broadcast packets.
`iMpkts` *`iMpkts-number`*	Displays the number of incoming multicast packets.
`iPauseFs` *`iPauseFs-number`*	Displays the number of incoming pause frames.
`iCongDrops` *`iCongDrops-number`*	Displays the number of incoming packets dropped due to congestion.
`idiscards` *`idiscards-number`*	Displays the number of incoming packets discarded.
`ierrs` *`ierrs-number`*	Displays the number of incoming errors.
`obytes` *`obytes-number`*	Displays the number of outgoing bytes.
`oUpkts` *`oUpkts-number`*	Displays the number of outgoing unicast packets.
`oBpkts` *`oBpkts-number`*	Displays the number of outgoing broadcast packets.

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oMpkts *oMpkts-number*	Displays the number of outgoing multicast packets.
oPauseFs *oPauseFs-number*	Displays the number of outgoing pause frames.
oCongDrops *oCongDrops*-number	DisplaysDisplays the number of outgoing packets dropped due to congestion.
odiscards *odiscards-number*	Displays the number of outgoing discarded packets.
oerrs *oerrs-number*	Displays the number of outgoing errors.
mtu-errs *mtu-errs-number*	Displays the number of MTU errors.
HER-packets *HER-pts-number*	Displays the number of Head End Replicated (HER) packets.
HER-bytes *HER-bytes-number*	Displays the number of Head End Replicated (HER) bytes.

Defaults None.

Access CLI

History Command introduced in Version 3.1.0.

Usage Switches are equipped with network data ports for host or inter-switch communication. This command shows the status of a specific network data port or all network data ports on the local switch. To see the output in bits, use the option format all.

Examples To display the SNMP statistics for network data ports on the switch, use the following command:

```
CLI (network-admin@Spine-1) > port-stats-snmp-show format all layout
vertical
```

```
switch:           dorado-ext-04
port:             9
port-clear-count: 0
port-clear-time:  27m57s
all-ports:        false
counter:          0
ibytes:           916
ibits:            7.33K
iUpkts:           0
iBpkts:           6
iMpkts:           6
iPauseFs:         0
CongDrops:       0
idiscards:        0
ierrs:            0
ibytes:           477K
obits:            3.91M
oUpkts:           0
```

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```
oBpkts:           91
oMpkts:           4.87K
oPauseFs:         0
oCongDrops:       0
odiscards:        0
oerrs:            0
mtu-errs:         0
HER-pkts:         0
ER-bytes:        0
```

port-storm-control-modify

Use this command to modify the storm control configuration on a port.

Storm control prevents traffic on a LAN from disruption by a broadcast, multicast, or unicast storm on a port. A LAN storm occurs when packets flood the LAN, creating excessive traffic and degrading network performance.

Syntax `port-storm-control-modify`

port *port-list*	Specify the port list that you want to apply storm control.
Specify between one and three of the following options:	
unknown-ucast-level *unknown-ucast-level-string*	Specify the percentage of total available bandwidth that can be used by unicast traffic. The default value is 30%.
unknown-mcast-level *unknown-mcast-level-string*	Specify the percentage of total available bandwidth that can be used by multicast traffic. The default value is 30%.
broadcast-level *broadcast-level-string*	Specify the percentage of total available bandwidth that can be used by broadcast traffic. The default value is 30%.

Defaults None

Access CLI

History Command introduced in Version 2.2.3.

Usage The thresholds can either be expressed as a percentage of the total available bandwidth that can be used by the broadcast, multicast, or unicast traffic

Examples

```
CLI network-admin@switch > port-storm-control-modify port 11 unknown-ucast-leve 1.1
switch intf speed  unknown-ucast-level   unknown-mcast-level  broadcast-level
```

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```
------ ---  ----   --------------------- -------------------  ----------------
pl-12  11   10g   1.1%                  2.2%                    3.3%
```

port-storm-control-show

This command is used to display information about storm control on a port.

Storm control prevents traffic on a LAN from disruption by a broadcast, multicast, or unicast storm on a port. A LAN storm occurs when packets flood the LAN, creating excessive traffic and degrading network performance.

Syntax `port-storm-control-show`

port *port-list*	Specify a port or a list of ports.

Defaults None

Access CLI

History Command introduced in Version 2.2.3.

Usage Use this command to display information about ports configured for storm control.

Examples To display information about storm control, use the following syntax:

```
CLI network-admin@switch > port-storm-control-show port 11
switch intf speed  unknown-ucast-level   unknown-mcast-level  broadcast-level
------ ---  ----   --------------------- -------------------  ----------------
pl-12  11   10g   1.1%                  2.2%                    3.3%
```

Port VLAN Commands

port-vlan-add

This command is used to add a VLAN to a specific port.

Syntax `port-vlan-add`

port *port-number*	Specify the port number for the VLAN.
Specify one or both of the following options:	
vnet *vnet-name*	Specify the name of the VNET for the port.
vlans *vlans-list*	Specify the list of VLANs to apply to the port.
untagged-vlan *vlan-id*	Specify an untagged VLAN to apply to the port. The value can be from 0-4095.

Access CLI

History

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Version 1.2	Command introduced.
Version 2.3	The parameters, `ports`, `description`, and `active-vlans` deprecated.
Version 2.4.1	The parameter, `vnet`, added.

Usage Use this command to add a VLAN to a specific port.

Examples To add an untagged VLAN with the identifier 25 to port 11, use the following command:

```
CLI network-admin@switch > port-vlan-add port 11 untagged-vlan 25
```

port-vlan-remove

This command displays information about VLANs assigned to ports on the switch.

Syntax `port-vlan-remove`

`port` *`port-number`*	Specify the port that you want to remove from the configuration.
`vlans` *`vlan-list`*	Specify the VLAN list to remove from the port.
`vnet` *`vnet-name`*	Specify the name of the VNET for the port.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.4.1	The parameter, `vnet`, added.

Usage Used to remove existing ports or VLANs from the configuration.

Examples To remove VLAN list, vlan-remote, from port 25, use the following command:

```
CLI network-admin@switch > port-vlan-remove port 25 vlans vlan-remote
```

port-vlan-show

This command is used to display information about VLANs assigned to ports.

Syntax `port-vlan-show`

`vnet` *`vnet-name`*	Specify the name of the VNET for the port.

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port *port-number*	Specifies the port number for the VLAN.
vlans *vlans-list*	Specifies the list of VLANs to apply to the port.
untagged-vlan *vlan-id*	Specifies an untagged VLAN to apply to the port.
ports *port-list*	Specifies the list of ports.
description *description-string*	Specifies a description for the configuration.
active-vlans *vlan-list*	Specifies a list of active VLANs.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.4.1	The parameter, `vnet`, added.

Usage Use this command to display information about a VLAN on a specific port.

Examples To display information about an untagged VLANs, use the following command:

```
CLI network-admin@switch > port-vlan-show
switch   port vlans           untagged-vlan description active-vlans
-------- ---- --------------- ------------- ----------- ------------
pubdev01 1    4,10,22         1                         none
pubdev01 2    4,10,22         1                         none
pubdev01 3    4,10,22         1                         none
pubdev01 4    4,10,22         1                         none
pubdev01 5    4,10,22         1                         none
pubdev01 6    4,10,22         1                         none
pubdev01 7    4,10,22         1                         none
pubdev01 8    4,10,22         1                         none
pubdev01 9    4,10,22         1                         none
pubdev01 10   4,10,22         1                         none
pubdev01 11   4,10,22         1                         none
pubdev01 12   4,10,22         1                         none
pubdev01 13   4,10,22         1                         none
pubdev01 14   4,10,22         1                         none
pubdev01 15   4,10,22         1                         none
pubdev01 16   4,10,22         1                         none
pubdev01 17   4,10,22         1                         none
pubdev01 18   4,10,22         1                         none
pubdev01 19   4,10,22         1                         none
pubdev01 20   4,10,22         1                         none
pubdev03 56   3,8,500         500                       500
```

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port-xcvr-memory-show

Use this command to display information about transceiver memory.

Syntax `port-xcvr-memory-show`

`ports` *`port-list`*	Displays the specified ports.

Defaults None

Access Network Administrator

History Command introduced in Version 3.1.0.

Usage Use this command to display information about transceivers memory.

Examples Use the following syntax to display ports 3-5:

```
CLI network-admin@switch > port-xcvr-memory-show
```

port-xcvr-show

This command is used to display information about a transceiver installed in a port on the switch.

Syntax `port-xcvr-show`

`port` *`port-list`*	Displays the port list.
`vendor-name` *`vendor-name-string`*	Displays the vendor name for the transceiver.
`part-number` *`part-number-string`*	Displays the part number of the transceiver.
`serial-number` *`serial-number-string`*	Displays the serial number.
`supported Yes|Warning! Not supported`	Displays information about supported transceivers.
`temperature[C]` *`temperature[C]-number`*	Displays the port temperature in degrees Centigrade.
`vout[mV]` *`vout[mV]-number`*	Displays the voltage in millivolts.
`tx-bias1[mA] tx-bias1[mA]-string`	Displays the transmit bias current (mA).
`tx-pwr[dBm] tx-pwr[dBm]-`*`string`*	Displays the transmit power (dBm).
`rx-pwr[dBm] rx-pwr[dBm]-`*`string`*	Displays receive power (dBm).

Defaults None.

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Access CLI

History

Version 1.2.1	Command introduced.
Version 2.6.0	Transmit and receiver parameters added for lanes.

Usage Used to display information about SFPs installed in ports on the switch.

Examples

```
CLI network-admin@switch > port-xcvr-show
switch:        aquila-ext-43
port:          8
vendor-name:   PluribusNetworks
part-number:   QSFP40-CU0P5M
serial-number: V05B6082
supported:     Yes
temp[C]:         0.00
vcc[V]:        0.00
tx-bias1[mA]:   0.00
tx-bias2[mA]:   0.00
tx-bias3[mA]:   0.00
tx-bias4[mA]:   0.00
rx-pwr1[dBm]:   -Inf
rx-pwr2[dBm]:   -Inf
rx-pwr3[dBm]:   -Inf
rx-pwr4[dBm]:   -Inf
```

prefix-list-create

Create a prefix lists used for Router Advertisement (RA) Guard.

Syntax `prefix-list-create`

name *name-string*	Displays the name of the prefix list.
scope local|fabric	Displays the scope for the prefix list.

Defaults None

Access Network Administrator

History Command introduced in Version 3.0.0

Usage Use this command to create prefix lists.

Examples To create a prefix list, ra-prefix-1, use the following syntax:

```
CLI network-admin@switch > prefix-list-create name ra-prefix-1 scope
```

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local

prefix-list-delete

Delete a prefix lists used for Router Advertisement (RA) Guard.

Syntax `prefix-list-delete`

name *name-string*	Displays the name of the prefix list.

Defaults None

Access Network Administrator

History Command introduced in Version 3.0.0

Usage Use this command to delete prefix lists.

Examples To delete a prefix list , ra-prefix-1, use the following syntax:

```
CLI network-admin@switch > prefix-list-delete name ra-prefix-1
```

prefix-list-show

Display information about prefix lists used for Router Advertisement (RA) Guard.

Syntax `prefix-list-show`

name *name-string*	Displays the name of the prefix list.
scope local|fabric	Displays the scope for the prefix list.

Defaults None

Access Network Administrator

History Command introduced in Version 3.0.0

Usage Use this command to display information about prefix lists configuration.

Examples To display information about prefix lists configurations, ra-prefix-1, use the following syntax :

```
CLI network-admin@switch > prefix-list-show name ra-prefix-1
switch     name        scope
---------- ----------- -----
Spine-1    ra-prefix-1 local
```

prefix-list-network-add

Display network information for a Route Advertisement (RA) Guard configuration.

Syntax `prefix-list-network-add name`

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name *name-string*	Display the name of the prefix list network.
network *ip-address*	Display the IP address of the prefix list network.
netmask *netmask*	Display the netmask for the IP address.

Access Network Administrator

History Command introduced in Version 3.0.0.

Usage Use this command to add network information for a RA Guard configuration.

Examples To add network information for the prefix list network configuration, ra-prefix-1, use the following syntax:

```
CLI network-admin@switch > prefix-list-network-add name ra-prefix-1
network 1.1.1.1 netmask 255.255.255.0
```

```
switch     name        network
---------- ----------- ----------
Spine-1    ra-prefix-1 1.1.1.1/24
```

prefix-list-network-remove

Remove prefix list network information for a Route Advertisement (RA) Guard from the switch configuration.

Syntax `prefix-list-network-remove`

name *name-string*	Display the name of the prefix list network.
network *ip-address*	Display the IP address of the prefix list network.
netmask *netmask*	Display the netmask for the IP address.

Access Network Administrator

History Command introduced in Version 3.0.0.

Usage Use this command to remove network information from a RA Guard configuration.

Examples To remove network information for the prefix list network configuration, ra-prefix-1, use the following syntax:

```
CLI network-admin@switch > prefix-list-network-remove name ra-prefix-1
```

prefix-list-network-show

Display network information for a Route Advertisement (RA) Guard configuration.

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Syntax `prefix-list-network-show`

`name` *`name-string`*	Display the name of the prefix list network.
`network` *`ip-address`*	Display the IP address of the prefix list network.
`netmask` *`netmask`*	Display the netmask for the IP address.

Defaults None

Access Network Administrator

History Command introduced in Version 3.0.0

Usage Use this command to display network information about a RA Guard configuration.

Examples To display network information for the prefix list network configuration, ra-prefix-1, use the following syntax:

```
CLI network-admin@switch > prefix-list-network-show
switch     name        network
---------- ----------- ----------
Spine-1    ra-prefix-1 1.1.1.1/24
```

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Q Commands

quit

This command allows you to leave command line interface (CLI).

Syntax `quit`

Defaults None.

Access CLI

History Command introduced in nvOS Version 1.2.1

Usage The quit command is equivalent to the exit command.

Examples To leave the CLI, use the following command:

```
CLI network-admin@switch > quit
```

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R Commands

role-create

This command creates roles and access controls for a switch.

Syntax `role-create`

`name` *`name-string`*	Specify a name for the role.
`scope [local|fabric]`	Specify a scope for the role, either local or fabric.
Specify any of the following options:	
`access read-only|read-write`	Specify the access type for the role. The default role is read-write.
`running-config|no-running-config`	Specify if a user with this the role can use the `running-config-show` command. You may want to limit which users can use `running-config-show` because the command can expose sensitive password information.
`shell|no-shell`	Specify if the user can access the shell.
`sudo|no-sudo`	Specify if the user can execute the sudo command from the shell.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The parameter, `vnet`, is deprecated. The optional parameters access and running-config are added.
Version 2.6.0	The parameters, `shell` and `sudo`, added.

Usage In a multi-tenant environment, a switch or fabric can be divided into smaller logical segments known as virtual networks (VNETs) using role-based access control (RBAC). This command allows you to create roles and access controls for the local switch or fabric.

Examples To create the role, network-admin with access to the fabric and running configuration, use the

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following command:

```
CLI network-admin@switch > role-create name network-admin scope fabric
access read-write running-config
```

role-delete

This command is used to delete an existing role from the configuration .

Syntax `role-delete`

`name` *`name-string`*	Specify the name of the role to delete from the configuration.

Defaults None.

Access CLI

History Command introduced in nvOS Version 1.2.1.

Usage You can remove previously created roles from the switch configuration.

Examples To delete the role, network-admin, use the following command:

```
CLI network-admin@switch > role-delete name network-admin
```

role-modify

This command modifies roles and access controls for a switch.

Syntax `role-modify`

`name` *`name-string`*	Specify a name for the role.
`scope [local|fabric]`	Specify a scope for the role, either local or fabric.
Specify any of the following options:	
`access read-only|read-write`	Specify the access type for the role. The default role is read-write.
`running-config|no-running-config`	Specify if a user with this the role can use the `running-config-show` command. You may want to limit which users can use `running-config-show` because the command can expose sensitive password information.
`shell|no-shell`	Specify if the user can access the shell.
`sudo|no-sudo`	Specify if the user can execute the sudo command from the shell.

Defaults None.

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Access CLI

History

Version 2.0	Command introduced.
Version 2.1	The parameter, **name**, added.
Version 2.6.0	The parameters, `shell|no-shell`, and `sudo|no-sudo` added.

Usage In a multi-tenant environment, a switch or fabric can be divided into smaller logical segments known as virtual networks (VNETs) using role-based access control (RBAC). This command allows you to modify roles and access controls for the local switch or fabric.

Examples To modify a role, from read-write to read-only, use the following command:

```
CLI network-admin@switch > role-modify local-admin access read-only
```

role-show

This command is used to display roles in the switch configuration.

Syntax `role-show`

`name` *`name-string`*	Specify a name for the role.
`scope [local|fabric]`	Specify a scope for the role, either local or fabric.
Specify any of the following options:	
`access read-only|read-write`	Specify the access type for the role. The default role is read-write.
`running-config|no-running-config`	Specify if a user with this the role can use the `running-config-show` command. You may want to limit which users can use `running-config-show` because the command can expose sensitive password information.
`shell|no-shell`	Specify if the user can access the shell.
`sudo|no-sudo`	Specify if the user can execute the sudo command from the shell.

Defaults None.

Access CLI

History

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Version 2.0	Command introduced.
Version 2.1	The parameter, **name**, added.
Version 2.6.0	The parameters, `shell|no-shell`, and `sudo|no-sudo` added.

Usage You can view all configured roles in the switch configuration.

Examples To display all roles, use the following command:

```
CLI network-admin@switch > role-show format all layout
```

```
id:               6000021:402
name:             vlb-web-svr-admin
scope:            fabric
vnet-access:      vlb-web-svr
access:           read-write
running-config:   deny
id:               6000021:405
name:             test-admin
scope:            fabric
vnet-access:      test
access:           read-write
running-config:   deny
```

running-config-show

This command displays information about the current configuration on the switch.

Syntax `running-config-show`

Defaults None

Access CLI

History

Version 1.2	Command introduced.
Version 2.5.3	VNET administrator-related information displays when a VNET administrator runs this command.

Usage Displays information about the current configuration on the switch.

Examples To display the configuration, use the following command:

```
CLI network-admin@switch > running-config-show
```

The output is lengthy and includes port information, IP addresses, VNETs, and so on.

To view VNET administrator information:

1. Enable running-config for the VNET admin role, **(vnet1-admin)**:

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```
CLI network-admin@switch > role-modify name vnet1-admin running-config
```

2. Log into the VNET, as vnet1-admin, and run the running-config-show command:

```
CLI vnet1-admin@switch > running-config-show
```

```
storage-pool-create name pool-disk2 device1 disk2
storage-pool-create name test
vnet-manager-modify name vnet1-mgr enable
vnet-manager-service-modify vnet-manager-name vnet1-mgr if eth0 web
storage-hapool-create name hapool1 local-pool pool-di hapool-peer-pool
pool-disk4 backup-interval 1m
```

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S Commands

service-heartbeat-create

Netvisor generates a packet from the CPU to send to the receive port of an Inline Service and the Netvisor vFlow configured for snooping is not port-specific, as Netvisor accepts the response from either the receive port or the transmit port. You configure the heartbeat as an additional parameter for a specific Inline Service.

Syntax `service-heartbeat-create`

`name` *`name-string`*	Specify the name for the Heartbeat Service.
`interval duration: #d#h#m#s`	Specify the interval between heartbeat packets.
`retry` *`retry-number`*	Specify the number of times to retry sending a packet.
`vlan` *`vlan-id`*5	Specify a VLAN ID.
`src-mac` *`mac-address`*	Specify the source port MAC address.
`dst-mac` *`mac-address`*	Specify the destination MAC address.
`type normal|pass-through`	Specify the type of heartbeat response as normal or passthrough. A normal response indicates that the Inline Service sends the response. A passthrough response indicates that Netvisor sends the response and returns it to the Inline Service.
`payload` *`payload-string`*	Specify the payload for the heartbeat packet.

Defaults None

Access Network Administrator

History Command introduced in Version 2.6.0.

Usage Use this command to create a Heartbeat Service configuration.

Examples To create a Heartbeat Service, use the following syntax:

```
CLI network-admin@switch > service-heartbeat-create name FW_probe
interval 5s retry 3 vlan-id 10 src-mac 64:6e:11:1c:11:11 dst-mac
01:1b:11:01:01:01 type normal payload 54 63 82 ff 01 46 12 ce a2 d4 00
00 00 00 00 00 00 00
```

service-heartbeat-delete

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Netvisor generates a packet from the CPU to send to the receive port of an Inline Service and the Netvisor vFlow configured for snooping is not port-specific, as Netvisor accepts the response from either the receive port or the transmit port. You configure the heartbeat as an additional parameter for a specific Inline Service.

Syntax `service-heartbeat-delete`

`name` *`name-string`*	Specify a name for the Heartbeat Service.

Defaults None

Access Network Administrator

History Command introduced in Version 2.6.0.

Usage Use this command to delete a Heartbeat Service configuration.

Examples To delete Heartbeat Service, FW_probe, use the following syntax:

```
CLI network-admin@switch > service-heartbeat-delete name FW_probe
```

service-heartbeat-modify

Netvisor generates a packet from the CPU to send to the receive port of an Inline Service and the Netvisor vFlow configured for snooping is not port-specific, as Netvisor accepts the response from either the receive port or the transmit port. You configure the heartbeat as an additional parameter for a specific Inline Service.

Syntax `service-heartbeat-modify`

`name` *`name-string`*	Specify a name for the Heartbeat Service.
`interval duration: #d#h#m#s`	Specify the interval between heartbeat packets.
`retry` *`retry-number`*	Specify the number of times to retry sending a packet.
`payload` *`payload-string`*	Specify the payload for the heartbeat packet.

Defaults None

Access Network Administrator

History Command introduced in Version 2.6.0.

Usage Use this command to modify a Heartbeat Service configuration.

Examples To modify a Heartbeat Service, use the following syntax:

```
CLI network-admin@switch > service-heartbeat-modify name FW_probe retry
5
```

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service-heartbeat-show

Netvisor generates a packet from the CPU to send to the receive port of an Inline Service and the Netvisor vFlow configured for snooping is not port-specific, as Netvisor accepts the response from either the receive port or the transmit port. You configure the heartbeat as an additional parameter for a specific Inline Service.

Syntax `service-heartbeat-show`

name *name-string*	Specify the name for the Heartbeat Service.
interval duration: #d#h#m#s	Specify the interval between heartbeat packets.
retry *retry-number*	Specify the number of times to retry sending a packet.
vlan *vlan-id*5	Specify a VLAN ID.
src-mac *mac-address*	Specify the source port MAC address.
dst-mac *mac-address*	Specify the destination MAC address.
type normal|pass-through	Specify the type of heartbeat response as normal or passthrough. A normal response indicates that the Inline Service sends the response. A passthrough response indicates that Netvisor sends the response and returns it to the Inline Service.
payload *payload-string*	Specify the payload for the heartbeat packet.

Defaults None

Access Network Administrator

History Command introduced in Version 2.6.0.

Usage Use this command to display information about a Hearbeat Service configuration.

Examples To display information about a Hearbeat Service configuration, use the following syntax:

```
CLI network-admin@switch > service-heartbeat-show
```

service-stats-clear

This command is used to clear service statistics for a switch.

Syntax `service-stats-clear`

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service ftp-data|ftp-control|ssh| telnet|http|https|rpc|sql|imap| ldap|iSCSI|oracle-db|nfs|cifs| iSCSI-target|lockd|openstack-nova| openstack-keystone|openstack-metering|openstack-neutron| openstack-glance|openstack-cinder| and more	Specifies the name of the service associated with the well-known UDP or TCP port number. HDFS entries indicate Hadoop services.

Defaults None.

Access CLI

History

Version 2.3	Command introduced.
Version 2.4.1	The parameters, `port` and `bytes`, deprecated.

Usage Unless otherwise specified, aggregate statistics are displayed for all UDP and TCP services on the switch. Each switch maintains a set of standard flow-based statistics that are continuously tracked and updated by the switch. Use this command to clear traffic statistics for all UDP and TCP services on the switch.

Examples To clear service statistics, use the following command:

```
CLI network-admin@switch > service-stats-clear
```

service-stats-show

This command is used to display service statistics for a switch.

Syntax `service-stats-show`

name ftp-data|ftp-control|ssh| telnet|http|https|rpc|sql| imap|ldap|iSCSI|oracle-db|nfs| cifs|iSCSI-target|lockd| openstack-nova|openstack-keystone|openstack-metering| openstack-neutron| openstack-glance|openstack-cinder|...	Specifies the name of the service associated with the well-known UDP or TCP port number. • HDFS • Nutanix • MR-JobTracker • Hive • Ganglia • MySQL • Cassandra
bytes byte-number	The number of bytes associated with the

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	service port.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The parameters for OpenStack added.
Version 2.2.5	The parameters, `HDFS-`, added to support Hadoop.
Version 2.2.6	Parameters added for MR, Hive, HBase, WebHCat, Ganglia, MySQL, Snap, Cassandra, Ganglia, LDAP, and Nutanix.
Version 2.4.1	The parameter, `port`, deprecated.

Usage Unless otherwise specified, aggregate statistics are displayed for all UDP and TCP services on the switch. Each switch maintains a set of standard flow-based statistics that are continuously tracked and updated by the switch. Use this command to display traffic statistics for all UDP and TCP services on the switch.

Examples To display service statistics, use the following command:

```
CLI network-admin@switch > service-stats-show
port     name    bytes
0        other   90983
22       ssh     9709
80       http    7326910
443      https   1755667
2049     nfs     5540
```

sflow-create

This command is used to create an sFlow agent on the network. You can configure an sFlow agent with a scope of local or fabric.

Syntax `sflow-create`

`name` *`name-string`*	Specify a name for the sFlow collector.
`type ingress|egress`	Specify the type of packet for the sflow agent. Specify ingress to capture incoming packets and egress for outgoing packets.
`sample-type raw|cooked`	Specify the sample type for the sFlow agent. Raw indicates that the packet retains the link level header and cooked indicates that link level

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	header is removed.
ports *port-list*	Specify the list of ports to capture packets.
sample-rate *sample-rate-number*	Specify the rate of packet sampling by the sflow agent.
sample-interval *sample-inverval-number*	Specify the interval between packet captures.
trunc-length *trunc-length-number*	Specify the truncated length of the captured packet.
vnet *vnet-name*	Specify the VNET for sFlow.
vlan *vlan-id*	Specify the VLAN to apply to the sFlow agent. The value can be from 0 to 4095.
agent-id *ip-address*	Specify the IP address of the sFlow agent.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The parameter, `scope`, is deprecated. The parameter, `agent-id`, added.
Version 2.4.1	The parameter, `vnet`, added.

Usage sFlow agents capture packets on the network and send them to the sFlow collector for analysis. Use this command to configure an sFlow agent.

Examples To configure an sFlow agent, SF-agent1, with the scope fabric, sample type raw on ports 21-25, use the following command:

```
CLI network-admin@switch > sflow-create scope fabric name SF-agent1
sample-type raw ports 21-25
```

sflow-delete

This command is used to delete an sFlow agent from the network configuration.

Syntax `sflow-delete`

name *name-string*	Specify the name of the sFlow agent to delete.

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Defaults None.

Access CLI

History Command introduced in nvOS Version 1.2.1

Usage Use this command to delete an sFlow agent.

Examples To delete the sFlow agent, SF-agent1, use the following command:

```
CLI network-admin@switch > sflow-delete name SF-agent1
```

sflow-show

This command is used to display information about a sFlow agent on the network.

Syntax `sflow-show`

`name` *`name-string`*	Specifies a name for the sFlow collector.
`type ingress|egress`	Specifies the type of packet for the sFlow agent. Specify ingress to capture incoming packets and egress for outgoing packets.
`sample-type raw|cooked`	Specifies the sample type for the sFlow agent. Raw indicates that the packet retains the link level header and cooked indicates that link level header is removed.
`ports` *`port-list`*	Specifies the list of ports to capture packets.
`sample-rate` *`sample-rate-number`*	Specifies the rate of packet sampling by the sflow agent.
`sample-interval` *`sample-interval-number`*	Specifies the interval between packet captures.
`trunc-length` *`trunc-length-number`*	Specifies the truncated length of the captured packet.
`vnet` *`vnet-name`*	Specifies the VNET name.
`vlan` *`vlan-id`*	Specifies the VLAN that applies to the sFlow agent.
`agent-id` *`ip-address`*	Specifies the IP address of the sFlow agent.
`sample-pkt-cnt` *`sample-pkt-cnt-number`*	Specifies the number of sample packets.

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`sample-drops` *`sample-drops-number`*	Specifies the number of sample packets dropped.

Defaults None.

Access CLI

History Command introduced in nvOS Version 1.2.1.

Version 1.2	Command introduced.
Version 2.1	The parameter, `scope`, is deprecated. The parameters, `sample-pkt-cnt`, and `sample-drops` added.
Version 2.4.1.	The parameter, `vnet`, added.

Usage sFlow agents capture packets on the network and send them to the sFlow collector for analysis. Use this command to display information about an sFlow agent .

Examples To display the sFlow agent, SF-agent1, and display in a vertical format, use the following command:

```
CLI network-admin@switch > sflow-show name SF-agent1 layout vertical
```

sflow-collector-create

sFlow is an industry standard technology that monitors high speed switched networks. An sFlow collector gathers information from sFlow agents on the network. An sFlow collector can have a scope of local or fabric.

Syntax `sflow-collector-create`

`collector-ip` *`ip-address`*	Specify the IP address of the sFlow collector.
`collector-port` *`collector-port-number`*	Specify the port number for the sFlow collector.
`name` *`name-string`*	Specify a name for the sFlow collector.
`scope [local|fabric]`	Specify a scope, either fabric or local.

Defaults None.

Access CLI

History Command introduced in nvOS Version 1.2.1

Usage This command is used to create an sFlow collector to gather information from the sFlow agents on the network.

Examples To create the sFlow collector, sFlow-local, with the IP address of 192.168.18.37 on port 44, and the scope local, use the following syntax:

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```
CLI network-admin@switch > sflow-collector-create collector-ip
192.168.18.37 collector-port 37 name sflow-local scope local
```

sflow-collector-delete

This command is used to delete an sFlow collector from your sFlow configuration.

Syntax `sflow-collector-delete name name-string`

name *name-string*	Specify the name of the sFlow collector.

Defaults None.

Access CLI

History Command introduced in nvOS Version 1.2.1

Usage Use this command to delete an sFlow collector.

Examples To delete the sflow collector, sflow-local, use the following command:

```
CLI network-admin@switch > sflow-collector-delete name sflow-local
```

sflow-collector-show

This command is used to display the sFlow collector configuration.

Syntax `sflow-collector-show`

collector-ip *ip-address*	Specifies the IP address of the sFlow collector.
collector-port *collector-port-number*	Specifies the port number of the sFlow collector.
name *name-string*	Specifies the name of the sFlow collector.
scope [local|fabric]	Specifies the scope, either fabric or local.

Defaults None.

Access CLI

History Command introduced in nvOS Version 1.2.1

Usage Use this command to display information about the sFlow collector.

Examples To display information about sFlow collector, use the following command:

```
CLI network-admin@switch > sflow-collector-show layout vertical
```

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sflow-port-add

This command adds a port to the sflow-agent.

Syntax `sflow-port-add`

`sflow-name` *`name-string`*	Specify the name of the sFlow to add the port.
Specify the following port arguments:	
`switch` *`switch-name`*	Specify the name of the switch with the port.
`ports` *`port-list`*	Specify the list of ports to add to the sFlow agent.

Defaults None.

Access CLI

History Command introduced in nvOS Version 1.2.1.

Usage Use this command to add specific ports on a switch to the sFlow agent.

Examples To add ports 31-33 on switch antares24, to sFlow agent SF-agent1, use the following command:

```
CLI network-admin@switch > sflow-port-add sflow-name SF-agent1 switch
antares24 ports 31-33
```

sflow-port-remove

This command removes a port from the sFlow-agent.

Syntax `sflow-port-remove`

`sflow-name` *`name-string`*	Specify the name of the sFlow to add the port.
Specify the following port arguments:	
`switch` *`switch-name`*	Specify the name of the switch with the port.
`ports` *`port-list`*	Specify the list of ports to add to the sFlow agent.

Defaults None.

Access CLI

History Command introduced in nvOS Version 1.2.1.

Usage Use this command to remove specific ports on a switch to the sFlow agent.

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Examples To remove ports 31-33 on switch antares24, from sFlow agent SF-agent1, use the following command:

```
CLI network-admin@switch > sflow-port-remove sflow-name SF-agent1
switch antares24 ports 31-33
```

shell

This command is used to access the shell for Netvisor OS.

> **Informational Note**: Before you can use the shell command, you must modify the role to allow access to the shell. Use the role-modify command to allow access to the shell.

Syntax `shell`

Defaults None

Access Network Administrator

History Command introduced in Version 2.6.0.

Usage Use this command to access the shell for Netvisor ONE.

Examples To access the shell, use the following syntax:

```
CLI network-admin@switch > shell
'admin@switch:~$ '
```

snmp-community-create

This command is used to create SNMP communities to support SNMPv1.

Syntax `snmp-community-create`

`community-string` *`community-string-string`*	Specify the name for the community string.
`community-type read-only|read-write`	Specify the access type for the community.

Defaults None

Access CLI

History Command introduced in nvOS Version 2.0.

Usage Communities are used in SNMPv1 as a method of controlling access to information. Use this command to create a community for SNMPv1.

Examples To create a community, snmp-reader, for read-only access, use the following command:

```
CLI network-admin@switch > snmp-community-create community-string snmp-
reader community-type read-only
```

snmp-community-delete

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This command is used to delete an SNMP community that supports SNMPv1.

Syntax `snmp-community-delete`

`community-string` *`community-string-string`*	Specify the name for the community string to delete.

Defaults None

Access CLI

History Command introduced in nvOS Version 2.0.

Usage Communities are used in SNMPv1 as a method of controlling access to information. Use this command to delete a community for SNMPv1.

Examples To delete a community, snmp-reader, use the following command:

```
CLI network-admin@switch > snmp-community-delete community-string snmp-reader
```

snmp-community-modify

This command is used to modify an SNMP community to support SNMPv1.

Syntax `snmp-community-modify`

`community-string` *`community-string-string`*	Specify the name for the community string.
`community-type read-only|read-write`	Specify the access type for the community.

Defaults None

Access CLI

History Command introduced in nvOS Version 2.0.

Usage Communities are used in SNMPv1 as a method of controlling access to information. Use this command to modify a community for SNMPv1.

Examples To modify a community, snmp-reader, for read-write access, use the following command:

```
CLI network-admin@switch > snmp-community-modify community-string snmp-reader community-type read-write
```

snmp-community-show

This command is used to display SNMP communities that support SNMPv1.

Syntax `snmp-community-show [community-string community-string-string] [community-type read-only|read-write]`

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community-string *community-string-string*	Specify the name for the community string.
community-type read-only|read-write	Specify the access type for the community.

Defaults None

Access CLI

History Command introduced in nvOS Version 2.0.

Usage Communities are used in SNMPv1 as a method of controlling access to information. Use this command to display communities for SNMPv1.

Examples To display SNMPv1 communities, use the following command:

```
CLI network-admin@switch > snmp-community-show
switch   community-string community-type
-------- ---------------- --------------
pleiades1 test            read-write
pleiades2 test            read-write
pleiades3 test            read-write
```

SNMP Engine Commands

snmp-engineid-modify

Netvisor ONE allows you to modify the SNMP Engine ID and retrieve previous SNMP agent information for a switch no longer in use. If you remove a switch from the network, you can modify the SNMP Engine ID to use the old SNMP Engine ID so Netvisor can query and maintain the same history records for the new switch.

Syntax snmp-engineid-modify

engineid *string*	Specify the 28 character unique ID for the SNMP engine.

Defaults None

Access CLI

History Command introduced in Version 3.0.0.

Usage Use this command to modify the engine identification for the switch.

Examples To modify the engine identification, use the following command:

```
CLI network-admin@switch > snmp-engineid-modify  engineid
0x80001f8880f2af3c6a2528fc51
Warning: All SNMP users will be erased.
Please confirm y/n (Default: n): y
Modified snmp engineID, Deleted all SNMP users.Please re-create SNMP users.
```

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snmp-engineid-show

The SNMP engine ID is a unique string of 28 characters that identifies the device for administrative purposes. This command displays the identification of the local SNMP engine and all remote engines configured on the server-switch.

Syntax `snmp-engineid-show`

Defaults None

Access CLI

History Command introduced in nvOS Version 2.0.

Usage Use this command to display the engine identification for the switch.

Examples To display the engine identification, use the following command:

```
CLI network-admin@switch > snmp-engineid-show
switch:   pleiades24
engineid: 0x80001f8880f2af3c6a2528fc51
switch:   pleiades26
engineid: 0x80001f8880f2af3c6a2528fc51
switch:   pleiades28
engineid: 0x80001f8880f2af3c6a2528fc51
```

snmp-show

This command is used to display information about SNMP MIBs on the network.

Syntax `snmp-show`

`community-string` *community-string-string-show*	Specify the community string for SNMP.
`name` *snmp-oid name*	Specify the Object Identifier (OID) to display.
`show-type walk|get|get-next`	Specify the display method for the SNMP MIBs. Use get to retrieve and display the next SNMP object values. Use get-next to retrieve and display the SNMP object values associated with the requested object identifier.

Defaults None.

Access CLI

History Command introduced in nvOS Version 1.2.1.

Usage Use this command to display local SNMP MIB object values.

Examples To display the community, snmp-com, use the following command:

```
CLI network-admin@switch > show-snmp community-string snmp-com layout
```

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vertical

snmp-system-clear

You use this command to clear SNMP system information.

Syntax `snmp-system-modify`

`syscontact` *`syscontact-string`*	Specify the system contact information.
`syslocation syslocation-string`	Specify the system location.

Defaults None

Access Network Administrator

History Command introduced in Version 3.1.0.

Usage Use the command to clear system location information.

Examples To clear SNMP system information, use the following syntax:

```
CLI network-admin@switch > snmp-system-clear syscontact johndoe
```

snmp-system-modify

You use this command to modify SNMP system information.

Syntax `snmp-system-modify`

`syscontact` *`syscontact-string`*	Specify the system contact information.
`syslocation syslocation-string`	Specify the system location.

Defaults None

Access Network Administrator

History Command introduced in Version 3.1.0.

Usage Use the command to modify system location information.

Examples To modify SNMP system information, use the following syntax:

```
CLI network-admin@switch > snmp-system-modify syscontact johndoe
```

snmp-system-show

You use this command to display SNMP system information.

Syntax `snmp-system-show`

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`syscontact` *`syscontact-string`*	Specify the system contact information.
`syslocation syslocation-string`	Specify the system location.

Defaults None

Access Network Administrator

History Command introduced in Version 3.1.0.

Usage Use the command to display system location information.

Examples To display SNMP system information, use the following syntax:

```
CLI network-admin@switch > snmp-system-show
```

snmp-trap-enable-modify

This command is used to enable SNMP notifications about link conditions and common system errors.

Syntax `snmp-trap-enable-modify`

Specify one or more of the following options:	
`link-up-down|no-link-up-down`	Specify if you want to send SNMP traps based on port status.
`interface-up-down|no-interface-up-down`	Specify if you want to send SNMP traps for vRouter interface status.
`default-monitors|no-default-monitors`	Specify the monitor to apply to the trap.
`physical-sensors|no-physical-sensors`	Specify to send traps about physical sensors.
`low-disk-space|no-low-disk-space`	Specify to send traps about low disk space.
`low-disk-space-threshold` *`low-disk-space-threshold-string`*	Specify a low disk space threshold as a percentage.
`system-usage|no-system-usage`	Specify to send traps about memory and CPU usage.
`high-system-usage-threshold` *`high-system-usage-threshold-string`*	Specify a high system usage threshold as a percentage.
`login-failure|no-login-failure`	Specify to send traps about login failures.

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`cluster-tr-diverge|no-cluster-tr-diverge`	Specify to send traps when cluster transactions lists diverge.
`lacp-status|no-lacp-status`	Specify to send traps about LACP status.
`vport-modified|no-vport-modified`	Specify to send traps about vPort modifications.
`stp-port-modified|no-stp-port-modified`	Specify to send traps about STP port modifications.
`mirror-to-cpu|no-mirror-to-cpu`	Specify to send traps about mirror to CPU status.
`stp-port-state-failed|no-stp-port-state-failed`	Specify to send traps if the STP port status is `failed`.
`link-congestion-detected|no-link-congestion-detected`	Specify to send traps when link congestion is detected.
`fabric-node-state-changed|no-fabric-node-state-changed`	Specify to send traps when the fabric node state changes.
`stp-new-root|no-stp-new-root`	Specify to send traps when a new STP root is detected..
`stp-topology-changed|no-stp-topology-changed`	Specify to send traps when STP changes are detected.
`vrrp-new-master|no-vrrp-new-master`	Specify to send traps when a new V RRP master is detected.
`disable-start-stop`	Specify if you want to disable **coldstart** and **notifyshutdown** traps.

Defaults None

Access CLI

History

Version 2.0	Command introduced.
Version 2.3	The parameters, `physical-sensors`, `low-disk-space`, `system-usage`, and `login-failure`, added.
Version 2.4.1	The parameters, `lacp-status`, `vport-modified`, `stp-port-modified`,

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	mirror-to-cpu, and stp-port-state-failed, added.
Version 2.5	The parameters, link-congestion- and fabric-node-state- added.
Version 2.6.2	The parameters, stp-new-root, stp-err-disabled, and vrrp-new master, added.
Version 3.0.0	New parameters, disable-start-stop and interface-up-down, added. The parameter, stp-err-disable, changed to stp-topology-changed.
Version 5.1.0	The parameter, cluster-tr-diverge|no-cluster-tr-diverge, added.

Usage Use this command to use link status for notifications.

Examples To use link status as the notification, use the following command:

```
CLI network-admin@switch > snmp-trap-enable-modify link-up-down
```

snmp-trap-enable-show

This command is used to display information about SNMP traps.

Syntax snmp-trap-enable-show

Defaults None

Access CLI

History Command introduced in nvOS Version 2.0.

Usage Use this command to display information about SNMP traps.

Examples To display SNMP trap information, use the following command:

```
CLI network-admin@switch > snmp-trap-enable-show
switch:           Spine-1
link-up-down:     no
default-monitors: no
switch:           Spine-2
link-up-down:     no
default-monitors: no
switch:           Spine-3
link-up-down:     no
default-monitors: no
```

snmp-trap-sink-create

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This command is used to specify a SNMPv1 trap receiver for SNMP traps.

Syntax `snmp-trap-sink-create`

`community` *`community-string`*	Specify the community name to send traps.
`type TRAP_TYPE_V1_TRAP| TRAP_TYPE_V2C_TRAP| TRAP_TYPE_V2_INFORM`	Specify the type of SNMP trap.
`dest-host` *`dest-host-string`*	Specify the destination host.
`dest-port` *`dest-port-number`*	Specify the destination port. The default port is 162.

Defaults None

Access CLI

History

Version 2.0	Command introduced.
Version 2.4	The options, `TRAP_TYPE_V3_TRAP| TRAP_TYPE_V3_INFORM` deprecated.

Usage Use this command to send SNMP traps to a receiver. You can configure up to two receivers.

Examples To send TRAP_TYPE_V1_TRAP, from community string, snmp-group, to the destination, trap-recvr, on port 43, use the following command:

```
CLI network-admin@switch > snmp-trap-sink-create community snmp-group
trap TRAP_TYPE_V1_TRAP dest-host trap-recvr dest-port 43
```

snmp-trap-sink-delete

This command is used to delete a SNMPv1 trap receiver for SNMP traps.

Syntax `snmp-trap-sink-delete`

`community` *`community-string`*	Specify the community name to send traps.
`type TRAP_TYPE_V1_TRAP| TRAP_TYPE_V2C_TRAP| TRAP_TYPE_V2_INFORM`	Specify the type of SNMP trap.
`dest-host` *`dest-host-string`*	Specify the destination host.
`dest-port` *`dest-port-number`*	Specify the destination port. The default port is 162.

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Defaults None

Access CLI

History Command introduced in nvOS Version 2.0.

Usage Use this command to delete an SNMP receiver.

Examples To delete community string, snmp-group, and the destination, trap-recvr, on port 43, use the following command:

```
CLI network-admin@switch > snmp-trap-sink-delete community snmp-group
dest-host snmp-recvr dest-port 43
```

snmp-trap-sink-show

This command is used to display infomation about a SNMPv1 trap receiver for SNMP traps.

Syntax `snmp-trap-sink-show`

`community` *`community-string`*	Specify the community name to send traps.
`type TRAP_TYPE_V1_TRAP| TRAP_TYPE_V2C_TRAP| TRAP_TYPE_V2_INFORM`	Specify the type of SNMP trap.
`dest-host` *`dest-host-string`*	Specify the destination host.
`dest-port` *`dest-port-number`*	Specify the destination port. The default port is 162.

Defaults None

Access CLI

History

Version 2.0	Command introduced.
Version 2.4	The options, `TRAP_TYPE_V3_TRAP| TRAP_TYPE_V3_INFORM` deprecated.

Usage Use this command to display information about an SNMP receiver.

Examples To modify the destination port to 53 for community string, snmp-group, and the destination host, trap-recvr,, use the following command:

```
CLI network-admin@switch > snmp-trap-sink-show community snmp-group
```

snmp-user-create

SNMPv3 creates users as access control mechanisms, and creating users is more complex but also more secure and more flexible. You can also require that users must authenticate and use encryption.

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Syntax `snmp-user-create`

`user-name` *`name-string`*	Specify the user name.
`auth-password` *`auth-password-string`*	Specify the authentication password.
`auth|no-auth`	Specify if authentication is required or not.
`auth-hash md5|sha`	Specify the type of authentication hashing algorithm.
`priv-password` *`priv-password-string`*	Specify the password for privileges mode.
`priv|no-priv`	Specifies if privileges are assigned or not.

Defaults None

Access CLI

History

Version 2.0	Command introduced.
Version 2.1	The parameter, **auth-password**, and **priv-password** added.
Version 2.6.0	The parameter, `auth-hash`, added.

Usage Use this command to create users for SNMPv3.

Examples To create SNMPv3 users, use the following command:

```
CLI network-admin@switch > snmp-user-create
```

snmp-user-delete

SNMPv3 creates users as access control mechanisms, and creating users is more complex but also more secure and more flexible. You can also require that users must authenticate and use encryption.

Syntax `snmp-user-delete`

`user-name` *`name-string`*	Specifies the user name.

Defaults None

Access CLI

History Command introduced in Netvisor Version 2.0.

Usage Use this command to delete a user configured for SNMPv3.

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Examples To display SNMPv3 user information, use the following command:

```
CLI network-admin@switch > snmp-user-delete
```

snmp-user-modify

SNMPv3 creates users as access control mechanisms, and creating users is more complex but also more secure and more flexible. You can also require that users must authenticate and use encryption.

Syntax `snmp-user-modify`

`user-name` *`name-string`*	Specify the user name.
`auth-password` *`auth-password-string`*	Specify the authentication password.
`auth|no-auth`	Specify if authentication is required or not.
`auth-hash md5|sha`	Specify the type of authentication hashing algorithm.
`priv-password` *`priv-password-string`*	Specify the password for privileges mode.
`priv|no-priv`	Specifies if privileges are assigned or not.

Default None

Access CLI

History

Version 2.0	Command introduced.
Version 2.1	The parameter, **auth-password**, and **priv-password** added.
Version 2.6.0	The parameter, `auth-hash`, added.

Usage Use this command to modify parameters configured for SNMPv3 users.

Examples To modify SNMPv3 user information, use the following command:

```
CLI network-admin@switch > snmp-user-modify
```

snmp-user-show

SNMPv3 creates users as access control mechanisms, and creating users is more complex but also more secure and more flexible. You can also require that users must authenticate and use encryption.

Syntax `snmp-user-show`

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`user-name` *`name-string`*	Specify the user name.
`auth-password` *`auth-password-string`*	Specify the authentication password.
`auth|no-auth`	Specify if authentication is required or not.
`auth-hash md5|sha`	Specify the type of authentication hashing algorithm.
`priv-password` *`priv-password-string`*	Specify the password for privileges mode.
`priv|no-priv`	Specifies if privileges are assigned or not.

Defaults None

Access CLI

History

Version 2.0	Command introduced.
Version 2.1	The parameter, **auth-password**, and **priv-password** added.
Version 2.6.0	The parameter, `auth-hash`, added.

Usage Use this command to display information about users configured for SNMPv3.

Examples To display SNMPv3 user information, use the following command:

```
CLI network-admin@switch > snmp-user-show
```

snmp-v3-trap-sink-create

This command is used to specify a SNMPv3 trap receiver for SNMP traps.

Syntax `snmp-trap-sink-create`

`user-name` *`user-name-string`*	Specify the user name to send traps.
`type TRAP_TYPE_V3_TRAP|TRAP_TYPE_V3_INFORM`	Specify the type of SNMP trap.
`dest-host` *`dest-host-string`*	Specify the destination host.
`dest-port` *`dest-port-number`*	Specify the destination port.

Defaults None

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Access CLI

History

Version 2.0	Command introduced.
Version 2.4	The options, `TRAP_TYPE_V1_TRAP|TRAP_TYPE_V2C_TRAP|TRAP_TYPE_V2_INFORM` deprecated.
Version 2.4.1	The parameters, `engine-id`, `auth-password`, `auth|no-auth`, `priv-password`, and `priv|no-priv` deprecated.

Usage Use this command to send SNMPv3 traps to a receiver.

Examples To send TRAP_TYPE_V3_TRAP, from community string, snmp-group, to the destination, trap-recvr, on port 43, use the following command:

```
CLI network-admin@switch > snmp-v3-trap-sink-create snmp-group dest-host snmp-recvr dest-port 43
```

snmp-v3-trap-sink-delete

This command is used to remove an SNMPv3 trap receiver from the configuration.

Syntax `snmp-v3-trap-sink-delete`

`user-name` *`user-name-string`*	Specify the user name to send traps.
`dest-host` *`dest-host-string`*	Specify the destination host.
`dest-port` *`dest-port-number`*	Specify the destination port.

Defaults None

Access CLI

History

Version 2.0	Command introduced.
Version 2.4	The parameter, `engine-id`, deprecated.

Usage Use this command to remove an SNMPv3 trap receiver from the configuration.

Examples To remove the user, snmp-admin, and destination host, snmpv3-receiver, from destination port 67, use the following command:

```
CLI network-admin@switch > snmp-v3-trap-sink-delete user-name snmp-admin dest-host snmpv3-
```

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```
receiver dest-port 67
```

snmp-v3-trap-sink-show

This command is used to display information about a SNMPv3 trap receiver for SNMP traps.

Syntax `snmp-trap-sink-show`

`user-name` *`user-name-string`*	Specify the user name to send traps.
`type TRAP_TYPE_V3_TRAP| TRAP_TYPE_V3_INFORM`	Specify the type of SNMP trap.
`dest-host` *`dest-host-string`*	Specify the destination host.
`dest-port` *`dest-port-number`*	Specify the destination port.

Defaults None

Access CLI

History

Version 2.0	Command introduced.
Version 2.4	The options, `TRAP_TYPE_V1_TRAP| TRAP_TYPE_V2C_TRAP| TRAP_TYPE_V2_INFORM` deprecated.

Usage Use this command to display information about an SNMPv3 receiver configuration.

Examples To display information about an SNMPv3 receiver, use the following command:

```
CLI network-admin@switch > snmp-v3-trap-sink-show
```

software-license-import-product-ids

This command is used to import product identification used with software licenses.

Syntax `software-license-import-product-ids`

`pid-file sftp-files` *`name`*	Specify the name of the product ID file to import into the switch.

Defaults None

Access CLI

History Command introduced in Version 2.0.

Usage To license a switch, you must import the product ID file.

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Examples To import the product ID file named, nvos-pids, use the following command:

```
CLI network-admin@switch > software-license-import-product-ids  pid-file
sftp-files  nvos-pids
```

software-license-install

This command is used to install software licenses on the switches.

Syntax `software-license-install`

`key key-string`	Specify the key string for the license.

Defaults None

Access CLI

History Command introduced in Version 2.0.

Usage Some features in Netvisor require license keys in order to activate them.

Examples To install the license key, 98874377282894729728 97ghg, use the following command:

```
CLI network-admin@switch > software-license-install  key
98874377282894729728 97ghg
```

software-license-show

This command is used to display information about software licenses installed on the switch.

Syntax `software-license-show`

`license-id` *`license-id-string`*	Specifies the license ID string.
`id` *`id-number`*	Specifies the ID.
`description` *`description-string`*	Specifies the description of the license.
`prompt` *`prompt-string`*	Specifies the prompt string.
`key` *`key-string`*	Specifies the generated keys.
`feature` *`feature-string`*	Specifies the licensed features.
`upgrade yes|no]`	Specifies if the license is upgradeable.
`upgrade-from` *`upgrade-from-string`*	Specifies the software version to upgrade from.

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`sysconfig yes|no`	Specifies the system configuration.
`pending yes|no`	Specifies if the verification of the license is pending.
`pid-file` *`sftp-files name`*	Specifies the PID file name.
`expires-on` *`expires-on-string`*	Specifies the expiration date.
`status unknown|VALID|EXPIRING| GRACE|EXPIRED]`	Specifies the license status.

Defaults None

Access CLI

History Command introduced in nvOS Version 2.1.

Usage Use this command to display information about software licenses installed on a switch.

Examples To display the license information, use the following command:

```
CLI (network-admin@pleiades25) > software-license-show
switch:       pleiades25
license-id:   F-ASDF-NVOS2.0
description:  Freedom F-Line Advanced Software Defined Fabric License for
Netvisor 2.x
key:          sung,decrypt,true,airdrop
feature:      all
upgrade-from:
```

software-modify

This command is used to modify software update settings.

Syntax `software-modify`

Specify one or more of the following options:

`reboot-group software-reboot-group name`	Specify the reboot group membership for this switch. The option, none, clears the membership.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.

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Version 2.1.2	`autoupgrade|no-autoupgrade` deprecated.
Version 2.4.1	The parameter, `phone-home`, deprecated. The parameter, `reboot-group`, added.
Version 5.1.0	The following parameters deprecated: • `track` • `use-proxy` • `proxy-host` • `proxy-port`

Usage A switch can contact an upgrade server, either directly or through a proxy, to configure another version of the OS. This command modifies the configuration of the OS upgrade process of the local switch.

Examples To enable the local switch to create a reboot group, use the following command:

```
CLI network-admin@switch > software-modify reboot-group new-version
```

software-show

This command is used to display the currently running version of the software on the local switch.

Syntax `software-show`

Defaults None.

Access CLI

History Command introduced in nvOS Version 1.2.1.

Usage This command displays the currently running version of the software installed on the local switch

Examples To display the software version installed on the local switch, use the following command:

```
CLI network-admin@switch > software-show
version:          5.1.2-5010215459
```

software-track-show (deprecated)

History

Version 1.2.1	Command introduced.
Version 5.1.0	Command deprecated.

software-upgrade

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This command is used to upgrade the operating system on the switch.

Syntax `software-upgrade package sftp-files-name upload-server upload-server-string`

package *sftp-files-name*	Specify the file names for the software upgrade.
upload-server *upload-server-string*	Specify if you want to upload the configuration file a SFTP server..

Defaults None.

Access CLI

History

Version 1.2.1	Command introduced.
Version 3.1.0	The parameter, `upload-server`, added.

Usage A switch can contact an upgrade server, either directly or through a proxy, to configure another version of the OS. This command launches the OS upgrade process on the local switch.

Examples To launch the OS upgrade process on the local switch, use the following command:

```
CLI network-admin@switch > software-upgrade package release-2.4
```

software-upgrade-status-show

This command is used to display the status of a software upgrade on a switch.

Syntax `software-upgrade-status-show`

Defaults None

Access CLI

History Command introduced Version 2.2

Usage You can use this command to track the status of a software upgrade on a switch.

Examples To view the status of a software upgrade, use the following syntax:

```
CLI network-admin@switch > software-upgrade-status-show
log:                No upgrade in progress.
```

software-reboot-sequence-modify

This command is used to modify the sequence in which a group of switches that reboot at the same time after a fabric upgrade.

Syntax `software-reboot-sequence-modify sequence sequence-string`

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sequence *sequence-string*	Specify reboot order for the reboot groups.

Defaults None

Access CLI

History Command introduced in Version 2.4.

Usage Use this command to modify the reboot sequence for a group of switches that reboot at the same time.

Examples To modify the reboot order, use the following syntax:

```
CLI network-admin@switch > software-reboot-sequence-modify sequence 1-4
```

software-reboot-group-create

This command is used to create a group of switches that reboot at the same time after a fabric upgrade.

Syntax `software-reboot-group-create`

name *name-string*	Specify a name for reboot group.

Defaults None

Access CLI

History Command introduced in Version 2.4.

Usage Use this command to create a group of switches to reboot at the same time.

Examples To create a group named sw-reboot-1, use the following syntax:

```
CLI network-admin@switch > software-reboot-group-create name sw-reboot-
1
```

software-reboot-group-delete

This command is used to delete a group of switches that reboot at the same time after a fabric upgrade.

Syntax `software-reboot-group-delete`

name *name-string*	Specify a name for reboot group.
force|no-force	Specify if you want to force the removal of a software reboot group with member.

Defaults None

Access CLI

History Command introduced in Version 2.4.

Usage Use this command to delete a group of switches to reboot at the same time.

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Examples To delete a group named sw-reboot-1, use the following syntax:

```
CLI network-admin@switch > software-reboot-group-delete name sw-reboot-1
```

software-reboot-group-show

This command is used to display a group of switches that reboot at the same time after a fabric upgrade.

Syntax `software-reboot-group-show`

`sequence` *`sequence-number`*	Specifies the number indicating the position in the reboot sequence.
`name` *`name-string`*	Specifies a name for reboot group.
`force|no-force`	Specifies if you force the removal of a software reboot group.
`switch` *`switch-string`*	Specifies the switch name for a member.

Defaults None

Access CLI

History

Version 2.4	Command introduced.
Version 2.4.1	The parameters, `sequence`, `force`, and `switch` added.

Usage Use this command to display a group of switches that reboot at the same time.

Examples To display a group named sw-reboot-1, use the following syntax:

```
CLI network-admin@switch > software-reboot-group-show name sw-reboot-1
```

ssh

This command allows you to use the protocol, Secure Shell (SSH) to remotely log into a host from a switch.

Syntax `ssh host -l user`

`host`	Specifies the hostname or IP address of a host.
`user`	Specifies a configured user on the host.

Defaults None.

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Access CLI

History Command introduced in nvOS Version 1.2.1.

Usage A switch can remotely log into another host. This command initiates a remote login using a secure, encrypted communication with the SSH protocol.

Examples To remotely log into the switch at 10.1.1.1 as the admin, use the following command:

```
CLI network-admin@switch > ssh admin@10.1.1.1
```

ssh-known-hosts-delete

This command allows you to delete outdated SSH fingerprints from the `known_hosts` file on a switch.

Syntax `ssh-known-hosts-delete`

Defaults None.

History Command introduced in nvOS Version 1.2.1.

Usage Allows you to delete SSH fingerprints from previous logins.

Examples To delete the fingerprint from the switch, use the following command:

```
CLI network-admin@switch > ssh-known-hosts-delete
```

stack-hex-led-modify (deprecated)

History Command introduced in Version 3.0.0.

stack-hex-led-show (deprecated)

History Command introduced in Version 3.0.0.

static-arp-create

This command adds the capability of supporting static ARP in the ARP cache.

Syntax `static-arp-create`

`scope local|cluster|fabric`	Specify the scope of the group. The default scope is local.
`ip ip-address`	Specify the Ip address of the host to bind with the MAC address.
`mac mac-address`	Specify the unicast MAC address to bind with the IP address of the host.

Defaults None

Access Network Administrator

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History Command introduced in Version 5.1.1.

Usage Use this command to create a static ARP entry in the ARP cache.

Examples To create an ARP entry between two hosts, use the following syntax:

```
CLI network-admin@switch > static-arp-create ip 172.148.0.0 mac
00:12:00:88:0c:00
```

static-arp-delete

This commands deletes the unicast static ARP from the configuration.

Syntax `static-arp-delete`

ip ip-address	Specify the IP address of the host that is binding with the MAC address.

Defaults None

Access Network Administrator

History Command introduced in Version 5.1.1.

Usage Use this command to delete a static ARP entry.

Examples To delete a static ARP entry for IP address, 172.148.0.0, use the following syntax:

```
CLI network-admin@switch > static-arp-delete ip 172.148.0.0
```

static-arp-modify

This command modifies the static ARP configuration.

Syntax `static-arp-modify`

ip ip-address	Specify the IP address of the host that is binding with the MAC address.
mac mac-address	Specify the unicast MAC address to bind with the IP address of the host.

Defaults None

Access Network Administrator

History Command introduced in Version 5.1.1.

Usage Use this command to modify a static ARP entry.

Examples To modify an static ARP entry between two hosts, use the following syntax:

```
CLI network-admin@switch > static-arp-modify ip 172.148.0.0 mac
00:12:00:88:0c:01
```

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static-arp-show

This command displays information about the static ARP entry.

Syntax `static-arp-show`

`scope local|cluster|fabric`	Displays the scope of the group. The default scope is local.
`ip ip-address`	Displays the Ip address of the host to bind with the MAC address.
`mac mac-address`	Displays the unicast MAC address to bind with the IP address of the host.

Defaults None

Access Network Administrator

History Command introduced in Version 5.1.1.

Usage Use this command to display the details of a static ARP entry.

Examples To display static ARP entry, use the following syntax:

```
CLI network-admin@switch > static-arp-show scope local ip 172.148.0.0

switch  scope     ip                  mac
------  -------  --------------  --------------------
switch  local     172.148.0.0    00:12:00:88:0c:00
```

static-ecmp-group-create

This command adds the capability of supporting multiple nexthops for Equal Cost Multipath (ECMP) routing to single destinations as part of Policy-Based Routing (PBR).

Syntax `static-ecmp-group-create`

`group-name` *`group-name-string`*	Specify an ECMP group name.
`scope local|cluster|fabric`	Specify the scope of the group. The default scope is local.
`vrouter-name` *`vrouter name`*	Specify the vRouter name.
`hash-type non-resilient|resilient`	Specify the type of ECMP hash for the group. Resilient hashing helps minimize the flow remapping across ECMP groups and LAGs in a

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	load-balanced.

Defaults None

Access Network Administrator

History Command introduced in Version 5.0.0.

Usage Use this command to create a static ECMP group.

Examples To create an ECMP group named GR1, use the following syntax:

```
CLI network-admin@switch > static-ecmp-group-create group-name GR1
```

static-ecmp-group-delete

This commands removes ECMP groups from the configuration.

Syntax `static-ecmp-group-delete`

`group-name` *`group-name-string`*	Specify an ECMP group name.

Defaults None

Access Network Administrator

History Command introduced in Version 5.0.0.

Usage Use this command to delete a static ECMP group.

Examples To delete an ECMP group named GR1, use the following syntax:

```
CLI network-admin@switch > static-ecmp-group-delete group-name GR1
```

static-ecmp-group-modify

This commands modifies the ECMP configuration.

Syntax `static-ecmp-group-modify`

`group-name` *`group-name-string`*	Specify an ECMP group name.
`vrouter-name` *`vrouter name`*	Specify the vRouter name.
`hash-type non-resilient|resilient`	Specify the type of ECMP hash for the group. Resilient hashing helps minimize the flow remapping across ECMP groups and LAGs in a load-balanced system.

Defaults None

Access Network Administrator

History Command introduced in Version 5.0.0.

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Usage Use this command to modify a static ECMP group.

Examples To modify an ECMP group named GR1 and add vRouter, VR1, use the following syntax:

```
CLI network-admin@switch > static-ecmp-group-modify group-name GR1
vrouter VR1
```

static-ecmp-group-show

This command displays information about Equal Cost Multipath (ECMP) routing groups.

Syntax `static-ecmp-group-show`

group-name *group-name-string*	Specify an ECMP group name.
scope local|cluster|fabric	Specify the scope of the group. The default scope is local.
vrouter-name *vrouter name*	Specify the vRouter name.
hash-type non-resilient|resilient	Specify the type of ECMP hash for the group.

Defaults None

Access Network Administrator

History Command introduced in Version 5.0.0.

Usage Use this command to display a static ECMP group.

Examples To display ECMP groups, use the following syntax:

```
CLI network-admin@switch > static-ecmp-group-show gr1

group-name scope vrouter-name vrid hw-ecmp-id
---------- ----- ------------ ---- ----------
gr1        local VR1          -1   -1
```

static-ecmp-group-nh-add

Add a nexthop destination to a static ECMP group configuration.

Syntax `static-ecmp-group-nh-add`

group-name *group-name-string*	Specify the ECMP group name.
ip *ip-address*	Specify the IP address of the gateway.

Defaults None

Access Netvisor Administrator

History Command introduced in Version 5.0.0.

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Usage Use this command to add a nexthop to a static ECMP configuration.

Examples To add a nexthop IP address, 172.21.16.23, to group, GR1, use the following syntax:

```
CLI network-admin@switch > static-ecmp-group-nh-add group-name GR1 ip
172.21.16.23
```

static-ecmp-group-nh-remove

Remove a nexthop destination from a static ECMP group configuration.

Syntax `static-ecmp-group-nh-remove`

`group-name` *`group-name-string`*	Specify the ECMP group name.
`ip` *`ip-address`*	Specify the IP address of the gateway.

Defaults None

Access Netvisor Administrator

History Command introduced in Version 5.0.0.

Usage Use this command to remove a nexthop from a static ECMP configuration.

Examples To remove a nexthop IP address, 172.21.16.23, to group, GR1, use the following syntax:

```
CLI network-admin@switch > static-ecmp-group-nh-remove group-name GR1
ip 172.21.16.23
```

static-ecmp-group-nh-show

Display a nexthop destination to a static ECMP group configuration.

Syntax `static-ecmp-group-nh-show`

`group-name` *`group-name-string`*	Displays the ECMP group name.
`ip` *`ip-address`*	Displays the IP address of the gateway.
`vlan` *`vlan-id`*	Displays the VLAN of the nexthop.
`egress-id` *`egress-id-number`*	Displays the hardware egress ID.

Defaults None

Access Netvisor Administrator

History Command introduced in Version 5.0.0.

Usage Use this command to display a nexthop information for a static ECMP configuration.

Examples To display the configuration, GR1, use the following syntax:

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```
CLI network-admin@switch > static-ecmp-group-nh-show  group-name  GR1
group-name ip                  vlan egress-id
---------- -------------       ---- ---------
gr1        172.21.16.23        24    -1
```

Spanning Tree Protocol Commands

stp-modify

This command is used to configure Spanning Tree Protocol (STP).

Syntax `stp-modify`

`mst-config-name` *`name-string`*	Soecify the name of the Multiple Spanning Tree (MST) configuration.
`enable|disable`	Specify if you want to enable or disable STP.
`stp-mode rstp|mstp`	Specify the STP mode as RSTP or MSTP.
Specify one or more of the following options:	
`bpdus-bridge-ports|bpdus-all-ports`	Specify if you want BPDU packets to bridge specific ports or all ports.
`bridge-priority` *`bridge-priority-number`*	Specify the bridge priority.
`hello-time` *`seconds`*	Specify the hello time in seconds. This is a value between 1 and 10 seconds. The default value is 2 seconds.
`forwarding-delay` *`seconds`*	Specify the forwarding delay in seconds. This is a value between 4 and 30 seconds.
`max-age` *`seconds`*	Specify the maximum age of the bridge. This is a value between 6 and 40 seconds. The default value is 20 seconds.
`mst-max-hops` *`number`*	Specify the maximum hop count for MSTP BPDUs. The default value is 20 with a range of 1 to 32 hops.
`mst-config-name` *`mst-config-name-string`*	Specify the name of the MST configuration instance.
`root-guard-wait-time` *`seconds`*	Specify the time to wait for root guard in seconds. The range is 0 (disable) to 300 seconds with a default value of 20 seconds.

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Defaults None.

Access CLI

History .

Version 1.2	Command introduced.
Version 2.4	The parameters, `mst-config`, `stp-mode`, and `mst-max-hops`, added.
Version 3.0.0	The parameter, `root-guard-wait-time`, added.

Usage STP is a standard inter-switch protocol used to ensure that an ad hoc network topology is loop-free at Layer 2, on a per VLAN basis. If your network connections form loops, and STP is disabled, packets recirculate between the switches and cause a decrease in network performance. If you are certain that your network is loop-free, you do not need to enable STP. Use this command to enable or disable STP on the network.

Examples To enable STP, use the following command:

```
CLI network-admin@switch > stp-modify enable
```

stp-show

This command is used to display information about Spanning Tree Protocol (STP) state.

Syntax `stp-show`

Defaults None.

Access CLI

History .

Version 1.2	Command introduced.
Version 2.4	The parameters, `mst-config`, and `mst-max-hops`, added.
Version 3.0.0	The parameter, `root-guard-wait-time`, added.

Usage STP is a standard inter-switch protocol is used to ensure that an ad hoc network topology is loop-free at Layer 2, on a per VLAN basis. If your network connections form loops, and STP is disabled, packets recirculate between the switches and causes a decrease in network performance. If you are certain that your network is loop-free, you do not need to enable STP. Use this command to enable or disable STP on the network.

Examples To display STP information, use the following command:

```
CLI network-admin@switch > stp-show
switch:             pleiades25
```

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```
enable:                yes
stp-mode:              rstp
bpdus-bridge-ports:    yes
bridge-id:             66:0e:94:fd:83:de
bridge-priority:       32768
hello-time:            2
forwarding-delay:      15
max-age:               20
root-guard-wait-time:  20
switch:                eri-dev01
enable:                yes
stp-mode:              rstp
bpdus-bridge-ports:    yes
bridge-id:             66:0e:94:dd:72:a7
bridge-priority:       32768
hello-time:            2
forwarding-delay:      15
max-age:               20
root-guard-wait-time:  20
```

stp-port-event-show

This command is used to display information about port events on the switch.

Syntax `stp-port-event-show`

`time date/time: yyyy-mm-ddThh:mm:ss`	Specifies a specific time for an event.
`start-time date/time: yyyy-mm-ddThh:mm:ss`	Specifies the time that the event began.
`end-time date/time: yyyy-mm-ddThh:mm:ss`	Specifies the time that the event ended.
`duration duration: #d#h#m#s`	Specifies the duration in days, hours, minutes, and seconds.
`interval duration: #d#h#m#s`	Specifies the interval between the events.
`since-start`	Specifies if the event is requested since the start time.
`older-than duration: #d#h#m#s`	Specifies if the event is older than the requested duration.
`within-last duration: #d#h#m#s`	Specifies if the event is within the last requested duration.
`port port-number`	Specifies the port number of the event.

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`vlan` *`vlan-list`*	Specifies the VLAN list for the event.
`instance` *`instance-number`*	Specifies the instance for the STP events collection.
`count` *`count-number`*	Specifies the number of events.
`initial-state Disabled|Blocking|Listening|Learning|Forwarding`	Specifies the initial state of the event.
`other-state Disabled|Blocking|Listening|Learning|Forwarding`	Specifies if the event had other states.
`final-state Disabled|Blocking|Listening|Learning|Forwarding`	Specifies the final state of the event.

Defaults None

Access CLI

History

Version 2.0	Command introduced.
Version 2.4.1	The parameter, `instance`, added.

Usage Use this command to display port event information for STP.

Examples To display STP port events, use the following command:

```
CLI network-admin@switch > stp-port-event-show
```

stp-port-modify

This command is used to configure Bridge Protocol Data Unit (BPDU) processing by one or more ports on a switch.

Syntax `stp-port-modify`

`port` *`port-list`*	Specify the switch network data port number, list of ports, or a range of ports. The range must be a port number between 1 to 64.
Specify one or more of the following options:	
`block|no-block`	Specify if the port blocks BPDUs.
`filter|no-filter`	Specify if the port filters BPDUs.

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`edge|no-edge`	Specify if the port is an Edge port. The port can transition directly to a forwarding state but lose Edge port status as soon as any BPDU packets are received.
`bpdu-guard|no-bpdu-guard`	Specify if BPDU guard is on or off.
`root-guard|no-root-guard`	Specify if root guard is on or off.
`priority` *`integer`*	Specify the STP port priority as a value between 0 and 240. The default value is 128.
`cost` *`number`*	Specify the cost as a number between 1 and 200000000. The default value is 2000.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.2	The parameter `edge|no-edge` added to support RSTP. The parameter, `guard|no-guard`, added.
Version 2.3	The parameter, `cost`, added.
Version 2.4.1	The parameter, `priority`, added.
Version 2.6.0	The parameter, `guard`, changed to `bpdu-guard`, and a new parameter, `root-guard`, added.

Usage STP is a standard inter-switch protocol is used to ensure that an ad hoc network topology is loop-free at Layer 2, on a per VLAN basis. If your network connections form loops, and STP is disabled, packets recirculate between the switches and causes a decrease in network performance. If you are certain that your network is loop-free, you do not need to enable STP. BPDUs are used in the election of the STP root switch and should not be received from an end host port. This command can block one port or multiple ports from processing BPDUs to prevent a malicious end host from masquerading as a switch and participating in the STP root election.If a BPDU is received by a port that is configured to block BPDUs, the port is shut down. Alternatively, you can filter BPDUs on a port. If the port is configured to filter BPDUs, the BPDU packet is dropped but the port is not shut down.

Examples To block BPDUs and shut down port 17, use the following command:

```
CLI network-admin@switch > stp-port-modify port 17 block on
```

stp-port-show

This command is used to display the configuration for Bridge Protocol Data Unit (BPDU) processing by one

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or more ports on a switch.

Syntax `stp-port-show`

`port` *`port-list`*	Specify the switch network data port number, list of ports, or a range of ports. The range must be a port number between 1 to 64.
`block off|on`	Specify if the port blocks BPDUs.
`filter off|on`	Specify if the port filters BPDUs.
`port-fast|` `no-port-fast`	Specify if the port is enabled for PortFast. PortFast allows a port to enter the forwarding state almost immediately by dramatically decreasing the time of the listening and learning states.
`edge|no-edge`	Specify if the port is an Edge port. The port can transition directly to a forwarding state but lose Edge port status as soon as any BPDU packets are received.
`bpdu-guard|no-bpdu-guard`	Specify if BPDU guard is on or off.
`root-guard|no-root-guard`	Specify if root guard is on or off.
`priority` *`integer`*	Specify the STP port priority as a value between 0 and 240. The default value is 128.
`cost` *`number`*	Specify the cost as a number between 1 and 200000000. The default value is 2000.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.2	The parameter `edge|no-edge` added to support RSTP. The parameter, `guard|no-guard`, added.
Version 2.3	The parameter, `cost`, added.
Version 2.4.1	The parameter, `priority`, added.
Version 2.6.0	The parameter, `guard`, changed to `bpdu-`

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	guard, and a new parameter, root-guard, added.

Usage STP is a standard inter-switch protocol is used to ensure that an ad hoc network topology is loop-free at Layer 2, on a per VLAN basis. If your network connections form loops, and STP is disabled, packets recirculate between the switches and causes a decrease in network performance. If you are certain that your network is loop-free, you do not need to enable STP.

Examples To display configuration information, use the following command:

```
CLI network-admin@switch > stp-port-show port 17
switch: pubdev01
port:   55
block:  off
filter: off
edge:   yes
guard:  no
switch: pubdev01
port:   65
block:  off
filter: off
guard:  no
switch: pubdev01
port:   66
block:  off
filter: off
guard:  no
```

stp-port-state-show

This command is used to display information about the state of Spanning Tree Protocol (STP) ports.

Syntax stp-port-state-show

vlan *vlan-id*	Displays the VLAN identifier for the STP instance.
ports *port-list*	Displays STP ports.
stp-state *Disabled|Discarding|Learning|Forwarding*	Displays the forwarding state.
role *Disabled|Root|Designated|Alternate|Backup*	Displays the port role.
selected-role *Disabled|Root|Designated|Alternate|Backup*	Displays the selected port role.
state *new-info|proposing|proposed|agreed|agreed|learn|learning|forward|forwarding|reselect|selected|reroot|rcvd-bpdu|rcvd-msg|rcvd-tc|rcvd-tc-ack|send-rstp|tc-prop|tc-ack|update-info|sync|synced|disputed|fdb-flush|*	Displays the port state machine state.

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online|looping|manual-online|edge|vlag-local-up|vlag-remote-up|requested-online|first-sync|p-is-d|p-is-m|root-guard-active	
designated-priority *designated-priority-string*	Displays the designated priority vector.
port-priority *port-priority-string*	Displays the port priority vector.
message-priority *message-priority-string*	Displays the message priority vector.
info-is *disabled|received|mine|aged*	Displays the origin of the port information.
designated-times *designated-times-string*	Displays the designated times: age, max age, hello, forward delay
port-times *port-times-string*	Displays the port times: age, max age, hello, forward delay.
message-times *message-times-string*	Displays the message times: age, max age, hello, forward delay.
hello-timer *hello-timer-number*	Displays the hello time value.
topology-timer *topology-timer-number*	Displays the topology timer value.
forward-timer *forward-timer-number*	Displays the forward timer value.
rcvd-info-timer *rcvd-info-timer-number*	Displays the received info timer value.
recent-root-timer *recent-root-timer-number*	Displays the recent root timer value.
recent-backup-timer *recent-backup-timer-number*	Displays the recent backup timer value.
edge-delay-timer *edge-delay-timer-number*	Displays the edge delay timer value.
migration-timer *migration-timer-number*	Displays the migration timer value.
sm-table-bits *sm-table-bits-number*	Displays the state machine table state.
sm-table *sm-table-string*	Displays the state machine table description
vlag-peer-port *vlag-peer-port-number*	Displays the VLAG peer port if it is an active-active VLAG.

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peer|no-peer	Displays the STP peer state.

Defaults None.

Access CLI

History Command introduced in Version 2.4.1.

Usage STP is a standard inter-switch protocol is used to ensure that an ad hoc network topology is loop-free at Layer 2, on a per VLAN basis. If your network connections form loops, and STP is disabled, packets recirculate between the switches and causes a decrease in network performance. If you are certain that your network is loop-free, you do not need to enable STP. One drawback of STP is that it does not allow for Layer 2 multipathing and may result in suboptimal utilization of available network links. Therefore, a fabric of Pluribus Networks switches does not use STP within the boundaries of the fabric. The use of STP is recommended for ad hoc networks that interoperate in a heterogeneous, multi-vendor switch environment. Use this command to enable or disable STP on the network.

Examples To display STP port state information, use the following command:

```
CLI network-admin@switch > stp-port-state-show
```

stp-state-show

This command is used to display information about the state of Spanning Tree Protocol (STP).

Syntax `stp-state-show`

vlan *vlan-id*	Displays the VLAN identifier for the STP instance.
ports *port-list*	Displays STP ports.
instance-id *instance-id-number*	Displays the STP instance ID.
name *name-string*	Specifies the name of the Spanning Tree Group (STG) for the STP instance.
bridge-id *mac-address*	Specifies the MAC address of the bridge switch.
bridge-priority *bridge-priority-number*	Specifies the priority for the bridge switch.
root-id *mac-address*	Specifies the MAC address of the root switch.
root-priority *root-priority-number*	Specifies the priority for the root switch.

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`root-port` *`root-port-number`*	Specifies the root port for STP.
`root-port(peer)` *`root-port(peer)-number`*	Specifies the peer root port for STP.
`hello-time` *`hello-time-number`*	Specifies the interval, in seconds, between the generation of configuration messages by the root switch.
`forwarding-delay` *`forwarding-delay-number`*	Specifies the number of seconds that the interface waits before changing from its spanning-tree learning and listening states to the forwarding state.
`max-age` *`max-age-number`*]	Specifies the amount of time that the switch stores protocol information received on an interface.
`internal|no-internal`	Specifies if it is an internal port.
`[peer|no-peer]`	Specifies if it is a peer port or not.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.2	The parameter, `blocking`, removed, and `edge`, `designated`, `alternate`, `backup`, `vlag-mirror`, `internal`, and `peer` added to support RSTP.
Version 2.2.6	The parameter, `root-port(peer)`, added.
Version 2.3	The following parameters are deprecated: • disabled • learning • forwarding • discarding • edge • designated • alternate

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	• backup • vlag-mirror
Version 2.3.1	The parameter, `ports`, added.
Version 2.4.1	The parameter, `instance-id`, added.

Usage STP is a standard inter-switch protocol is used to ensure that an ad hoc network topology is loop-free at Layer 2, on a per VLAN basis. If your network connections form loops, and STP is disabled, packets recirculate between the switches and causes a decrease in network performance. If you are certain that your network is loop-free, you do not need to enable STP. One drawback of STP is that it does not allow for Layer 2 multipathing and may result in suboptimal utilization of available network links. Therefore, a fabric of Pluribus Networks switches does not use STP within the boundaries of the fabric. The use of STP is recommended for ad hoc networks that interoperate in a heterogeneous, multi-vendor switch environment. Use this command to enable or disable STP on the network.

Examples To display STP information, use the following command:

```
CLI network-admin@switch > stp-state-show
switch:           pleiades25
vlan:             1
name:             stg-default-stg
bridge-id:        64:0e:94:18:00:8f
bridge-priority:  32769
root-id:          64:0e:94:18:00:8f
root-priority:    32769
root-port:        0
hello-time:       2
forwarding-delay: 15
max-age:          20
disabled:         none
learning:         none
forwarding:       12,56,65-66,255
discarding:       none
edge:             65-66
designated:       12,56,65-66,255
alternate:        none
backup:           none
vlag-mirror:      none
```

Subnet Commands

subnet-create

To facilitate optimal east-west routing while supporting transparent virtual machine mobility, leaf switches are assigned the same gateway IP and MAC address for each locally defined subnet. Having the same gateway IP and MAC address helps ensure a default gateway presence across all leaf switches. It removes the suboptimal routing inefficiencies associated with separate centralized gateways.

This command allows you to assign subnets to VLANs and VXLANs.

Syntax `subnet-create`

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name *name-string*	Specify the name for the subnet.
scope local|cluster|fabric	Specify the scope of the subnet.
vnet *vnet name*	Specify the VNET name to assign to the subnet.
vlan *vlan id*	Specify the VLAN to assign to the subnet.
vxlan *vlan vxlan*	Specify the VXLAN to assign to the subnet
network *ip-address*	Specify the IP address to assign to the subnet.
netmask *netmask*	Specify the netmask of the IP address.
vrf *vrf name*	Specify the VRF to assign to the subnet.
anycast-gw-ip *ip-addresss*	Specify the IP address for the anycast gateway.
network6 *ip-address*	Specify the IPv6 subnet address.
netmask6 netmask	Specify the IPv6 netmask.
anycast-gw-ip6 *ip-address*	Specify the IPv6 address for the anycast gateway.
packet-relay enable|disable| none	Specify the packet relay as enabled, disabled, or none.
forward-proto dhcp	Specify the forwarding packet protocol. The parameter only accepts DHCP as the protocol.
forward-ip *ip-address*	Specify the IPv4 address for forwarding the packet.
forward-ip2 *ip-address*	Specify the second IPv4 address for forwarding the packet.
forward-ip6 *ip-address*	Specify the IPv6 address for forwarding the packet.
forward-ip6-2 *ip-address*	Specify the second IPv6 address for forwarding the packet.

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`enable|disable`	Enable or disable the subnet.

Defaults None

Access Network Administrator

History

Version 3.0.0	Command introduced.
Version 3.1.0	The parameters, `network6`, `netmask6`, `anycast-gw-ip6`, `packet-relay`, `forward-proto`, `forward-ip`, `forward-ip6`, and `enable|disabled` added.
Version 5.1.0	The following parameters added: • `forward-ip2` • `forward-ip6-2` *ip-address*

Usage Use this command to create a subnet.

Examples To create a subnet, subnet-one, use the following syntax:

```
CLI network-admin@switch > subnet-create name subnet-one scope fabric
vnet vnet-1 vlan 35 vxlan 1001 network 172.21.16.23 netmask
255.255.255.0 vrf vrf-1 anycast-gw-ip 10.1.1.1
```

subnet-delete

To facilitate optimal east-west routing while supporting transparent virtual machine mobility, leaf switches are assigned the same gateway IP and MAC address for each locally defined subnet. Having the same gateway IP and MAC address helps ensure a default gateway presence across all leaf switches. It removes the suboptimal routing inefficiencies associated with separate centralized gateways.

This command allows you to delete a subnet.

Syntax `subnet-delete`

`name` *name-string*	Specify the name of the subnet.
`vnet` *vnet name*	Specify the VNET name to assign to the subnet.
`vrf` *vrf name*	Specify the VRF to assign to the subnet.

Defaults None

Access Network Administrator

History Command introduced in Version 3.0.0.

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Usage Use this command to remove a subnet.

Examples To remove a subnet, subnet-one, use the following syntax:

```
CLI network-admin@switch > subnet-delete name subnet-one vnet vnet-1
vrf vrf-1
```

subnet-modify

To facilitate optimal east-west routing while supporting transparent virtual machine mobility, leaf switches are assigned the same gateway IP and MAC address for each locally defined subnet. Having the same gateway IP and MAC address helps ensure a default gateway presence across all leaf switches, and removes the suboptimal routing inefficiencies associated with separate centralized gateways.

This command allows you to modify a subnet.

Syntax `subnet-modify`

`name` *`name-string`*	Specify the name for the subnet.
`scope local|cluster|fabric`	Specify the scope of the subnet.
`vnet` *`vnet name`*	Specify the VNET name to assign to the subnet.
`vlan` *`vlan id`*	Specify the VLAN to assign to the subnet.
`vxlan` *`vlan vxlan`*	Specify the VXLAN to assign to the subnet
`network` *`ip-address`*	Specify the IP address to assign to the subnet.
`netmask` *`netmask`*	Specify the netmask of the IP address.
`vrf` *`vrf name`*	Specify the VRF to assign to the subnet.
`anycast-gw-ip` *`ip-addresss`*	Specify the IP address for the anycast gateway.
`network6` *`ip-address`*	Specify the IPv6 subnet address.
`netmask6 netmask`	Specify the IPv6 netmask.
`anycast-gw-ip6` *`ip-address`*	Specify the IPv6 address for the anycast gateway.
`packet-relay enable|disable|none`	Specify the packet relay as enabled, disabled, or none.

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`forward-proto dhcp`	Specify the forwarding packet protocol. The parameter only accepts DHCP as the protocol.
`forward-ip` *`ip-address`*	Specify the IPv4 address for forwarding the packet.
`forward-ip2` *`ip-address`*	Specify the second IPv4 address for forwarding the packet.
`forward-ip6` *`ip-address`*	Specify the IPv6 address for forwarding the packet.
`forward-ip6-2` *`ip-address`*	Specify the second IPv6 address for forwarding the packet.
`enable|disable`	Enable or disable the subnet.

Defaults None

Access Network Administrator

History

Version 3.0.0	Command introduced.
Version 3.1.0	The parameters, `network6`, `netmask6`, `anycast-gw-ip6`, `packet-relay`, `forward-proto`, `forward-ip`, `forward-ip6`, and `enable|disabled` added.
Version 5.1.0	The following parameters added: • `forward-ip2` • `forward-ip6-2` *`ip-address`*

Usage Use this command to modify a subnet configuration.

Examples To modify the subnet, subnet-one, and change the scope to local, use the following syntax:

```
CLI network-admin@switch > subnet-modify name subnet-one scope local
```

subnet-show

To facilitate optimal east-west routing while supporting transparent virtual machine mobility, leaf switches are assigned the same gateway IP and MAC address for each locally defined subnet. Having the same gateway IP and MAC address helps ensure a default gateway presence across all leaf switches. It removes the suboptimal routing inefficiencies associated with separate centralized gateways.

This command allows you to display subnet configurations.

Syntax `subnet-show`

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name *name-string*	Specify the name for the subnet.
scope local|cluster|fabric	Specify the scope of the subnet.
vnet *vnet name*	Specify the VNET name to assign to the subnet.
vlan *vlan id*	Specify the VLAN to assign to the subnet.
vxlan *vlan vxlan*	Specify the VXLAN to assign to the subnet
network *ip-address*	Specify the IP address to assign to the subnet.
netmask *netmask*	Specify the netmask of the IP address.
vrf *vrf name*	Specify the VRF to assign to the subnet.
anycast-gw-ip *ip-addresss*	Specify the IP address for the anycast gateway.
network6 *ip-address*	Specify the IPv6 subnet address.
netmask6 netmask	Specify the IPv6 netmask.
anycast-gw-ip6 *ip-address*	Specify the IPv6 address for the anycast gateway.
packet-relay enable|disable|none	Specify the packet relay as enabled, disabled, or none.
forward-proto dhcp	Specify the forwarding packet protocol. The parameter only accepts DHCP as the protocol.
forward-ip *ip-address*	Specify the IPv4 address for forwarding the packet.
forward-ip2 *ip-address*	Specify the second IPv4 address for forwarding the packet.
forward-ip6 *ip-address*	Specify the IPv6 address for forwarding the packet.
forward-ip6-2 *ip-address*	Specify the second IPv6 address for forwarding the packet.
enable|disable	Enable or disable the subnet.

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Defaults None

Access Network Administrator

History

Version 3.0.0	Command introduced.
Version 3.1.0	The parameters, `network6`, `netmask6`, `anycast-gw-ip6`, `packet-relay`, `forward-proto`, `forward-ip`, `forward-ip6`, and `enable|disabled` added.
Version 5.1.0	The following parameters added: • `forward-ip2` • `forward-ip6-2` *`ip-address`*

Usage Use this command to display a subnet configuration.

Examples To display a subnet configuration, subnet-one, use the following syntax:

```
CLI network-admin@switch > subnet-show name subnet-one
```

switch

This command is used to login remotely to another switch in the fabric.

Syntax `switch switch-name` *`name-string`* `id` *`switch-id`* `command`

`switch-name` *`name-string`*	Specify the name of the switch in the fabric.
`id` *`switch-id`*	Specify the identifier of the switch.
`command`	Specify the command and arguments to execute on the remote switch.

Defaults None.

Access CLI

History Command introduced in nvOS Version 1.2.1.

Usage The Command Line Interface (CLI) can be used to login remotely from any switch to another switch in the fabric. Use this command to remotely log into another switch and execute commands on it.

Examples To log into **switch-ops** from **switch-eng**, use the following command:

```
CLI (network-admin@switch-eng)> switch name switch-ops
```

To log into switch-ops and execute the command `node-info`, use the following command:

```
CLI (network-admin@switch-eng) > switch name switch-ops node-info
```

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```
Name:                    switch-ops
fab-name:                pn-fab
mgmt-ip:                 10.10.10.7/16
mgmt-vlan:               0
out-port:                0
version:                 1.2.2633,pn-nvos-b144a-kvm
state:                   enabled
ports:                   72
```

switch-config-copy-to-import

This command is used to create a configuration file to import onto another switch.

Syntax `switch-config-copy-to-import export-file switch-config name-string`

`export-file switch-config` *`name-string`*	Specify a name for the exported configuration file.

Defaults None.

Access CLI

History Command introduced in nvOS Version 1.2.1.

Usage Use this command to copy a configuration and export it to another switch.

Examples To copy the configuration, use the following command:

```
CLI network-admin@switch > switch-config-copy-to-import export-file
conf080113
```

switch-config-export

This command is used to create a configuration file to import onto another switch.

Syntax `switch-config-copy-export`

Specify any of the following options:

`export-file` *`name-string`*	Specify a name for the exported configuration file.
`upgrade-location-mappings` *`upgrade-location-mappings-string`*	Specify hostid=locationid comma separated list to upgrade the old configuration.
`upload-server` *`upload-server-string`*	Specify if you want to upload the configuration file to a server using Secure Copy Protocol (SCP).

Defaults None.

Access CLI

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History .

Version 1.2	Command introduced.
Version 2.6.0	The parameters, `upgrade-location-mappings`, added.
Version 3.0.0	The parameters, `upload-server` and `server-password` added to support SCP.
Version 3.1.0	The parameter, `server-password`, deprecated.

Usage Use this command to export a configuration file.

Examples To export a file, use the following command:

```
CLI network-admin@switch > switch-config-copy-export  export-file
config800113
```

switch-config-import

This command is used to import a configuration file.

Syntax `switch-config-import`

`import-file` *`name-string`*	Specify a name for the exported configuration file.
Specify any of the following options:	
`apply-system-config|ignore-system-config`	Specify to apply the imported configuration or ignore the imported file and keep the current configuration.
`upgrade-location-mappings` *`upgrade-location-mappings-string`*	Specify hostid=locationid comma separated list to upgrade old config.

Defaults None.

Access CLI

History Command introduced in nvOS Version 1.2.1.

Usage Use this command to import a configuration file.

Examples To import a copy of the existing configuration, use this command:

```
CLI network-admin@switch > switch-config-import  import-file  switch10
```

switch-config-reset

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This command is used to reset the configuration on a switch.

Syntax `switch-config-reset`

Defaults None.

Access CLI

History Command introduced in Version 2.0.1.

Usage Use this command to reset the configuration on the switch.

Examples To reset the configuration, use the following command:

```
CLI network-admin@switch > switch-config-reset
```

> **Caution!** Using this command resets the configuration back to default settings.

switch-config-show

This command is used to display configuration information about a switch.

Syntax `switch-config-show`

`import-file` *`name-string`*	Specifies the name of the imported configuration file.
`export-file` *`name-string`*	Specifies the name of the exported configuration file.
`replace-switch| no-replace-switch`	Specifies if replacing a current switch.
`upgrade-location-mappings` *`upgrade-location-mappings-string`*	Specify hostid=locationid comma separated list to upgrade old config.
`upload-server` *`upload-server-string`*	Specify if you want to upload the configuration file to a server using Secure Copy Protocol (SCP).

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.6.0	The parameters, `upgrade-location-mappings`, added.

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Version 3.0.0	The parameters, `upload-server` and `server-password` added to support SCP.
Version 3.1.0	The parameter, `server-password`, deprecated.

Usage Use this command to display information about import and export file settings on the switch .

Examples To display the configuration, use the following command:

```
CLI network-admin@switch > switch-config-show
switch   export-file
-------- ----------------------------------------------------
pubdev01 switch-config-reset-backup.2014-10-22T13.14.53.tar.gz
pubdev01 test.2014-02-24T09.06.51.tar.gz
pubdev01 switch-config-reset-backup.2014-06-30T12.23.10.tar.gz
pubdev01 ext13base.2013-12-11T06.50.40.tar.gz
pubdev02 switch-config-reset-backup.2014-06-30T13.11.43.tar.gz
pubdev02 switch-config-reset-backup.2014-10-22T13.39.18.tar.gz
pubdev02 mantis-switch-config.2013-10-10T10.13.23.tar.gz
pubdev02 switch-config-reset-backup.2015-01-21T10.55.14.tar.gz
pubdev03 switch-config-reset-backup.2014-12-08T16.35.58.tar.gz
pubdev03 switch-config-reset-backup.2014-12-08T17.30.42.tar.gz
```

switch-group-create

This feature allows you to create a switch group, and you can create as many switch groups as needed. You provide a name to a group of switches, and a switch can be a member of more than one group.

Syntax `switch-group-create`

`name` *`name-string`*	Specify a name for the switch group.
`description` *`description-string`*	Specify a description for the switch group.

Defaults None

Access Network Administrator

History Command introduced in Version 2.6.0.

Usage Use this command to create a switch group.

Examples To create a switch group named Rack-1, use the following syntax:

```
CLI network-admin@switch > switch-group-create name Rack-1 description
rack-1 in small lab
```

switch-group-delete

This feature allows you to delete a switch group.

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Syntax `switch-group-delete`

`name` *`name-string`*	Specify a name for the switch group.

Defaults None

Access Network Administrator

History Command introduced in Version 2.6.0.

Usage Use this command to delete a switch group.

Examples To delete a switch group named Rack-1, use the following syntax:

```
CLI network-admin@switch > switch-group-delete name Rack-1 description
rack-1 in small lab
```

switch-group-modify

This feature allows you to modify a switch group.

Syntax `switch-group-modify`

`name` *`name-string`*	Specify a name for the switch group.
`description` *`description-string`*	Specify a description for the switch group.

Defaults None

Access Network Administrator

History Command introduced in Version 2.6.0.

Usage Use this command to modify a switch group.

Examples To modify a switch group named Rack-1, use the following syntax:

```
CLI network-admin@switch > switch-group-modify name Rack-1 description
rack-1 in ECB
```

switch-group-show

This feature allows you to display a switch group.

Syntax `switch-group-show`

`name` *`name-string`*	Specify a name for the switch group.
`description` *`description-string`*	Specify a description for the switch group.

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Defaults None

Access Network Administrator

History Command introduced in Version 2.6.0.

Usage Use this command to display a switch group.

Examples To display a switch group named Rack-1, use the following syntax:

```
CLI network-admin@switch > switch-group-show name Rack-1
```

switch-group-member-add

This feature allows you to add a member to a switch group. A switch can be a member of more than one group.

Syntax `switch-group-member-add`

name *name-string*	Specify the name of the switch group to add the member.
member *fabric-node name*	Specify the name of the switch to add as a member.

Defaults None

Access Network Administrator

History Command introduced in Version 2.6.0.

Usage Use this command to add a switch to a switch group.

Examples To add a switch, lab-spine01, to the switch group, Rack-1, use the following syntax:

```
CLI network-admin@switch > switch-group-member-add name Rack-1 member
lab-spine01
```

switch-group-member-remove

This feature allows you to remove a member from a switch group. A switch can be a member of more than one group.

Syntax `switch-group-member-remove`

name *name-string*	Specify the name of the switch group to remove the member.
member *fabric-node name*	Specify the name of the switch to remove as a member.

Defaults None

Access Network Administrator

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History Command introduced in Version 2.6.0.

Usage Use this command to remove a switch to a switch group.

Examples To remove a switch, lab-spine01, from the switch group, Rack-1, use the following syntax:

```
CLI network-admin@switch > switch-group-member-remove name Rack-1
member lab-spine01
```

switch-group-member-show

This feature allows you to remove a member from a switch group. A switch can be a member of more than one group.

Syntax `switch-group-member-show`

`name` *`name-string`*	Specify the name of the switch group to add the member.
`member` *`fabric-node name`*	Specify the name of the switch to add as a member.

Defaults None

Access Network Administrator

History Command introduced in Version 2.6.0.

Usage Use this command to display switches in a switch group.

Examples To display a switch, lab-spine01, from the switch group, Rack-1, use the following syntax:

```
CLI network-admin@switch > switch-group-member-show name Rack-1 member
lab-spine01
```

switch-info-show

This command displays information about the switch.

Syntax `switch-info-show`

Defaults None.

Access CLI

History

Version 1.2.1	Command introduced.
Version 3.0.0	Parameters for disk information added.

Usage Use this command to display information about the switch.

Examples To display information about the switch, use the following command:

```
CLI network-admin@switch > switch-info-show
```

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```
switch:              draco-dev01
model:               S6000-ON
chassis-serial:      1741PN8500213
cpu1-type:           Intel(R) Atom(TM) CPU S1220   @ 1.60GHz
cpu2-type:           Intel(R) Atom(TM) CPU S1220   @ 1.60GHz
cpu3-type:           Intel(R) Atom(TM) CPU S1220   @ 1.60GHz
cpu4-type:           Intel(R) Atom(TM) CPU S1220   @ 1.60GHz
system-mem:          7.66G
switch-device:       OK
fan1-status:         OK
fan2-status:         OK
fan3-status:         OK
fan4-status:         OK
fan5-status:         OK
fan6-status:         OK
ps1-status:          OK
ps2-status:          FAULT
disk-model:          16GB SATA Flash Drive
disk-firmware:       SFDDA01C
disk-size:           14.9G
disk-type:           Solid State Disk, TRIM Supported
bios-vendor:         American Megatrends Inc.
bios-version:        4.6.5
```

Informational Note: The show output information varies from platform to platform.

switch-local

This command is used to execute CLI commands on the local switch. In some network topologies, complex names may be assigned to switches. switch-local executes commands on a local switch without specifying the switch name.

Syntax `switch-local`

Defaults None.

Access CLI

History Command introduced in nvOS Version 2.2.6.

Usage Use this command to execute commands on a local switch. Once you enter a specific CLI command, you can revert to the scope local.

Examples To execute a command on a local switch, use the following example:

```
CLI network-admin@switch > switch-local port-config
```

To execute commands on the fabric, enter a command without `switch-local` specified in the command line.

```
CLI network-admin@switch > vlan-modify
```

switch-mode-modify

Netvisor uses this command to change the mode of the switch to store and forward or virtual wire mode.

Syntax `switch-mode-modify`

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`switch-mode store-and-forward| virtual-wire`	Specify either store and forward (normal mode) or virtual wire mode. Virtual wire mode accepts only Layer 1 commands.

Access Network administrator

History Command introduced in Version 3.0.0.

Usage Use this command to change the switch mode.

Examples To change the switch mode from virtual wire to store-and-forward, use the following syntax:

```
CLI network-admin@switch > switch-mode-modify switch-mode store-and-forward
```

switch-mode-show

Netvisor uses this command to display the mode of the switch to store and forwardor virtual wire mode.

Syntax `switch-mode-show`

Defaults None

Access Network administrator

History Command introduced in Version 3.0.0.

Usage Use this command to display the switch mode.

Examples To display the switch mode, use the following syntax:

```
CLI network-admin@switch > switch-mode-show
```

```
switch:      techpub-accton-2
switch-mode: store-and-forward
switch:      techpub-accton-1
switch-mode: store-and-forward
```

switch-poweroff

This command is used to power off the switch.

Syntax `switch-poweroff`

Defaults None.

Access CLI

History Command introduced in nvOS Version 1.2.1.

Usage Use this command to power off the switch.

Examples To power off the switch, use the following command:

```
CLI network-admin@switch > switch-poweroff
```

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switch-reboot

This command is used to reboot a local switch.

Syntax `switch-reboot`

Defaults None.

Access `CLI - this is a local switch only command.`

History Command introduced in nvOS Version 1.2.1.

Usage Use this command to reboot the local switch. You cannot execute this command to reboot another switch on the network.

Examples To reboot the switch, use the following command:

```
CLI network-admin@switch > switch-reboot
```

switch-nic-info-show

This command displays the NIC information for management and rear-facing interfaces.

Syntax `switch-nic-info-show`

name *switch-nic-stats-list name*	Specify the name of the interface for which the NIC information has to be displayed.

Defaults None.

Access CLI

History Command introduced in nvOS Version 5.1.2.

Usage Use this command to display the NIC information for management and rear-facing interfaces.

Examples The NIC information for the interface eth0 can be viewed through the command:

```
CLI network-admin@switch > switch-nic-info-show name eth0
name driver version firmware         speed rxqnum txqnum rxqsize txqsize autoneg
rxpause txpause
---- ------ ------- ---------------- ----- ------ ------ ------- ------- -------
------- -------
eth0 igb    5.4.0-k 3.25, 0x800005cd 1000  4      4      4096    4096    on
on      off
```

switch-nic-stats-show

This command displays NIC statistics for management and rear-facing interfaces.

Syntax `switch-nic-stats-show`

name *switch-nic-stats-list*	Specify the name of the interface for which the NIC statistics has to be displayed.

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name

Defaults None.

Access CLI

History Command introduced in nvOS Version 5.1.2.

Version 5.1.2	Command introduced.

Usage Use this command to display NIC statistics for management and rear-facing interfaces.

Examples To display the NIC statistics for eth0 interface with a vertical layout, use the command:

```
CLI (network-admin@switch) > switch-nic-stats-show name eth0 layout
vertical
```

```
name:       eth0
ipkts:      2.85M
ibytes:     2.38G
opkts:      492K
obytes:     261M
ierrs:      0
oerrs:      0
idrops:     0
odrops:     0
imcast:     1.76M
omcast:     131K
ibcast:     7.18K
obcast:     25
mcast:      1.76M
bcast:      0
ioverruns:  0
rxnobuf:    0
icrcerrs:   0
iframeerrs: 0
ififoerrs:  0
ofifoerrs:  0
ilongerrs:  0
ishorterrs: 0
ipkts_0:    1.08M
ipkts_1:    495K
ipkts_2:    558K
ipkts_3:    756K
...
opkts_0:    113K
opkts_1:    142K
opkts_2:    115K
opkts_3:    122K
opkts_4:    0
...
idrops_0:   0
idrops_1:   0
...
idrops_22:  0
idrops_23:  0
```

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switch-route-create

This command is used to create routing setups on a switch.

Syntax `switch-route-create`

`network` *`ip-address`*	Specify the destination IPv4 or IPv6 address.
`netmask` *`netmask`*	Specify the destination netmask.
Specify one or more of the following options:	
`gateway-ip` *`ip-address`*	Specify the gateway IPv4 or IPv6 address.
`nic switch-nic` *`nic`*	Specify the NIC.
`metric` *`integer`*	Specify the metric for the route as an integer between 1 and 4294967295.

Defaults None.

Access CLI

History

Version 2.3.0	Command introduced.
Version 3.0	The parameter, `metric`, added.

Usage Use this command to create routes from switch to switch.

Examples

`CLI network-admin@switch >` `switch-route-create`

switch-route-delete

This command is used to delete the routing setup of a switch.

Syntax `switch-route-delete`

`network` *`ip-address`*	Specify the destination IPv4 or IPv6 address.
`netmask` *`netmask`*	Specify the destination netmask.
Specify one or more of the following options:	
`gateway-ip` *`ip-address`*	Specify the gateway IPv4 or IPv6 address.

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`nic switch-nic` *`nic`*	Specify the NIC.

Defaults None.

Access CLI

History Command introduced in Version 2.3.

Usage Use this command to delete routes from one switch to another switch.

Examples

```
CLI network-admin@switch > switch-route-delete
```

switch-route-modify

This command is used to modify the routing setup of a switch.

Syntax `switch-route-modify`

`network` *`ip-address`*	Specify the destination IPv4 or IPv6 address.
`netmask` *`netmask`*	Specify the destination netmask.
Specify one or more of the following options:	
`gateway-ip ip-address`	Specify the gateway IPv4 or IPv6 address.
`nic switch-nic` *`nic`*	Specify the NIC.
`metric` *`integer`*	Specify the metric for the route as an integer between 1 and 4294967295.

Defaults None.

Access CLI

History

Version 2.3.0	Command introduced.
Version 3.0	The parameter, `metric`, added.

Usage Use this command to modify routes from switch to switch.

Examples

```
CLI network-admin@switch > switch-route-modify
```

switch-route-show

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This command is used to display switch to switch routes.

Syntax `switch-route-show`

`network` *`ip-address`*	Specify the destination IPv4 or IPv6 address.
`netmask` *`netmask`*	Specify the destination netmask.
Specify one or more of the following options:	
`gateway-ip` *`ip-address`*	Specify the gateway IPv4 or IPv6 address.
`nic switch-nic` *`nic`*	Specify the NIC.
`metric` *`integer`*	Specify the metric for the route as an integer between 1 and 4294967295.

Defaults None.

Access CLI

History

Version 2.3.0	Command introduced.
Version 3.0	The parameter, `metric`, added.

Usage Use this command to display routes from switch to switch.

Examples To display switch routes, use the following command:

```
CLI network-admin@switch > switch-route-show
```

switch-setup-modify

This command is used to modify the setup of a switch.

Syntax `switch-setup-modify`

Specify one or more of the following options:	
`switch-name` *`name-string`*	Specify the name of the switch.
`mgmt-ip` *`ip-address`*	Specify the IP address that allows you to connect to the management interface through the dedicated 1000/100/10 Mbps `mgmt0` or `mgmt1` RJ45 management ports of the switch.

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mgmt-netmask *netmask*	Specify the netmask for the IP address.
mgmt-ip-assignment none	Specify the IP assignment type for the management interface.
mgmt-ip6 *ip-address*	Specify the IPv6 IP address.
mgmt-netmask-ip6 *netmask*	Specify the IPv6 netmask.
mgmt-ip6-assignment none	Specify the IPv6 assignment type for the management interface.
in-band-ip *ip-address*	Specify the IP address to connect to the management interface through the network data ports of the switch.
in-band-netmask *netmask*	Specify the netmask for the IP address.
in-band-ip6 *ip-address*	Specify an IPv6 address for the in-band interface.
in-band-netmask-ip6 *netmask*	Specify the netmask.
in-band-ip6-assign none|auto|conf	Specify in-band IPv6 address assignment for the in-band interface.
gateway *ip-address*	Specify the IP address of the gateway that connects to the outside IP network.
gateway-ip6 *ip-address*	Specify the IPv6 address of the gateway that connects to the outside IP network.
loopback-ip *ip-address*	Specify the loopback IPv4 address.
loopback-ip6 *ip-address*	Specify the loopback IPv6 address.
dns-ip *ip-address*	Specify the IP address of the primary DNS for the switch.
dns-secondary-ip *ip-address*	Specify the IP address of a secondary DNS for the switch.
domain-name *domain-name-string*	Specify the domain name for the switch.
ntp-server *ntp-server-string*	Specify the name or IP address of the NTP server.

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`ntp-secondary-server` *`ntp-secondary-server-string`*	Specify the name or IP address of the secondary NTP server.
`timezone` *`timezone-name`*	Specify the timezone for the switch.
`eula-accepted true|false`	Specify if the EULA is accepted or not.
`eula_timestamp date/time: yyyy-mm-ddThh:mm:ss`	Specify the timestamp for the EULA.
`password` *`password-string`*	Specify a password for the switch.
`date` *`yyyy-mm-ddThh:mm:ss`*	Specify the date using the designated format.
`analytics-store default|optimized`	Specify if you want to use the default analytics store or an optimized store. If you select optimized, you must have Fusion IO cards installed for storage.
`force|no-force`	Force the analytics store to change even if it means removing data.
`enable-host-ports| disable-host-ports`	Host ports are disabled by default.
`motd` *`motd-string`*	Specify a "Message of the Day" string to display on the switch. You may enter up to 511 characters including spaces. This is a temporary or short term message to identify situations such as downtime, etc.
`banner` *`banner-string`*	Specify a banner to display on the switch. You may enter up to 511 characters including spaces. This is a static message that can be used to display switch information such as server identity.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The parameter, **delete-mgmt-backup**, is deprecated. The parameters, **e**
Version 2.2	The parameters to support IPv6 added.

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Version 2.2.3	The parameters, `motd` and `banner`, added.
Version 2.3	The parameters for LAG on the management interface added.
Version 2.4	The parameters, `force` and `enable-host-ports`, added.
Version 2.6.1	The parameter, `secondary-ntp-server`, added.
Version 2.6.2	The parameter, `mgmt-lacp-mode`, deprecated.
Version 3.0.0	IPv6 parameters added for the in-band and management interfaces.
Version 3.1.0	The parameter, `phone-home`, is deprecated.

Usage Each switch must be setup when initially installed on the network. Use this command to modify the switch parameters.

Examples To set up the switch with the name, PN-switch-1, IP address 10.9.9.71 on a /16 subnet with the gateway 10.9.9.1, DNS servers 10.9.9.11 and 10.9.9.1, the domain name pluribusnetworks.com, and NTP server, 0.uspool.ntp.org. The switch is located in the US/Pacific timezone and the administrator is network-admin.

```
CLI network-admin@switch > switch-setup-modify name PN-switch-1 mgmt-ip
10.9.9.71 mgmt-netmask 16 gateway 10.9.9.1 dns 10.9.9.11 dns-secondary
10.9.9.1 domain-name pluribusnetworks.com ntp-server 0.us.pool.ntp.org
username network-admin password adm1n
```

switch-setup-show

This command is used to display basic setup parameters for a switch.

Syntax `switch-setup-show`

Defaults None.

Access

History Command introduced in nvOS Version 1.2.1.

Usage Each switch requires an initial setup before installing on the network. Use this command to display basic parameters for the local switch.

Examples To display basic parameters, use the following command:

```
CLI network-admin@switch > switch-setup-show
```

```
switch-name:          draco-dev01
mgmt-ip:              10.14.24.76/23
mgmt-ip-assignment:   static
mgmt-ip6:             2222::3/92
mgmt-ip6-assignment:  static
mgmt-link-state:      up
mgmt-link-speed:      1g
in-band-ip:           192.168.103.76/24
```

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```
in-band-ip6:          5555::3/92
gateway-ip:           10.14.24.1
gateway-ip6:          2222::100
dns-ip:               172.16.1.4
dns-secondary-ip:     10.135.1.13
domain-name:          pluribusnetworks.com
ntp-server:           0.ubuntu.pool.ntp.org
timezone:             Etc/UTC
date:                 2018-01-10,16:51:44
phone-home:           no
hostid:               184551677
location-id:          2
analytics-store:      default
enable-host-ports:    yes
banner:
```

switch-status-show

This command is used to display the status of the switch.

Syntax `switch-status-show`

`start-time date/time: yyyy-mm-ddThh:mm:ss`	Specify a time to start statistic collection.
`end-time date/time: yyyy-mm-ddThh:mm:ss`	Specify a time to end statistic collection.
`duration duration: #d#h#m#s`	Specify the duration of statistic collection.
`interval duration: #d#h#m#s`	Specify an interval between statistic collection.
`since-start| no-since-start`	Display statistics collected since start-time.
`older-than duration: #d#h#m#s`	Display statistics older than the specified time.
`within-last duration: #d#h#m#s`	Display statistics within the last time.
`name` *`name-string`*	Displays the hardware name.
`value value-number`	Displays the hardware value.
`units degrees-C|volts|rpm`	Displays the hardware units.
`state ok|fault|fatal`	Displays the hardware state.

Defaults None

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Access CLI

History Command introduced in nvOS Version 1.2.1.

Usage Use this command to display the status of a switch.

Examples To display the status, use the following command:

```
CLI network-admin@switch > switch-status-show
switch        name            value units     state
------------- --------------- ----- --------- -----
pleiades25    Switch Temp     37    degrees-C ok
pleiades25    CPU1 Temp       41    degrees-C ok
pleiades25    CPU2 Temp       45    degrees-C ok
pleiades25    System Temp     39    degrees-C ok
pleiades25    Peripheral Temp 30    degrees-C ok
pleiades25    PCH Temp        45    degrees-C ok
pleiades25   switch-5.0v         volts     ok
pleiades25   switch-2.5v         volts     ok
pleiades25   switch-0.95v        volts     ok
pleiades25   switch-1.8v         volts     ok
pleiades25   switch-1.2v         volts     ok
pleiades25   fan-1         7050  rpm       ok
pleiades25   fan-2         8057  rpm       ok
pleiades25   fan-3         8057  rpm       ok
pleiades25   fan-4         7050  rpm       ok



Switch:                          netops-1
x86-system-temp[C]:              37
x86-peripheral-temp[C]:          27
x86-pch-temp[C]   :              43
x86-s-vtt:                       ok
x86-1p1v:                        ok
x86-1p5v:                        ok
x86-3p3v:                        ok
x86-3p3vsb:                      ok
x86-5p0v:                        ok
x86-5p0vsb:                      ok
x86-12p0v:                       ok
x86-vbat:                        ok
switch-temp[C]:                  45
switch-0p95v:                    ok
switch-1p8v:                     45
switch-t1p2v:                    fault
fan1-speed[RPM]:                 3525
fan2-speed[RPM]:                 3525
fan3-speed[RPM]:                 3525
fan4-speed[RPM]:               3760
```

switch-status-settings-modify

This command is used to modify the settings for a switch status.

Syntax `switch-status-settings-modify`

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Specify one or more of the following options:	
`enable|disable`	Specify if you want to enable or disable collecting information about the switch status.
`interval duration: #d#h#m#s`	Specify an interval duration to collect status information.
`disk-space` *`disk-space-number`*	Specify the disk size for the status information.

Defaults None

Access CLI

History Command introduced in Version 2.1.

Usage Use this command to modify the settings for collecting status information on the switch.

Examples To modify the disk space to 4Gb, use the following command:

```
CLI network-admin@switch > switch-status-settings-modify disk-space 4g
```

switch-status-settings-show

This command is used to display the settings for a switch status.

Syntax `switch-status-settings-modify enable|disable interval duration: #d#h#m#s disk-space disk-space-number`

`enable|disable`	Specify if you want to enable or disable collecting information about the switch status.
`interval duration: #d#h#m#s`	Specify an interval duration to collect status information.
`disk-space` *`disk-space-number`*	Specify the disk size for the status information.

Defaults None

Access CLI

History Command introduced in Version 2.1.

Usage Use this command to display the settings for collecting status information on the switch.

Examples To modify the disk space to 4Gb, use the following command:

```
CLI network-admin@switch > switch-status-settings-show

  switch:        pubdev01
```

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```
enable:       yes
interval:    1m
disk-space:  50M
switch:       pubdev03
enable:       yes
interval:    1m
disk-space:  50M
switch:       pubdev02
enable:       yes
interval:    1m
disk-space:  50M
```

switch-vnic-create

This command is used to create a virtual Network Interface Card (vNIC) on the switch.

Syntax `switch-vnic-create`

`ip` *`ip-address`*	Specify the IP address of the vNIC.
`netmask` *`netmask`*	Specify the netmask.
`assignment [none|dhcp|dhcpv6| autov6]`	Specify the method of IP address assignment.
`linklocal` *`ip-address`*	Specify the IPv6 link local IP address.
`vnet` *`vnet name`*	Specify the VNET name.
`l2-net` *`l2-net-name`*	Specify the name of the Layer network.
`vlan` *`vlan-id`*	Specify the VLAN assigned to the vNIC.
`vlan-type public|private`	Optionally, specify the VLAN type assigned to the vNIC.
`if [mgmt|data|span]`	Specify the type of interface for the vNIC.
`alias-on` *`alias-on-string`*	Specify an alias if desired.
`vm-nic-type [e1000|virtio]`	Specify the type of vNIC.
`exclusive|no-exclusive`	Specify if the vNIC is exclusive to a zone. Adding this parameter may improve performance on the vNIC.
`nic-enable|nic-disable`	Specify if the vNIC is enabled or disabled.
`secondary-macs` *`secondary-macs-`*	Specify a secondary MAC address for the interface.

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string	
sriov-vf|no-sriov-vf	Specify if the NIC is an SRIOV (single root input/output virtualizatio) interface.
mirror-traffic true|false	Specify if you want to mirror traffic to the VNIC.
if-nat-realm internal|external	Specify a NAT interface realm.
priority-tag|no-priority-tag	Specify to add a VLAN 0 priority tag on forwarded traffic.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The parameters, `exclusive`, and `nic` added.
Version 2.2.5	The parameter, `secondary-macs`, added.
Version 2.4.1	The parameter, `vxlan`, deprecated. The parameter, `vlan-type`, added.
Version 2.6.2	The parameters, `sriov-vf`, `mirror-traffic`, and `if-nat-realm` added.
Version 3.0.0	The following parameters added: `linklocal`, `vnet`, `l2-net`.
Version 3.1.0	The parameter, `priority-tag|no-priority-tag`, added.

Usage Use this command to create vNICs on the switch. This is useful if you want to assign a vNIC to the server-switch without adding virtual services.

Examples To create a vNIC with an IP address of 192.168.1.47/24, on VLAN 101, data, and vNIC type e1000, and exclusive, use the following command:

```
CLI network-admin@switch > switch-vnic-create ip 192.168.1.47/24 vlan
101 if data vm-nic-type e1000 exclusive
```

switch-vnic-delete

This command is used to remove a virtual Network Interface Card (vNIC) from the switch.

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Syntax `switch-vnic-delete`

`nic` *`nic-string`*	Specify the vNIC to delete from the switch. This is autogenerated when the vNIC is created.

Defaults None.

Access CLI

History Command introduced in nvOS Version 1.2.1

Usage Use this command to delete a vNIC from a switch. Use the switch-vnic-show command to display a list of configured vNICs on the switch.

Examples To delete the vNIC, eth0.3, use the following command:

```
CLI network-admin@switch >switch-vnic-delete nic eth0.3
```

switch-vnic-modify

This command is used to modify a virtual Network Interface Card (vNIC) on the switch.

Syntax `switch-vnic-modify`

`nic` *`nic-string`*	Specify the vNIC to modify.
Specify one or more of the following options:	
`ip` *`ip-address`*	Specify the IP address of the vNIC.
`netmask` *`netmask`*	Specify the netmask.
`assignment [none|dgcp|dhcpv6]`	Specify the method of IP address assignment.
`linklocal` *`ip-address`*	Specify the IPv6 link local IP address.
`vnet` *`vnet name`*	Specify the VNET name.
`l2-net` *`l2-net-name`*	Specify the name of the Layer network.
`vlan` *`vlan-id`*	Specify the VLAN assigned to the vNIC.
`vlan-type public|private`	Optionally, specify the VLAN type assigned to the vNIC.
`if [mgmt|data|span]`	Specify the type of interface for the vNIC.
`alias-on` *`alias-on-string`*	Specify an alias if desired.

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`vm-nic-type [e1000|virtio]`	Specify the type of vNIC.
`exclusive|no-exclusive`	Specify if the vNIC is exclusive to a zone. Adding this parameter may improve performance on the vNIC.
`nic-enable|nic-disable`	Specify if the vNIC is enabled or disabled.
`secondary-macs` *`secondary-macs-string`*	Specify a secondary MAC address for the interface.
`sriov-vf|no-sriov-vf`	Specify if the NIC is an SRIOV (single root input/output virtualizatio) interface.
`mirror-traffic true|false`	Specify if you want to mirror traffic to the VNIC.
`if-nat-realm internal|external`	Specify a NAT interface realm.
`priority-tag|no-priority-tag`	Specify to add a VLAN 0 priority tag on forwarded traffic.

Defaults None

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The parameters, **exclusive**, and **nic** added.
Version 2.2.5	The parameter, `secondary-macs`, added.
Version 2.4.1	The parameter, `vxlan`, deprecated. The parameter, `vlan-type`, added.
Version 2.6.2	The parameters, `sriov-vf`, `mirror-traffic`, and `if-nat-realm` added.
Version 3.0.0	The following parameters added: `linklocal`, `vnet`, `l2-net`.
Version 3.1.0	The parameter, `priority-tag|no-priority-tag`, added.

Usage Use this command to modify vNICs on the switch. This is useful if you want to assign a vNIC to the server-switch without adding virtual services.

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Examples To modify a vNIC with an IP address of 192.168.1.47/24, on VLAN 101, data, and change the vNIC type e1000, use the following command:

```
CLI network-admin@switch > switch-vnic-modify ip 192.168.1.47/24 vlan
101 if data vm-nic-type e1000
```

switch-vnic-show

This command is used to display information about a virtual Network Interface Card (vNIC) on the switch.

Syntax `switch-vnic-show`

`nic` *`nic-string`*	Specify the vNIC to modify.
Specify one or more of the following options:	
`ip` *`ip-address`*	Specify the IP address of the vNIC.
`netmask` *`netmask`*	Specify the netmask.
`assignment [none|dgcp|dhcpv6]`	Specify the method of IP address assignment.
`linklocal` *`ip-address`*	Specify the IPv6 link local IP address.
`vnet` *`vnet name`*	Specify the VNET name.
`l2-net` *`l2-net-name`*	Specify the name of the Layer network.
`vlan` *`vlan-id`*	Specify the VLAN assigned to the vNIC.
`vlan-type public|private`	Optionally, specify the VLAN type assigned to the vNIC.
`if [mgmt|data|span]`	Specify the type of interface for the vNIC.
`alias-on` *`alias-on-string`*	Specify an alias if desired.
`vm-nic-type [e1000|virtio]`	Specify the type of vNIC.
`exclusive|no-exclusive`	Specify if the vNIC is exclusive to a zone. Adding this parameter may improve performance on the vNIC.
`nic-enable|nic-disable`	Specify if the vNIC is enabled or disabled.
`secondary-macs` *`secondary-macs-string`*	Specify a secondary MAC address for the interface.

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`sriov-vf|no-sriov-vf`	Specify if the NIC is an SRIOV (single root input/output virtualizatio) interface.
`mirror-traffic true|false`	Specify if you want to mirror traffic to the VNIC.
`if-nat-realm internal|external`	Specify a NAT interface realm.
`priority-tag|no-priority-tag`	Specify to add a VLAN 0 priority tag on forwarded traffic.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The parameters, **exclusive**, and **nic** added.
Version 2.2.5	The parameter, `secondary-macs`, added.
Version 2.4.1	The parameter, `vxlan`, deprecated. The parameter, `vlan-type`, added.
Version 2.6.2	The parameters, `sriov-vf`, `mirror-traffic`, and `if-nat-realm` added.
Version 3.0.0	The following parameters added: `linklocal`, `vnet`, `l2-net`.
Version 3.1.0	The parameter, `priority-tag|no-priority-tag`, added.

Usage Use this command to display information about vNICs on the switch.

Examples To display a vNIC, use the following command:

```
CLI network-admin@switch > switch-vnic-show
```

syslog-tls-cert-clear

This command clears a Certificate Signing Request (CSR) for a TLS connection to a syslog server.

Syntax `syslog-tls-cert-clear`

Defaults None

Access CLI

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History Command introduced in Version 2.5.

Usage Use this command to delete imported certificates for TLS connections.

Examples To clear imported certificates, use the following syntax:

```
CLI network-admin@switch > syslog-tls-cert-clear
```

syslog-tls-cert-import

This command imports certificates from the SFTP/import directory on the switch.

Syntax `syslog-tls-cert-import file-ca file-ca-string file-cert file-cert-string`

`file-ca` *`file-ca-string`*	Specify the name of the CA certificate file.
`file-cert` *`file-cert-string`*	Specify the name of the switch certificate file signed by the CA.

Defaults None

Access CLI

History Command introduced in Version 2.5.

Usage Use this command to import certificates for TLS connections.

Examples To clear imported certificates, use the following syntax:

```
CLI network-admin@switch > syslog-tls-cert-import file-ca ca.pem file-cert my-cert.pem
```

syslog-tls-cert-info-show

This command displays certificates information.

Syntax `syslog-tls-cert-info-show`

`cert-type ca|intermediate|server`	Specify the type of the certificate: CA, intermediate or server.
`subject` *`subject-string`*	Specify the subject of the server.
`issuer` *`issuer-string`*	Specify the issuer of the certificate.
`serial-number` *`serial-number-number`*	Specify the serial number of the certificate.
`valid-from` *`valid-from-string`*	Specify the time from which the certificate is valid.

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valid-to *valid-to-string*	Specify the time at which the certificate expires and is no longer valid.

Defaults None

Access CLI

History Command introduced in Version 2.5.

Usage Use this command view certificate information .

Examples To display certificate information, use the following syntax:

```
CLI network-admin@switch > syslog-tls-cert-info-show
```

syslog-tls-cert-request-create

This command creates a certificate request for the TLS connection.

Syntax `syslog-tls-cert-request-create`

country country-string	Specify the country as a two letter code.
state state-string	Specify the state or province.
city *city-string*	Specify the city.
organization *organization-string*	Specify the organization.
organizational-unit *organizational-unit-string*	Specify the organizational unit.
common-name *common-name-string*	Specify the common name.

Defaults None

Access CLI

History Command introduced in Version 2.5.

Usage Use this command to generate a certificate request for TLS connections.

Examples To clear imported certificates, use the following syntax:

```
CLI network-admin@switch > syslog-tls-cert-request-create country US
state CA city Palo Alto organization engineering organizational-unit QA
common-name pluribusnetworks.com
```

syslog-tls-cert-request-show

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This command displays a certificate request for the TLS connection.

Syntax `syslog-tls-cert-request-show`

`cert-type` `ca|intermediate|server`	Specify the type of certificate.
`subject` *`subject-string`*	Specify the subject of the certificate.
`issuer` *`issuer-string`*	Specify the issuer of the certificate.
`serial-number` *`serial-number-number`*	Specify the serial number of the certificate.
`valid-from` *`valid-from-string`*	Specify the time from which the certificate is valid.
`valid-to` *`valid-to-string`*	Specify the expiration date of the certificate.

Defaults None

Access CLI

History Command introduced in Version 2.5.

Usage Use this command to display a certificate request for TLS connections.

Examples To display requested certificates, use the following syntax:

```
CLI network-admin@switch > syslog-tls-cert-request-show
```

syslog-tls-cert-show

This command displays certificates from the SFTP/import directory on the switch.

Syntax `syslog-tls-cert-import`

`file-ca` *`file-ca-string`*	Displays the name of the CA certificate file.
`file-cert` *`file-cert-string`*	Displays the name of the switch certificate file signed by the CA.
`cert-ca` *`cert-ca-string`*	Displays the CA cert.
`cert-switch` *`cert-switch-string`*	Displays the switch certificate.

Defaults None

Access CLI

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History Command introduced in Version 2.5.

Usage Use this command to import certificates for TLS connections.

Examples To display imported certificates, use the following syntax:

```
CLI network-admin@switch > syslog-tls-cert-show
```

system-diagnostics-show

Netvisor uses this command to displays information about the platform system diagnostics.

Syntax `system-diagnostics-show`

`name bios|system|cpu|memory| asicErrors|all`	Specify the area of the platform to display. The default value is **all**.

Access Network Administrator

History Command introduced in Version 3.0.0.

Usage Use this command to display information about platform system areas.

Examples To display system diagnostics, use the following syntax:

```
CLI network-admin@switch > system-diagnostics-show
# dmidecode 2.12
SMBIOS 2.8 present.

Handle 0x0000, DMI type 0, 24 bytes
BIOS Information
 Vendor: American Megatrends Inc.
 Version: 5.6.5
 Release Date: 11/20/2014
 Address: 0xF0000
 Runtime Size: 64 kB
 ROM Size: 6144 kB
...
```

system-settings-modify

This command allows you to modify system settings to optimize Netvisor performance.

Syntax `system-settings-modify`

`optimize-arps|no-optimize-arps`	Enable or disable ARP optimization. This feature is ON by default. When ON, the Netvisor sends all ARP requests and Gratuitous ARP requests to the local CPU of the corresponding switch, and responds to ARP requests on behalf of the intended ARP targets. This feature corresponds to an ARP-proxy function on the corresponding switch. It is assumed that ARP requests and Gratuitous ARP requests are used by Netvisor to learn

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	the MAC address to IPv4 address mapping, as well as Unknown Unicast and Broadcast traffic when the parameters, `manage-unknown-unicast` or `manage-broadcast` are ON. When OFF, the Netvisor learns and bridges ARP requests on the switch ASIC instead of relying on the local CPU.
`lldp|no-lldp`	Enable or disable LLDP discovery.
`policy-based-routing|no-policy-based-routing`	Enable or disable policy-based routing.
`optimize-nd|no-optimize-nd`	Enable or disable Neighbor Discovery optimization. This feature is ON by default. When ON, Netvisor sends all Neighbor Solicitations and Unsolicited Neighbor Advertisements to the local CPU of the corresponding switch, responds to Neighbor Solicitation requests on behalf of the intended ND targets themselves. This feature corresponds to an ND-proxy function on the corresponding switch. Neighbor Solicitations and Unsolicited Neighbor Advertisements are used by Netvisor to learn the MAC address to IPv6 address mapping, as well as Unknown Unicast and Broadcast traffic when tthe parameters, `manage-unknown-unicast` or `manage-broadcast` are ON. When OFF, theNetvisor learns and bridges Neighbor Solicitations on the switch ASIC instead of relying on Netvisor.
`reactivate-mac|no-reactivate-mac`	Enable or disable reactivation of aged out MAC entries. This feature is ON by default. When ON, if a vPort entry is looked up and found as inactive, the corresponding l2-table entry is re-activated on the switch. When OFF, the traffic is flooded on the corresponding broadcast domain by theNetvisor. Please note that l2-table entries are refreshed on the Ethernet switch ASIC every time it is used, otherwise it is removed after a time of inactivity corresponding to configured aging period. Requires unknown-unicast to be enabled.
`reactivate-vxlan-tunnel-mac|no-reactivate-vxlan-tunnel-mac`	Enable or disable enable reactivation of MAC entries over VXLAN tunnels.
`manage-unknown-unicast|no-manage-unknown-unicast`	Enable or disable unknown unicast management. This feature is ON by default. Netvisor sends all unknown-unicast traffic to the local CPU of the corresponding switch. Netvisor learns the source of unknown-

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	unicast packets and floods the packets on the corresponding unknown-unicast domain. When OFF, all unknown-unicast traffic is flooded on the corresponding unknown-unicast domain by the switch instead of relying on Netvisor.
`manage-broadcast|no-manage-broadcast`	Enable or disable broadcast management. This feature is ON by default. Netvisor sends all broadcast traffic to the local CPU of the corresponding switch. Netvisor learns the source of broadcast packets and floods the packets on the corresponding broadcast domain. When OFF, all unicast traffic is flooded on the corresponding broadcast domain by the switch instead of relying on Netvisor.
`block-loops|no-block-loops`	Enable or disable loop blocking.
`auto-trunk|no-auto-trunk`	Enable or disable auto trunking.
`auto-host-bundle|no-auto-host-bundle`	Enable or disable host auto bundling.
`cluster-active-active-routing|no-cluster-active-active-routing`	Enable or disable active-active cluster routing.
`fast-route-download|no-fast-route-download`	Enable or disable fast route download from routesnoop.
`fast-interface-lookup|no-fast-interface-lookup`	Enable or disable fast router interface lookup.
`routing-over-vlags|no-routing-over-vlags`	Enable or disable routing to VLAGs from cluster links.
`optimize-datapath disable|cluster-only|all`	Optimize the datapath on ONVL switches with no rear-facing NIC.
`source-mac-miss to-cpu|copy-to-cpu`	Control unknown source MAC address learn behavior.
`cpu-class-enable|no-cpu-class-enable`	Enable or disable CPU class.
`use-igmp-snoop-l2|use-igmp-snoop-l3`	Use Layer 2 or Layer 3 tables for IGMP snooping.
`vle-tracking-timeout` *`seconds`*	Specify VLE tracking timeout in seconds from

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	3 to 30 seconds.
usb-port|no-usb-port	Enable or disable the USB port on the front of the switch. This is only applicable to switches with ONVL.
pfc-buffer-limit *pfc-buffer-limit-string*	Percentage of global system buffer space allowed for PFC.
cosq-weight-auto|no-cosq-weight-auto	Specify if you want to adjust queue weights automatically.
lossless-mode|no-lossless-mode	Specifies lossless mode.
stagger-queries|no-stagger-queries	Specify if you want to stagger sending IGMP queries on the network.
qsfp28-port-mode none|6x40G|4x100G	configure the QSFP28 port mode as 6x40G or 4x100G.
host-refresh|no-host-refresh	Specify if you want to enable refreshing host ARP entries to keep L2 entries active.
proxy-conn-retry|no-proxy-conn-retry	Enable or disable proxy connection retry.
proxy-conn-max-retry *integer*	Specify the maximum number of proxy connection retry attempts from 0 to 20.
proxy-conn-retry-interval *mseconds*	Specify the number of milliseconds, from 100 to 2000, to wait between proxy connection retry attempts.
nvos-debug-logging|no-nvos-debug-logging	Specify the logging mode.
manage-l2-uuc-drop|no-manage-l2-uuc-drop	Enable or disable L2 Unknown Unicast Drop towards data port.
optimize-rxlos|no-optimize-rxlos	Enable or disable processing of port modules that do not support RXLOS.
xcvr-link-debug|no-xcvr-link-debug	Enable or disable receiver link debug.
fastpath-bfd|no-fastpath-bfd	Enable or disable BFD path optimization.
linkscan-interval *10000..1000000*	Program the link scan interval. The default value is 150000.

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Defaults All parameters enabled by default.

Access Network Administrator

History

Version 2.5.2	Command introduced.
Version 2.5.3	The parameters, `auto-host-trunk`, and `cluster-active-active-routing` added.
Version 2.6.0	The parameters, `policy-based-routing`, `auto-vlag-bundle`, `lldp`, `block-loops`, `source-mac-miss`, `cpu-class`, `igmp-snooping` and `usb` added.
Version 3.0.0	The parameters, `stagger-queries`, `cosq-weight-auto` and `vle-tracking-timeout`, added.
Version 3.1.0	The parameters, `host-refresh`, `proxy-conn-retry`, `proxy-conn-max-retry`, `proxy-conn-retry-interval`, added.
Version 5.1.0	The parameter, `nvos-debug-logging|no-nvos-debug-logging`, added.
Version 5.2.0	The parameter, fastpath-bfd|no-fastpath-bfd, added

Usage Use this command to enable or disable system settings. However, it is recommended that you do not modify the settings without consulting Pluribus Networks.

Examples To disable auto-trunking, use the following syntax:

```
CLI network-admin@switch > system-settings-modify  no-auto-trunk
```

system-stats-show

This command is used to display information about system statistics.

Syntax `system-stats-show`

`time date/time: yyyy-mm-ddThh:mm:ss`	Specifies a specific time and date to display statistics.
`start-time date/time: yyyy-mm-ddThh:mm:ss`	Specifies the start time of the system stats.
`end-time date/time: yyyy-mm-ddThh:mm:ss`	Specifies the end time of the system stats.

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`duration duration: #d#h#m#s`	Specifies the duration in the format `#d#h#m#s`
`interval` *`duration: #d#h#m#s`*	Specifies the number of seconds to reprint the system stats to the CLI.
`older-than duration: #d#h#m#s`	Specifies stats older than a specific duration.
`within-last duration: #d#h#m#s s`	Specifies stats that occurred within the last duration.
`uptime duration: #d#h#m#s`	Specifies the uptime of the switch.
`paging` *`paging-number`*	Specifies the number pages collected.

Defaults None.

Access CLI

History

Version 1.2.1	Command introduced.
Version 3.0.0	The parameter, `cpu-total`, added.

Usage Use this command to display system statistics.

Examples To display system statistics, use the following command:

```
CLI network-admin@switch > system-stats-show format all layout vertical
switch:        draco-dev01
uptime:        9m35s
used-mem:      50%
used-mem-val:  3.80G
used-swap:     0%
used-swap-val: 0
paging:        0
cpu-user:      30%
cpu-sys:       16%
cpu-total:     47%
cpu-idle:      52%
```

system-settings-show

This command allows you to display system settings that optimize Netvisor performance.

Syntax `system-settings-show`

`optimize-arps|no-optimize-arps`	Enable or disable ARP optimization.

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lldp|no-lldp	Enable or disable LLDP discovery.
policy-based-routing|no-policy-based-routing	Enable or disable policy-based routing.
optimize-nd|no-optimize-nd	Enable or disable Neighbor Discovery optimization.
reactivate-mac|no-reactivate-mac	Enable or disable reactivation of aged out MAC entries.
reactivate-vxlan-tunnel-mac|no-reactivate-vxlan-tunnel-mac	Enable or disable enable reactivation of MAC entries over VXLAN tunnels.
manage-unknown-unicast|no-manage-unknown-unicast	Enable or disable unknown unicast management.
manage-broadcast|no-manage-broadcast	Enable or disable broadcast management.
block-loops|no-block-loops	Enable or disable loop blocking.
auto-trunk|no-auto-trunk	Enable or disable auto trunking.
auto-host-bundle|no-auto-host-bundle	Enable or disable host auto bundling.
cluster-active-active-routing|no-cluster-active-active-routing	Enable or disable active-active cluster routing.
fast-route-download|no-fast-route-download	Enable or disable fast route download from routesnoop.
fast-interface-lookup|no-fast-interface-lookup	Enable or disable fast router interface lookup.
routing-over-vlags|no-routing-over-vlags	Enable or disable routing to VLAGs from cluster links.
optimize-datapath disable|cluster-only|all	Optimize the datapath on ONVL switches with no rear-facing NIC.
source-mac-miss to-cpu|copy-to-cpu	Control unknown source MAC address learn behavior.
cpu-class-enable|no-cpu-class-enable	Enable or disable CPU class.

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`use-igmp-snoop-l2|use-igmp-snoop-l3`	Use Layer 2 or Layer 3 tables for IGMP snooping.
`vle-tracking-timeout` *`seconds`*	Specify VLE tracking timeout in seconds from 3 to 30 seconds.
`usb-port|no-usb-port`	Enable or disable the USB port on the front of the switch. This is only applicable to switches with ONVL.
`pfc-buffer-limit` *`pfc-buffer-limit-string`*	Percentage of global system buffer space allowed for PFC.
`cosq-weight-auto|no-cosq-weight-auto`	Specify if you want to adjust queue weights automatically.
`lossless-mode|no-lossless-mode`	Specifies lossless mode.
`stagger-queries|no-stagger-queries`	Specify if you want to stagger sending IGMP queries on the network.
`qsfp28-port-mode none|6x40G|4x100G`	configure the QSFP28 port mode as 6x40G or 4x100G.
`host-refresh|no-host-refresh`	Specify if you want to enable refreshing host ARP entries to keep L2 entries active.
`proxy-conn-retry|no-proxy-conn-retry`	Enable or disable proxy connection retry.
`proxy-conn-max-retry` *`integer`*	Specify the maximum number of proxy connection retry attempts from 0 to 20.
`proxy-conn-retry-interval` *`mseconds`*	Specify the number of milliseconds, from 100 to 2000, to wait between proxy connection retry attempts.
`nvos-debug-logging|no-nvos-debug-logging`	Specify the logging mode.
`manage-l2-uuc-drop|no-manage-l2-uuc-drop`	Enable or disable L2 Unknown Unicast Drop towards data port.
`optimize-rxlos|no-optimize-rxlos`	Enable or disable processing of port modules that do not support RXLOS.
`xcvr-link-debug|no-xcvr-link-debug`	Enable or disable receiver link debug.

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`fastpath-bfd|no-fastpath-bfd`	Enable or disable BFD path optimization.
`linkscan-interval` *`10000..1000000`*	Program the link scan interval. The default value is 150000.

Defaults All parameters enabled by default.

Access Network Administrator

History

Version 2.5.2	Command introduced.
Version 2.5.3	The parameters, `auto-host-trunk`, and `cluster-active-active-routing` added.
Version 2.6.0	The parameters, `policy-based-routing`, `auto-vlag-bundle`, `lldp`, `block-loops`, `source-mac-miss`, `cpu-class`, `igmp-snooping` and `usb` added.
Version 3.0.0	The parameters, `stagger-queries`, `cosq-weight-auto` and `vle-tracking-timeout`, added.
Version 3.1.0	The parameters, `host-refresh`, `proxy-conn-retry`, `proxy-conn-max-retry`, `proxy-conn-retry-interval`, added.
Version 5.2.0	The parameter, `fastpath-bfd|no-fastpath-bfd`, added.

Usage Use this command to display system settings. However, it is recommended that you do not modify the settings without consulting Pluribus Networks.

Examples To display system settings, use the following syntax:

```
CLI network-admin@switch > system-settings-show
switch:                      Spine1
optimize-arps:               on
optimize-nd:                 on
reactivate-mac:              on
manage-unknown-unicast:      on
manage-broadcast:            on
auto-trunk:                  on
routing-over-vlags:          on
```

system-stats-settings-modify

This command is used to modify the settings for collecting switch stats.

Syntax `switch-stats-settings-modify enable|disable interval duration: #d#h#m#s disk-space disk-space-number`

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Specify one or more of the following options:	
`enable|disable`	Specify if you want to enable or disable collecting information about the switch status.
`interval duration: #d#h#m#s`	Specify an interval duration to collect status information.
`disk-space` *`disk-space-number`*	Specify the disk size for the status information.

Defaults None

Access CLI

History Command introduced in nvOS Version 2.1.

Usage Use this command to modify the settings for collecting status information on the switch.

Examples To modify the disk space to 4GB, use the following command:

```
CLI network-admin@switch > system-stats-settings-modify disk-space 4g
```

system-stats-settings-show

This command is used to display the settings for collecting switch statistics.

Syntax `system-stats-settings-show enable|disable interval duration: #d#h#m#s disk-space disk-space-number`

Specify one or more of the following options:	
`enable|disable`	Specify if you want to enable or disable collecting information about the switch status.
`interval duration: #d#h#m#s`	Specify an interval duration to collect status information.
`disk-space` *`disk-space-number`*	Specify the disk size for the status information.

Defaults None

Access CLI

History Command introduced in nvOS Version 2.1.

Usage Use this command to display the settings for collecting statistics on the switch.

Examples To modify the disk space to 4Gb, use the following command :

```
CLI network-admin@switch > system-stats-settings-show
switch:     pleiades24
```

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```
enable:     yes
interval:   1m
disk-space: 50M
```

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T Commands

tech-support-show

This command is used to assist Pluribus Networks Technical Assistance Center (TAC) when troubleshooting a switch.

Syntax `tech-support-show`

Defaults None

Access CLI

History Command introduced in Version 2.0

Usage Information in the show output provides Pluribus TAC with logs and statistics to begin the investigation on any technical issues. This command output is not comprehensive and may require additional details. While running the `tech-support-show` command, you should enable logging in your SSH client for capturing the output to be sent to Pluribus TAC.

Examples To display information about a switch, use the following command (the output displayed here is only a sample of the complete output):

```
CLI network-admin@switch > tech-support-show
==================== admin-service-show =======================
if:           mgmt
ssh:          on
nfs:          on
web:          on
web-ssl:      off
web-ssl-port: 443
web-port:     80
snmp:         off
net-api:      on
icmp:         on
if:           data
ssh:          on
nfs:          on
web:          on
web-ssl:      off
web-ssl-port: 443
web-port:     80
snmp:         off
net-api:      on
icmp:         on
==================== admin-sftp-show ========================
sftp-user:     sftp
enable:        yes
```

traceroute

This command is used to identify routes between hosts.

Syntax `traceroute options host`

Defaults None

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Access CLI

History Command introduced in Version 2.2.4.

Usage Use this command to identify hops between hosts on the network.

Examples To see the routes between a switch and yodel.com, use the following command:

```
CLI network-admin@switch > traceroute  yodel.com
traceroute: Warning: yodel.com has multiple addresses; using 98.138.253.109
traceroute: Warning: Multiple interfaces found; using 10.9.100.100 @ igb0
traceroute to yodel.com (98.138.253.109), 30 hops max, 40 byte packets
 1  router.pluribusnetworks.com (10.11.11.1)  0.712 ms  0.636 ms  0.659 ms
2  10.23.5.2 (10.23.5.2)  0.704 ms  0.654 ms  0.613 ms
 3  xe-8-0-0-3465-sur01.santaclara.ca.sfba.comcast.net (50.203.11.17)  1.117 ms
 1.102 ms  1.093 ms
 4  te-0-10-0-2-ar01.sfsutro.ca.sfba.comcast.net (68.85.86.17)  3.343 ms  3.859 ms
 3.959 ms
 5  he-0-9-0-0-ar01.santaclara.ca.sfba.comcast.net (69.139.198.138)  4.360 ms
 4.464 ms  4.379 ms
6  * * *
 7  be-10910-cr01.sanjose.ca.ibone.comcast.net (68.86.86.102)  6.956 ms  7.639 ms
 9.245 ms
8  50.242.148.34 (50.242.148.34)  6.606 ms  6.567 ms  6.728 ms
9  * * *
10  * * *
11  4.34.50.38 (4.34.50.38)  30.548 ms  135.574 ms  53.269 ms
12  ae-0.pat1.nez.yodel.com (216.115.100.8)  55.840 ms ae-6.pat2.nez.yodel.com
(216.115.104.116)  55.689 ms  55.324 ms
13  ae-1.msr2.ne1.yodel.com (216.115.100.7)  54.939 ms ae-1.msr1.ne1.yodel.com
(216.115.100.5)  58.989 ms ae-0.msr1.ne1.yodel.com (216.115.100.1)  40.204 ms
14  ae-1.clr2-a-gdc.ne1.yodel.com (98.138.0.19)  55.725 ms unknown-98-138-97-
x.yodel.com (98.138.97.3)  55.829 ms ae-0.clr1-a-gdc.ne1.yodel.com (98.138.144.21)
 55.886 ms
15  et-18-25.fab3-1-gdc.ne1.yodel.com (98.138.0.89)  55.507 ms et-17-1.fab1-1-
gdc.ne1.yodel.com (98.138.0.79)  40.852 ms et-18-25.fab3-1-gdc.ne1.yodel.com
(98.138.0.89)  55.513 ms
16  po-17.bas1-7-prd.ne1.yodel.com (98.138.240.20)  41.726 ms po-11.bas1-7-
prd.ne1.yodel.com (98.138.240.8)  63.368 ms po-16.bas2-7-prd.ne1.yodel.com
(98.138.240.34)  56.676 ms
17  * * *
18  * * *
19  * * *
20  * * *
21  * * *
22  * * *
23  * * *
24  * * *
25  * * *
26  * * *
27  * * *
28  * * *
29  * * *
30  * * *
```

transaction-cluster-divergence-fix

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This command is used to fix the cluster transaction divergence that may occur in one of the nodes of a cluster when the configurations go out-of-synch between the nodes of a cluster.

Syntax `transaction-cluster-divergence-fix`

Defaults None

Access CLI

History Command introduced in Version 5.1.2

Usage Use this command to fix the cluster transaction divergence between the nodes of a cluster and roll back the configuration to a common transaction ID number.

transaction-node-show

This command is used to display fabric transaction numbers. If a failure occurs on the fabric, transactions on nodes in the fabric can become out of synch. Once transactions are out of synch, no further transactions can be executed across the scope of local, fabric, or cluster. Unjoining and rejoining the fabric causes the node to lose configuration.

As part of a single node transaction recovery, you can roll back the transaction number to a previous one.

Syntax `transaction-node-show`

`id` *`id-number`*	Displays the ID assigned to the node.
`name` *`name-string`*	Displays the node name.
`local-tid` *`local-tid-number`*	Displays the local transaction ID.
`fabric-tid` *`fabric-tid-number`*	Displays the fabric transaction ID.
`cluster-tid` *`cluster-tid-number`*	Displays the cluster transaction ID.
`fabric-changeid` *`fabric-changeid-string`*	Displays the fabric unique change ID.
`cluster-changeid` *`cluster-changeid-string`*	Displays the cluster unique change ID.

Defaults None

Access CLI

History Command introduced in Version 2.3

Usage Use this command to roll back the fabric to a specific transaction ID number. This may be necessary to resynchronize the fabric without forcing nodes to unjoin and rejoin the fabric. If multiple nodes are out of synch, you must recover each node separately.

Examples To display transaction node information, use the following syntax:

```
CLI network-admin@switch > transaction-node-show
```

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```
switch:           ursa-colo-2
id:               150996198
name:             ursa-colo-2
local-tid:        15
fabric-tid:       2
cluster-tid:      0
fabric-changeid:  32d986727bc3cbe0826b43d6f71918d68dc6cce4df0c0f6c3f28d78edad55db1
```

transaction-rollback-to

This command is used to roll back the fabric to a specific fabric transaction number. If a failure occurs on the fabric, transactions on nodes in the fabric can become out of synch. Once transactions are out of synch, no further transactions can be executed across the scope of local, fabric, or cluster. Unjoining and rejoining the fabric causes the node to lose configuration.

As part of a single node transaction recovery, you can roll back the transaction number to a previous one.

Syntax `transaction-rollback-to transaction-scope local|cluster|fabric tid tid-number`

`scope local|cluster|fabric`	Specify if you want to rollback the transaction number on a local, cluster, or fabric scope.
`tid` *`tid-number`*	Specify the transaction number to rollback the transaction.
`ignore-error|no-ignore-error`	Specify if you want ignore errors when this command is executed. Use with **CAUTION**.

Defaults None

Access CLI

History

Version 2.2.3	Command introduced.
Version 3.0.0	The parameter, `ignore-error`, added.

Usage Use this command to roll back the fabric to a specific transaction ID number. This may be necessary to resynchronize the fabric without forcing nodes to unjoin and rejoin the fabric. If multiple nodes are out of synch, you must recover each node separately.

Examples To roll back to the fabric transaction ID to 14, use the following syntax:

```
CLI network-admin@switch > transaction-rollback-to transaction-scope
fabric tid 14
```

This command produces output only if an error has occurred during the transaction.

```
CLI network-admin@switch > transaction-rollback-to transaction-scope
fabric tid 5

Warning: rolled back transactions are unrecoverable unless another
```

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```
fabric node has them. Proceed? [y/n] y
```

transaction-rollforward-to

This command is used to roll forward the fabric to a specific fabric transaction number.

Syntax `transaction-rollforward-to transaction-scope local|cluster|fabric tid tid-number remote-node fabric-node-name`

`transaction-scope local|cluster|fabric`	Specify if you want to roll forward the transaction number on a local, cluster, or fabric scope.
`tid` *`tid-number`*	Specify the transaction number to roll forward the transaction.
`remote-node` *`fabric-node-name`*	Specify the node to rollforward the transaction ID.
`ignore-error|no-ignore-error`	Specify if you want ignore errors when this command is executed. Use with **CAUTION**.

Defaults None

Access CLI

History

Version 2.2.3	Command introduced.
Version 2.4	The parameter, `remote-node`, added.
Version 3.0.0	The parameter, `ignore-error`, added.

Usage Use this command to roll forward the fabric to a specific transaction ID number. This may be necessary to resynchronize the fabric without forcing nodes to unjoin and rejoin the fabric. If multiple nodes are out of synch, you must recover each node separately.

Examples To roll forward to the fabric transaction ID to 14, use the following syntax:

```
CLI network-admin@switch > transaction-forward-to scope fabric tid 14
```

This command produces output only if an error has occurred during the transaction.

transaction-show

This command is used to display information about fabric transaction status for the current node.

Syntax `transaction-show`

`start-time date/time:` *`yyyy-mm-`*	Specify the start time to show transactions.

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ddThh:mm:ss	
end-time date/time: *yyyy-mm-ddThh:mm:ss*	Specify the end time to show transactions.
scope local|cluster|fabric	Specify if you want to display the transaction numbers on a local, cluster, or fabric scope.
tid *tid-number*	Displays the transaction number.
start-tid *start-tid-number*	Displays the starting transaction ID number.
end-tid *end-tid-number*	Displays the end transaction ID number.
state start|commit-request|commit-prep|commit|commit-done| abort-start|abort-done|remote-start| remote-commit-request| remote-commit-prep|remote-commit|remote-abort-start|remote-abort-done| undo-info|changeid|reserve| reserve-abort|remote-reserve| remote-reserve-abort|checkpoint-start| checkpoint-done|roll-forward|roll-back|roll-forward-result| roll-back-result|change-no-xact|failure	Displays the final state of the transaction. Typically, this is a type of commit to indicate that the transaction is completed. Abort indicates that the transaction did not complete.
command *command-string*	Displays the command used by the transaction code to roll forward the transaction.
local-command *local-command-string*	Displays commands with fields local-scope.
undo-command *undo-command-string*	Displays the command used by the transaction code to roll back the transaction.
failure *failure-string*	Displays the failure message if the error is ignored.

Defaults None

Access CLI

History Command introduced in Version 2.2.3

Version 2.2.3	Command introduced.
Version 3.0.0	The following parameters added: `local-command` and `failure`. Additional states added: `oll-forward|roll-back|roll-forward-result|roll-back-result|change-no-xact|`

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```
                    failure
```

Usage Use this command to display the changes that occur when the `transaction-rollforward-to` or `transaction-rollback-to` commands are used. This may be necessary to resynchronize the fabric without forcing nodes to unjoin and rejoin the fabric. If multiple nodes are out of synch, you must recover each node separately.

The scope parameter indicates which set of transactions to display as each scope has an independent set of transactions associated with it. The default scope is fabric unless another scope is specified.

You cannot copy and paste commands and undo-commands because they include information that cannot apply to new commands. These fields are informational-only and allow you to see exactly what happens to the configuration when you roll forward or roll back the transaction ID.

Once you decide which node you want to modify and the transaction that you want to roll forward or roll back, you use the `transaction-rollforward-to` or `transaction-rollback-to` commands to re-run the command (roll forward) or undo the command (rollback) on the node. This applies only to the local node.

Examples To display information about transactions, use the following syntax:

```
CLI network-admin@switch > transaction-show

CLI (network-admin@pleiades24) > transaction-show scope fabric
start-time:   14:51:29
tid:          1
state:        commit-done
command:      vnet-create id a000014:1 name vnet1 scope fabric vrg a000014:0 vlans
5 config-admin vnet_mgr_id a000014:0 vnet_mgr_zone_id a000014:1 vnet_mgr_location
167772180 vrg_created_by_vnet true admin_role a000014:400
----------------------------------------
start-time:   14:51:45
tid:          2
state:        commit-done
command:      vnet-manager-interface-add vnet-manager-name vnet1-mgr nic eth0.11
ip 11.11.11.11 netmask 24 vlan 11 no-exclusive nic-enable vrrp-priority 255
----------------------------------------
start-time:   14:51:51
tid:          3
state:        commit-done
command:      vlan-create id 11 scope fabric stats
```

transaction-settings-modify

You can modify transaction settings to automatically recover missed transactions.

Syntax `transaction-settings-modify`

`allow-offline-cluster-nodes|no-allow-offline-cluster-nodes`	Specify if you want to allow transaction to proceed even if a cluster is offline.
`auto-recover|no-auto-recover`	Specify if you want to automatically recover missed transactions.
`auto-recovery-retry-time duration:#d#h#m#s`	Specify the retry time for transaction auto-recover.

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Defaults None

Access CLI

History

Version 2.3	Command introduced.
Version 2.4	The parameter, `allow-offline-cluster-nodes`, added.

Usage Use this command to automatically recover transactions on the fabric.

Examples To set the recovery to automatic, use the following syntax:

```
CLI network-admin@switch > transaction-settings-modify  auto-recover
```

transaction-settings-show

You can display transaction settings that automatically recover missed transactions.

Syntax `transaction-settings-show`

`allow-offline-cluster-nodes|no-allow-offline-cluster-nodes`	Specify if you want to allow transaction to proceed even if a cluster is offline.
`auto-recover|no-auto-recover`	Specify if you want to automatically recover missed transactions.
`auto-recovery-retry-time duration:#d#h#m#s`	Specify the retry time for transaction auto-recover.

Defaults None

Access CLI

History

Version 2.3	Command introduced.
Version 2.4	The parameter, `allow-offline-cluster-nodes`, added.

Usage Use this command to display transaction settings.

Examples To display the transaction settings, use the following syntax:

```
CLI network-admin@switch > transaction-settings-show
```

trunk-create

This command creates a new trunk for link aggregation on a switch.

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Syntax `trunk-create`

`name` *`name-string`*	Specify the name for the trunk configuration.
`ports` *`port-list`*	Specify the port number(s) for the link(s) to aggregate into the trunk.
Specify any of the following options:	
`speed disable|100m|1g|10g|40g|50g|100g`	Specify the port speed or disable the port.
`egress-rate-limit unlimited`	Specify an egress rate limit for the configuration.
`autoneg|no-autoneg`	Specify if you want the physical port to autonegotiate port speed.
`jumbo|no-jumbo`	Specify if the port can receive jumbo frames.
`lacp-mode off|passive|active`	Specify the Link Aggregation Control Protocol (LACP) mode for the configuration.
`lacp-priority` *`number`*	Specify the LACP priority. This is a number between 1 and 65535 with a default value of 32768.
`lacp-timeout slow|fast`	Specify the LACP time out as slow (30 seconds) or fast (4 seconds). The default value is slow.
`lacp-fallback bundle|individual`	Specify the LACP fallback mode as individual or bundled.
`lacp-fallback-timeout seconds`	Specify the LACP fallback timeout in seconds. The range is between 30 and 60 seconds with a default value of 50 seconds.
`reflect|noreflect`	Specify physical port reflection
`edge-switch|no-edge-switch`	Specify if the switch is an edge switch.
`pause|no-pause`	Specify if pause frames are sent.
`description` *`description-string`*	Specify a description for the trunk configuration.
`loopback|no-loopback`	Specify loopback if you want to use loopback.

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`vxlan-termination| no-vxlan-termination`	Specify if a VXLAN can terminate on the trunk.
`unknown-ucast-level` *`unknown-ucast-level-string`*	Specify an unknown unicast level in percent. The default value is 100%.
`unknown-mcast-level` *`unknown-mcast-level-string`*	Specify an unknown multicast level in percent. The default value is 100%.
`broadcast-level` *`broadcast-level-string`*	Specify a broadcast level in percent. The default value is 100%.
`port-mac-address` *`mac-address`*	Specify the MAC address of the port.
`loop-vlans` *`vlan-list`*	Specify a list of VLANS for looping.
`routing|no-routing`	Specify if the port participates in routing on the network.
`host-enable|host-disable`	Enable or disable host facing ports.
`defer-bringup|no-defer-bringup`	Specify to delay bringing up the host.
`dscp-map dscp-map name|none`	Specify the DSCP map name to enable on a port
`local-switching|no-local-switching`	Specify local-switching or no-local-switching. A no-local-switching port cannot bridge traffic to another no-local-switching port
`allowed-tpid q-in-q|q-in-q-old`	Specify an allowed TPID in addition to 0x8100 for VLAN headers.
`fabric-guard|no-fabric-guard`	Specify if fabric guard is enabled.
`fec|no-fec`	Specify Port Forwarding Error Correction (FEC) mode.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 1.2.6	The optional parameter, lacp-mode, was added.

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Version 2.1	The parameter id is deprecated. The parameters, `enable` **|** `disable`, `lacp-priority`, `lacp-timeout`, `reflect`, `edge-switch`, `pause`, `description`, `loopback`, `mirror-receive`, `port-mac`, and `send-port` added.
Version 2.2.5	The parameters, `unknown-ucast-level`, `unknown-mcast-level`, and `broadcast-level` added.
Version 2.2.6	The parameter, `egress-rate-limit`, added.
Version 2.3	The parameters, `auto-neg`, `eth-mode`, and `reflect` deprecated.The parameter, `rem-rswitch-port` and `routing`, added.
Version 2.4	The parameter, `enable|disable`, deprecated. The parameters, `loop-vlans` and `host-enable`, added.
Version 2.5.3	The parameters, `reflect|noreflect`, `dscp-map` `dscp-map` `name|none`, and `local-switching|no-local-switching`, added.
Version 2.6.2	The parameter, `vxlan-termination`, `allowed-tpid`, and `fabric-guard`, added. The parameter, `mirror-receive-only`, deprecated.
Version 3.0.0	The parameter, `autoneg|no-autoneg`, added.
Version 3.1.0	The parameter, `fec|no-fec`, added.
Version 5.1.0	The parameters, `bw-bps`, `rem-rswitch-port-mac`, deprecated. The parameter, `defer-bringup|no-defer-bringup`, added.

Usage Trunks can be used to aggregate network links at Layer 2 on the local switch. Use this command to create a new trunk.

Examples To create a trunk with the name, trunk-12, and aggregate the links connected to ports 1, 2, and 3:

```
CLI network-admin@switch > trunk-create name trunk-12 port 1,2,3
```

trunk-delete

This command is used to delete an existing trunk from the configuration.

Syntax `trunk-delete name name-string trunk-id trunk-id-number`

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name *name-string*	Specify the trunk name.
trunk-id *trunk-id-number*	Specify the ID of the physical interface.

Defaults None.

Access CLI

History

Version 1.2.1	Command introduced.
Version 2.6.2	The parameter, `trunk-id`, added.

Usage Trunks can be used to aggregate network links at Layer 2 on the local switch. Use this command to delete an existing trunk.

Examples To delete the existing trunk, 476, use the following command:

```
CLI network-admin@switch > trunk-delete name trunk-476
```

trunk-modify

This command modifies a trunk for link aggregation on a switch.

Syntax `trunk-modify`

name *name-string*	Specify the name for the trunk configuration.
ports *port-list*	Specify the port number(s) for the link(s) to aggregate into the trunk.
Specify any of the following options:	
speed disable|100m|1g|10g|40g|50g|100g	Specify the port speed or disable the port.
egress-rate-limit unlimited	Specify an egress rate limit for the configuration.
autoneg|no-autoneg	Specify if you want the physical port to autonegotiate port speed.
jumbo|no-jumbo	Specify if the port can receive jumbo frames.
lacp-mode off|passive|active	Specify the Link Aggregation Control Protocol (LACP) mode for the configuration.
lacp-priority *number*	Specify the LACP priority. This is a number between 1 and 65535 with a default value of 32768.

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`lacp-timeout slow|fast`	Specify the LACP time out as slow (30 seconds) or fast (4 seconds). The default value is slow.
`lacp-fallback bundle|individual`	Specify the LACP fallback mode as individual or bundled.
`lacp-fallback-timeout seconds`	Specify the LACP fallback timeout in seconds. The range is between 30 and 60 seconds with a default value of 50 seconds.
`reflect|noreflect`	Specify physical port reflection
`edge-switch|no-edge-switch`	Specify if the switch is an edge switch.
`pause|no-pause`	Specify if pause frames are sent.
`description` *`description-string`*	Specify a description for the trunk configuration.
`loopback|no-loopback`	Specify loopback if you want to use loopback.
`vxlan-termination| no-vxlan-termination`	Specify if a VXLAN can terminate on the trunk.
`unknown-ucast-level` *`unknown-ucast-level-string`*	Specify an unknown unicast level in percent. The default value is 100%.
`unknown-mcast-level` *`unknown-mcast-level-string`*	Specify an unknown multicast level in percent. The default value is 100%.
`broadcast-level` *`broadcast-level-string`*	Specify a broadcast level in percent. The default value is 100%.
`port-mac-address` *`mac-address`*	Specify the MAC address of the port.
`loop-vlans` *`vlan-list`*	Specify a list of VLANS for looping.
`routing|no-routing`	Specify if the port participates in routing on the network.
`host-enable|host-disable`	Enable or disable host facing ports.
`defer-bringup|no-defer-bringup`	Specify to delay bringing up the host.
`dscp-map dscp-map name|none`	Specify the DSCP map name to enable on a port

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`local-switching|no-local-switching`	Specify local-switching or no-local-switching. A no-local-switching port cannot bridge traffic to another no-local-switching port
`allowed-tpid q-in-q|q-in-q-old`	Specify an allowed TPID in addition to 0x8100 for VLAN headers.
`fabric-guard|no-fabric-guard`	Specify if fabric guard is enabled.
`fec|no-fec`	Specify Port Forwarding Error Correction (FEC) mode.

Defaults None

Access CLI

History

Version 1.2	Command introduced.
Version 1.2.6	The optional parameter, lacp-mode, was added.
Version 2.1	The parameter id is deprecated. The parameters, `enable` **|** `disable`, `lacp-priority`, `lacp-timeout`, `reflect`, `edge-switch`, `pause`, `description`, `loopback`, `mirror-receive`, `port-mac`, and `send-port` added.
Version 2.2.5	The parameters, `unknown-ucast-level`, `unknown-mcast-level`, and `broadcast-level` added.
Version 2.2.6	The parameter, `egress-rate-limit`, added.
Version 2.3	The parameters, `auto-neg`, `eth-mode`, and `reflect` deprecated.The parameter, `rem-rswitch-port` and `routing`, added.
Version 2.4	The parameter, `enable|disable`, deprecated. The parameters, `loop-vlans` and `host-enable`, added.
Version 2.5.3	The parameters, `reflect|noreflect`, `dscp-map` `dscp-map` `name|none`, and `local-switching|no-local-switching`, added.
Version 2.6.2	The parameter, `vxlan-termination`, `allowed-tpid`, and `fabric-guard`, added. The parameter, `mirror-receive-only`,

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	deprecated.
Version 3.0.0	The parameter, `autoneg|no-autoneg`, added.
Version 3.1.0	The parameter, `fec|no-fec`, added.
Version 5.1.0	The parameters, `bw-bps`, `rem-rswitch-port-mac`, deprecated. The parameter, `defer-bringup|no-defer-bringup`, added.

Usage Trunks can be used to aggregate network links at Layer 2 on the local switch. Use this command to modify the links for a trunk.

Examples To modify a trunk with the name trunk-476, and to aggregate the links connected to ports 11, 21, and 31.

```
CLI network-admin@switch > trunk-modify name trunk-476 port 11,21,31
```

trunk-show

This command displays the list of links aggregated into a trunk.

Syntax `trunk-show`

`name` *`name-string`*	Specify the name for the trunk configuration.
`ports` *`port-list`*	Specify the port number(s) for the link(s) to aggregate into the trunk.
Specify any of the following options:	
`speed disable|100m|1g|10g|40g|50g|100g`	Specify the port speed or disable the port.
`egress-rate-limit unlimited`	Specify an egress rate limit for the configuration.
`autoneg|no-autoneg`	Specify if you want the physical port to autonegotiate port speed.
`jumbo|no-jumbo`	Specify if the port can receive jumbo frames.
`lacp-mode off|passive|active`	Specify the Link Aggregation Control Protocol (LACP) mode for the configuration.
`lacp-priority` *`number`*	Specify the LACP priority. This is a number between 1 and 65535 with a default value of 32768.

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`lacp-timeout slow|fast`	Specify the LACP time out as slow (30 seconds) or fast (4 seconds). The default value is slow.
`lacp-fallback bundle|individual`	Specify the LACP fallback mode as individual or bundled.
`lacp-fallback-timeout seconds`	Specify the LACP fallback timeout in seconds. The range is between 30 and 60 seconds with a default value of 50 seconds.
`reflect|noreflect`	Specify physical port reflection
`edge-switch|no-edge-switch`	Specify if the switch is an edge switch.
`pause|no-pause`	Specify if pause frames are sent.
`description` *`description-string`*	Specify a description for the trunk configuration.
`loopback|no-loopback`	Specify loopback if you want to use loopback.
`vxlan-termination| no-vxlan-termination`	Specify if a VXLAN can terminate on the trunk.
`unknown-ucast-level` *`unknown-ucast-level-string`*	Specify an unknown unicast level in percent. The default value is 100%.
`unknown-mcast-level` *`unknown-mcast-level-string`*	Specify an unknown multicast level in percent. The default value is 100%.
`broadcast-level` *`broadcast-level-string`*	Specify a broadcast level in percent. The default value is 100%.
`port-mac-address` *`mac-address`*	Specify the MAC address of the port.
`loop-vlans` *`vlan-list`*	Specify a list of VLANS for looping.
`routing|no-routing`	Specify if the port participates in routing on the network.
`host-enable|host-disable`	Enable or disable host facing ports.
`defer-bringup|no-defer-bringup`	Specify to delay bringing up the host.
`dscp-map dscp-map name|none`	Specify the DSCP map name to enable on a port

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`local-switching|no-local-switching`	Specify local-switching or no-local-switching. A no-local-switching port cannot bridge traffic to another no-local-switching port
`allowed-tpid q-in-q|q-in-q-old`	Specify an allowed TPID in addition to 0x8100 for VLAN headers.
`fabric-guard|no-fabric-guard`	Specify if fabric guard is enabled.
`fec|no-fec`	Specify Port Forwarding Error Correction (FEC) mode.

Defaults

None.

Access

CLI

History

Version 1.2	Command introduced.
Version 1.2.6	The optional parameter, lacp-mode, was added.
Version 2.1	The parameter id is deprecated. The parameters, `enable` **|** `disable`, `lacp-priority`, `lacp-timeout`, `reflect`, `edge-switch`, `pause`, `description`, `loopback`, `mirror-receive`, `port-mac`, and `send-port` added.
Version 2.2.5	The parameters, `unknown-ucast-level`, `unknown-mcast-level`, and `broadcast-level` added.
Version 2.2.6	The parameter, `egress-rate-limit`, added.
Version 2.3	The parameters, `auto-neg`, `eth-mode`, and `reflect` deprecated.The parameter, `rem-rswitch-port` and `routing`, added.
Version 2.4	The parameter, `enable|disable`, deprecated. The parameters, `loop-vlans` and `host-enable`, added.
Version 2.5.3	The parameters, `reflect|noreflect`, `dscp-map` `dscp-map` `name|none`, and `local-switching|no-local-switching`, added.
Version 2.6.2	The parameter, `vxlan-termination`, `allowed-tpid`, and `fabric-guard`, added.

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	The parameter, `mirror-receive-only`, deprecated.
Version 3.0.0	The parameter, `autoneg|no-autoneg`, added.
Version 3.1.0	The parameter, `fec|no-fec`, added.
Version 5.1.0	The parameters, `bw-bps`, `rem-rswitch-port-mac`, deprecated. The parameter, `defer-bringup|no-defer-bringup`, added.

Usage Trunks can be used to aggregate network links at Layer 2 on the local switch. Use this command to modify the links for a trunk.

Examples To display a list of all trunks and the aggregated links, use the following command:

```
CLI network-admin@switch > trunk-show
switch:                pubdev01
intf:                  128
name:                  trunk-top
port:                  26,47-48
speed:                 10g
autoneg:               off
jumbo:                 off
enable:                off
lacp-mode:             off
lacp-priority:         32768
lacp-timeout:          slow
reflect:               off
edge-switch:           no
pause:                 no
description:
loopback:              off
mirror-only:           off
unknown-ucast-level:   100%
unknown-mcast-level:   100%
broadcast-level:       100%
lport:                 0
rswitch-default-vlan:  0
port-mac-address:      06:a0:00:03:00:80
status:                up,PN-switch,PN-fabric,PN-cluster
config:                fd
send-port:             26
```

trunk-stats-show

This command is used to display information about trunk statistics.

Syntax `trunk-stats-show`

Specify any of the following options:

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`time date/time: yyyy-mm-ddThh:mm:ss`	Specifies a time for the packet count statistics using the timestamp format YYYY-MM-DDTHH:MM:SS, where: • YYYY specifies the 4 digit calendar year; • MM specifies the 2 digit month of the year; • DD specifies the 2 digit day of the month; • HH specifies the 2 digit time of the day (24H notation); • MM specifies the 2 digit minute of the hour; SS specifies the 2 digit second of the minute
`start-time` *`start-time`*	Specifies a start time for the packet count statistics using the timestamp format YYYY-MM-DDTHH:MM:SS, where: • YYYY specifies the 4 digit calendar year; • MM specifies the 2 digit month of the year; • DD specifies the 2 digit day of the month; • HH specifies the 2 digit time of the day (24H notation); • MM specifies the 2 digit minute of the hour; • SS specifies the 2 digit second of the minute.
`end-time` *`end-time`*	Specifies an end time for the packet count statistics using the timestamp format YYYY-MM-DDTHH:MM:SS, where: • YYYY specifies the 4 digit calendar year; • MM specifies the 2 digit month of the year; • DD specifies the 2 digit day of the month; • HH specifies the 2 digit time of the day (24H notation); • MM specifies the 2 digit minute of the hour; • SS specifies the 2 digit second of the minute.
`duration` *`duration`*	Specifies the duration in seconds.
`interval duration: #d#h#m#s`	Specifies the interval between statistics collection.
`since-start|no-since-start`	Specifies if the statistics are collected from the start of collecting statistics.

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older-than duration: #d#h#m#s	Specifies if the statistics are older than the duration in days, hours, minutes, and seconds.
within-last duration: #d#h#m#s	Specifies if the statistics are within the duration in days, hours, minutes, and seconds.
port *port-list*	Specifies one or more switch network data port numbers. The port number must be in the range of 1 to 64. Multiple ports can be specified as a comma-separated list of numbers or a range (-).
counter *counter-number*	Specifies the counter number.
ibytes ibytes-number	Specifies the incoming number of bytes.
ibits *ibits-number*	Specifies the number of incoming bits.
iUpkts *iUpkts-number*	Specifies the number of incoming unicast packets.
iBpkts *iBpkts-number*	Specifies the number of incoming broadcast packets.
iMpkts *iMpkts-number*	Specifies the number of incoming multicast packets.
iPauseFs *iPauseFs-number*	Specifies the number of incoming pause frames.
iCongDrops *iCongDrops-number*	Specifies the number of incoming packets dropped due to congestion.
idiscards *idiscards-number*	Specifies the number of incoming packets discarded.
ierrs *ierrs-number*	Specifies the number of incoming errors.
obytes *obytes-number*	Specifies the number of outgoing bytes.
obits *obits-number*	Specifies the number of outgoing bits.
oUpkts *oUpkts-number*	Specifies the number of outgoing unicast packets.
oBpkts *oBpkts-number*	Specifies the number of outgoing broadcast

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	packets.
oMpkts *oMpkts-number*	Specifies the number of outgoing multicast packets.
oPauseFs *oPauseFs-number*	Specifies the number of outgoing pause frames.
oCongDrops *oCongDrops*-number	Specifies the number of outgoing packets dropped due to congestion.
odiscards *odiscards-number*	Specifies the number of outgoing discarded packets.
oerrs *oerrs-number*	Specifies the number of outgoing errors.
mtu-errs *mtu-errs-number*	Specifies the number of MTU errors.
HER-packets *HER-pts-number*	Specifies the number of Head End Replicated (HER) packets.
HER-bytes *HER-bytes-number*	Specifies the number of Head End Replicated (HER) bytes.

Defaults None

Access Network Administrator

History Command introduced in Version 2.6.0.

Usage Use this command to display statistics about a trunk configuration.

Examples To display statistics for a trunk configuration, use the following syntax:

```
CLI network-admin@switch > trunk-stats-show
```

tunnel-create

This command is used to create a tunnel on the switch.

Syntax `tunnel-create`

scope local|cluster	Specify the scope for the tunnel. Local and cluster scopes are supported.
name *name-string*	Specify the name of the tunnel.
local-ip *ip-address*	Specify the local IP address.

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`remote-ip` *`ip-address`*	Specify the remote IP address.
`vnet` *`vnet-name`*	Specify the name of the VNET.
`vrouter-name` *`vrouter-name`*	Specify the name of the vRouter service.
`peer-vrouter-name` *`vrouter- name`*	Specify the name of the vRouter service on the cluster peer.
`next-hop` *`ip-address`*	Specify the next hop IP address.
`next-hop` *`mac-address`*	Specify the next hop MAC address.
`bfd|no-bfd`	Specify BFD for the tunnel.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The parameters, `type` and `remote-switch`, deprecated.
Version 2.2.3	The parameter `router-if` replaced *`name-string`* with `vrouter-hw-if` name option.
Version 2.4	The option, `cluster`, added to `scope`. The parameters, `vrouter-name` and `peer-vrouter-name`, added.
Version 2.5	The parameter, `vnet`, added.
Version 3.0.0	The parameter, `vrouter-if`, deprecated. The parameter, `bfd`, added.

Usage Tunnels are used to encapsulate unsupported protocols on a network. Use this command to create tunnels on a fabric.

Examples To create a tunnel with a local scope called tunnel1010 with local IP address, 192.168.13.11 and remote IP address of 209.134.65.27, use the following command:

```
CLI network-admin@switch > tunnel-create scope local name tunnel010
local-ip 192.168.13.11 remote-ip 209.134.65.27
```

tunnel-delete

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This command is used to delete an existing tunnel from the configuration.

Syntax `tunnel-delete name name-string`

name *name-string*	Specify the name of the tunnel to delete from the configuration.

Defaults None.

Access CLI

History Command introduced in nvOS Version 1.2.1.

Usage Tunnels are used to encapsulate unsupported protocols on a network. Use this command to delete an existing tunnel on a fabric.

Examples To delete the tunnel ip-23, use the following command:

```
CLI network-admin@switch > tunnel-delete name ip-23
```

tunnel-modify

This command is used to modify an existing tunnel on the switch.

Syntax `tunnel-modify`

scope local|cluster	Specify the scope for the tunnel. Local and cluster scopes are supported.
name *name-string*	Specify the name of the tunnel.
local-ip *ip-address*	Specify the local IP address.
remote-ip *ip-address*	Specify the remote IP address.
vnet *vnet-name*	Specify the name of the VNET.
vrouter-name *vrouter-name*	Specify the name of the vRouter service.
peer-vrouter-name *vrouter- name*	Specify the name of the vRouter service on the cluster peer.
next-hop *ip-address*	Specify the next hop IP address.
next-hop *mac-address*	Specify the next hop MAC address.
bfd|no-bfd	Specify BFD for the tunnel.

Defaults None.

Access CLI

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History

Version 1.2	Command introduced.
Version 2.1	The parameters, `type` and `remote-switch`, deprecated.
Version 2.2.3	The parameter `router-if` replaced *`name-string`* with `vrouter-hw-if` name option.
Version 3.0.0	The parameter, `vrouter-if`, deprecated. The parameter, `bfd`, added.

Usage Tunnels are used to encapsulate unsupported protocols on a network. Use this command to modify tunnels on a fabric.

Examples To modify the local IP address to 172.26.21.15, use the following command:

```
CLI network-admin@switch > tunnel-modify scope local name tunnel010
local-ip 172.26.21.15
```

tunnel-show

This command is used to display the list of tunnels on the switch.

Syntax `tunnel-show`

`id`	Displays the ID assigned to the tunnel.
`scope local`	Displays the scope for the tunnel. Only local scopes are supported.
`name` *`name-string`*	Displays the name of the tunnel.
`type ip-in-ip|vxlan|nvgre`	Displays the type of tunnel.
`vnet` *`vnet-name`*	Displays the name of the VNET.
`vrouter-name` *`vrouter-name`*	Displays the name of the vRouter service.
`peer-vrouter-name` *`vrouter- name`*	Displays the name of the vRouter service on the cluster peer.
`local-ip` *`ip-address`*	Displays the local IP address.
`remote-ip` *`ip-address`*	Displays the remote IP address.

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router-if*vrouter-hw-if name*	Displays the router interface.
tunnel-if-name *tunnel-if-name-string*	Displays the router interface VNIC name.
next-hop *ip-address*	Displays the next hop IP address.
next-hop *mac-address*	Displays the next hop MAC address.
next-hop-vlan *vlan-id*	Displays the next hop VLAN ID.
remote-switch *fabric-node-name*	Displays the remote switch for the tunnel.
vrid vrid-number	Displays the vRouter hardware ID.
tunnelID tunnelID-number	Displays the tunnel ID.
interface-mac *mac-address*	Displays the MAC address of the tunnel interface.
interface-vnet *vnet name*	Displays the VNET name.
bd *bridge-domain name*	Displays the bridge domain name.
interface-vlan *vlan-id*	Displays the interface VLAN.
active yes|no	Displays the status of the tunnel.
state init|ok|error	Displays the state of the tunnel.
bfd|no-bfd	Displays if BFD is configured.
bfd-state unknown|admin-down|down|init|up|no-session|not-replicator-vtep	Displays the state of the BFD session.D
peer-bfd-state unknown|admin-down|down|init|up|no-session|not-replicator-vtep	Displays the peer BFD session state.
error *error-string*	Displays tunnel errors.
route-info *route-info-string*	Displays route information.
ecmp-group *ecmp-group-number*	Displays ECMP group information.

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`using-vxlan-loopback yes|no`	Displays using VXLAN loopback.
`ports` *`port-list`*	Displays the port list.
`nh-egress-id` *`nh-egress-id-number`*	Displays the nexthop port egress ID.
`auto-tunnel auto|static`	Displays if the tunnel is automatic or static.
`ecmp-nexthops|no-ecmp-nexthops`	Filter single or multiple route entries per nexthops.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.2.2	The parameter, `type`, added.
Version 2.2.3	The parameter `router-if` replaced *`name-string`* with `vrouter-hw-if` *`name`* option.
Version 2.3.1	The parameter, `active`, added.
Version 2.4	The option, `cluster`, added to `scope`. The parameters, `vrouter-name` and `peer-vrouter-name`, `state`, `error`, `route-info`, and `ecmp-group` added.
Version 2.5	The parameter, `vnet`, added.
Version 3.0.0	The parameter, `vrouter-if`, deprecated. The parameter, `bfd`, added.

Usage Tunnels are used to encapsulate unsupported protocols on a network. Use this command to display a list of tunnels on a fabric.

Examples To display a list of all tunnels on a switch, use the following command:

```
CLI network-admin@switch > tunnel-show
```

tunnel-history-settings-modify

This command is used to update tunnel history settings

Syntax `tunnel-history-settings-modify enable|disable disk-space disk-space-`

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number log-file-count 1..20	
enable|disable	Specify whether to enable or disable change logging.
disk-space disk-space-number	Specify the total disk-space allocated for all log files.
log-file-count 1..20	Specify the number of log files for log rotation.

Defaults None.

Access CLI

History Command introduced in Version 2.5.4.

Usage Use this command to update tunnel history settings.

Examples To enable tunnel history settings with a disk space allocated to 50M for all log files with 10 log files for log rotation, use the following command:

```
CLI network-admin@switch > tunnel-history-settings-modify enable disk-space 50M log-file-count 10
```

tunnel-history-settings-show

This command is used to display tunnel history settings

```
CLI network-admin@switch > tunnel-history-settings-show
```

Defaults None.

Access CLI

History Command introduced in Version 2.5.4.

Usage Use this command to view tunnel history settings such as enable/disable status, disk-space, and log-file-count.

Examples To display tunnel history settings, use this command:

```
CLI network-admin@switch > tunnel-history-settings-show
enable:         yes
disk-space:     50M
log-file-count: 10
```

tunnel-history-show

This command is used to display historical tunnel state information.

Syntax tunnel-history-show

time date/time: *yyyy-mm-*	Displays the time to start statistic collection.

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ddTHH:mm:ss	
start-time date/time: *yyyy-mm-ddTHH:mm:ss*	Displays the start-time of statistic collection.
end-time date/time: *yyyy-mm-ddTHH:mm:ss*	Displays the end time of statistic collection.
duration duration: #d#h#m#s	Displays the duration of statistic collection.
interval duration: #d#h#m#	Displays the interval between statistic collection.
since-start	Displays the statistics collected since the start time.
older-than duration: *#d#h#m#s*	Displays statistics older than a specific time duration.
within-last duration: *#d#h#m#s*	Displays statistics within a last time period.
caller vxlan|logger	Displays the feature that made the change for this entry.
last-caller vxlan|logger	Displays the most recent caller for this entry.
reason save|restart|add|modify|remove|remove-all|add-nh|remove-nh	Displays the reason for history entry.
last-reason save|restart|add|modify|remove|remove-all|add-nh|remove-nh]	Displays the most recent reason for this entry.
changes id|scope|name|type|vnet|vrouter-name|peer-vrouter-name| local-ip|remote-ip|router-if|tunnel-if-name|next-hop| next-hop-mac|nexthop-vlan|remote-switch|vrid|active|state| error|route-info|ecmp-group|using-vxlan-loopback|ports| nh-egress-id|auto-tunne| ecmp-nexthops	Displays what changed in this entry.
count *count-number*	Displays the count for tunnel history.

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id	Displays the tunnel ID.
scope local	Displays the scope as local or cluster.
name *name-string*	Displays the tunnel name.
type ip-in-ip|vxlan|nvgr	Displays the type of the tunnel.
vnet *vnet name*	Displays the tunnel network VNET.
vrouter-name *vrouter name*	Displays the name of the vRouter service.
peer-vrouter-name *vrouter name*	Displays the name of the vRouter service on cluster peer.
local-ip *ip-address*	Displays the local IP address.
remote-ip *ip-address*	Displays the remote IP address.
next-hop *ip-address*	Displays the nexthop IP address.
next-hop-mac *mac-address*	Displays the nexthop MAC address.
nexthop-vlan 0..4095	Displays nexthop VLAN.
remote-switch *fabric-node name*	Displays the remote switch name.
vrid *vrid-number*	Displays the vrouter hardware ID.
interface-mac *mac-address*	Displays the MAC address of the tunnel interface.
interface-vlan *vlan-id*	Displays the VLAN for the tunnel interface.
active yes|no	Displays if the tunnel is active.
state init|ok|error|update	Displays the tunnel state.
bfd|no-bfd	Displays if BFD is configured for the tunnel.
bfd-state unknown|admin-down|down|init|up|no-session	Displays the BFD state.

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error *error-string*	Displays tunnel errors.
route-info *route-info-string*	Displays the route information for the tunnel.
ecmp-group *ecmp-group-number*	Displays the ECMP group number.
using-vxlan-loopback yes|no	Displays if vxlan loopback is used.
ports *port-list*	Displays the nexthop port map.
nh-egress-id *nh-egress-id-number*	Displays the hardware Egress ID.
auto-tunnel auto|static	Displays if the tunnel is auto or static.
ecmp-nexthops|no-ecmp-nexthops	Use to filter and display single or mutiple route entries (per nexthop).

Defaults None.

Access CLI

History Command introduced in Version 2.5.4.

Usage Use this command to display historical tunnel state information.

Examples To display historical tunnel information, use the following command:

```
CLI network-admin@switch > tunnel-history-show
```

tunnel-stats-clear

This command is used to clear statistics for a tunnel.

Syntax `tunnel-stats-clear`

tunnel-name *tunnel-name*	Specify a tunnel to clear statistics.

Defaults None

Access CLI

History Command introduced in Version 2.4.0.

Usage Use this command to clear statistics from a tunnel.

Examples To clear statistics from a tunnel, use the following command:

```
CLI network-admin@switch > tunnel-stats-clear tunnel-name tunnel-vxlan1
```

tunnel-stats-show

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This command is used to display the tunnel statistics on the switch.

Syntax `tunnel-stats-show`

Use any of the following options to display tunnel statistics:

`time date/time: yyyy-mm-ddTHH:mm:ss`	Display by date and time.
`start-time date/time: yyyy-mm-ddTHH:mm:s`	Display by start date and time.
`end-time date/time: yyyy-mm-ddTHH:mm:ss`	Display by end date and time.
`duration duration: #d#h#m#s`	Display by duration.
`interval duration: #d#h#m#s`	Display by interval.
`since-start`	Specify a start time for the statistics.
`older-than duration: #d#h#m#s`	Display statistics older than a specific date.
`within-last duration: #d#h#m#s`	Display statistics within a specific duration.
`tunnel-name` *`tunnel-name`*	Display by tunnel name.
`counter` *`counter-number`*	Displays the number of counters.
`ibytes` *`ibytes-number`*	Displays the number of incoming bytes.
`ibits` *`ibits-number`*	Displays the number of incoming bits.
`iUpkts` *`iUpkts-`*	Displays the number of incoming Unicast

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number	packets.
iBpkts *iBpkts-number*	Displays the number of incoming Broadcast packets.
iMpkts *iMpkts-number*	Displays the number of incoming Multicast packets.
iPauseFs *iPauseFs-number*	Displays the number of incoming Pause frames.
iCongDrops iCongDrops-number	Displays the number of incoming packets dropped due to congestion.
ierrs *errs-number*	Displays the number of incoming packets with errors.
obytes *obytes-number*	Displays the number of outgoing bytes.
obits *obits-number*	Displays the number of outgoing bits.
oUpkts *oUpkts-number*	Displays the number of outgoing Unicast packets.
oBpkts *oBpkts-number*	Displays the number of outgoing Broadcast packets.
oMpkts *oMpkts-number*	Displays the number of outgoing Multicast packets.
oPauseFs *oPauseFs-number*	Displays the number of outgoing Pause frames.
oCongDrops oCongDrops-number	Displays the number of outgoing packets dropped due to congestion.
oerrs *oerrs-number*	Displays the number of outgoing packets with errors.
mtu-errs *mtu-errs-number*	Displays the number of MTU errors.
HER-pkts HER-pkts-number	Displays the number of head-end replicated packets.

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HER-bytes *HER-bytes-number*	Displays the number of head-end replicated bytes.

Defaults None

Access CLI

History

Version 1.2	Command introduced.
Version 2.2.2	The parameter, `type`, added.
Version 2.2.3	The parameter `router-if` replaced *name-string* with `vrouter-hw-if` *name* option.
Version 2.3.1	The parameter, `active`, added.
Version 2.6.0	The parameters, `HER-pkts` and `HER-bytes`, added.
Version 3.0.0	The following parameters added: `ibits` and `obits`.

Usage Tunnels are used to encapsulate unsupported protocols on a network. Use this command to display a list of tunnels on a fabric.

Examples To display a list of all tunnels on a switch, use the following command:

```
CLI network-admin@switch > tunnel-stats-show
```

tunnel-stats-settings-modify

This command is used to modify tunnel settings for collecting statistics

Syntax `tunnel-history-settings-modify`

`enable|disable`	Specify whether to enable or disable change logging.
`interval duration: #d#h#m#s`	Specify the interval to collect statistics. Day hour, minute, second.
`disk-space disk-space-number`	Specify the disk-space allocated for statistics.

Defaults None

Access CLI

History Command introduced in Version 2.5.

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Usage Use this command to modify tunnel settings for collecting statistics.

tunnel-stats-settings-show

This command is used to display the tunnel settings for collecting statistics

Syntax `tunnel-stats-settings-show`

Defaults None

Access CLI

History Command introduced in Version 2.5.0.

Usage Tunnels are used to encapsulate unsupported protocols on a network. Use this command to display the tunnel settings for statistics collections.

Examples To display a list of all tunnels settings for stats collection, use the following command:

```
CLI network-admin@switch > tunnel-stats-settings-show
```

tunnel-vxlan-add

This command is used to add tunnels to VXLANs on the switch.

Syntax `tunnel-vxlan-add name name-string vxlan vxlan-id`

`name name-string`	Specify a name for the tunnel.
`vxlan vxlan-id`	Specify the ID of the VXLAN.

Defaults None

Access CLI

History

Version 1.2	Command introduced.
Version 2.0.1	Changed from `tunnel-vxlan` to `vxlan-tunnel`.
Version 2.1	The parameter, `switch`, added.
Version 2.4	The parameter, `vxlan-vnid`, added.
Version 2.4.1	Changed from `vxlan-tunnel` to `tunnel-vxlan`.

Usage Use this command to add tunnels to VXLANs.

Examples To add tunnel, ip-23, to VXLAN, MyVXLAN, use the following command:

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```
CLI network-admin@switch > tunnel-vxlan-add tunnel-name ip-23 vxlan-name MyVXLAN
```

tunnel-vxlan-remove

This command is used to remove tunnels to VXLANs on the switch.

Syntax `tunnel-vxlan-remove name name-string vxlan vxlan-id`

`name name-string`	Specify a name for the tunnel.
`vxlan vxlan-id`	Specify the ID of the VXLAN.

Defaults None

Access CLI

History

Version 1.2	Command introduced.
Version 2.0.1	Changed from `tunnel-vxlan` to `vxlan-tunnel`.
Version 2.1	The parameter, `switch`, added.
Version 2.4	The parameter, `vxlan-vnid`, added.
Version 2.4.1	Changed from `vxlan-tunnel` to `tunnel-vxlan`.

Usage Use this command to remove tunnels from VXLANs.

Examples To add tunnel, ip-23, to VXLAN, MyVXLAN, use the following command:

```
CLI network-admin@switch > tunnel-remove name ip-23 vxlan-name MyVXLAN
```

tunnel-vxlan-show

This command is used to display information about tunnels added to VXLANs on the switch.

Syntax `tunnel-vxlan-show`

`tunnel-name name-string`	Displays the name for the tunnel.
`vxlan vxlan-id`	Displays the ID of the VXLAN.
`hw_update_pending yes|no`	Displays if a hardware update for VXLAN is pending.

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Defaults None

Access CLI

History

Version 1.2	Command introduced.
Version 2.0.1	Changed from `tunnel-vxlan` to `vxlan-tunnel`.
Version 2.4	The parameter, `vxlan-vnid`, added.
Version 2.4.1	Changed from `vxlan-tunnel` to `tunnel-vxlan`.
Version 5.0.0	The parameter, `hw_update_pending`, added.

Usage Use this command to display a list of tunnels added to VXLANs.

Examples To display a list of tunnels on VXLANs, use the following command:

```
CLI network-admin@switch > tunnel-vxlan-show
```

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U Commands

udf-create

A User Defined Field (UDF) can match up to 128 bytes of a packet starting from the first byte of the packet. The relative offset can be given to the match location. The length of the match can be from 1 to 4 bytes. Hardware with a Trident chip supports the creation of 8 UDF IDs. Each ID can match a 2 byte portion of a packet. Creating a UDF with a length of 3 or 4 bytes requires 2 UDF IDs whereas a UDF with a length of 1 or 2 bytes requires 1 UDF ID. The length specified for each UDF determines the total number of UDFs supported by Netvisor. If you specify a length of 3 or 4 bytes, a maximum of 4 UDFs can be created. If you specify a length of 1 or 2 bytes, a maximum of 8 UDFs can be created.

Syntax `udf-create name`

`name` *`name-string`*	Create the UDF name
`scope local|fabric`	Scope for the UDF
`offset` *`number-bytes`*	The offset in bytes. This is a value between 1 and 128.
`length` *`number-bytes`*	The length in bytes. This is a value between 1 and 4 bytes.
`header packet-start|l3-outer|l3-inner|l4-outer|l4-inner`	The header used to calculate the offset.

Defaults None

Access CLI

History Command introduced in Version 2.5.3.

Usage Use this command to create customized fields for vFlow configurations.

Examples To create a UDF with scope local, offset 10, length 2, and header packet-start, use the following syntax:

```
CLI network-admin@switch > udf-create name u1 scope local offset 10
length 2 header packet-start
```

udf-modify

A User Defined Field (UDF) can match up to 128 bytes of a packet starting from the first byte of the packet. The relative offset can be given to the match location. The length of the match can be from 1 to 4 bytes. Hardware with a Trident chip supports the creation of 8 UDF IDs. Each ID can match a 2 byte portion of a packet. Creating a UDF with a length of 3 or 4 bytes requires 2 UDF IDs whereas a UDF

with length of 1 or 2 bytes required 1 UDF id. The length specified for each UDF determines the total number of UDFs supported by Netvisor. If you specify a length of 3 or 4 bytes, a maximum of 4 UDFs can be created. If you specify a length of 1 or 2 bytes, a maximum of 8 UDFs can be created.

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Syntax `udf-modify name`

`name` *`name-string`*	Create the UDF name
`scope local|fabric`	Scope for the UDF
`offset` *`number-bytes`*	The offset in bytes. This is a value between 1 and 128.
`length` *`number-bytes`*	The length in bytes. This is a value between 1 and 4 bytes.
`header packet-start|l3-outer|l3-inner|l4-outer|l4-inner`	The header used to calculate the offset.

Defaults None

Access CLI

History Command introduced in Version 2.5.3.

Usage Use this command to modify customized fields for vFlow configurations.

Examples To modify a UDF, u1, offset 10, length 4, and header packet-start, use the following syntax:

```
CLI network-admin@switch > udf-modify name u1 offset 10 length 4 header
packet-start
```

udf-delete

A User Defined Field (UDF) can match up to 128 bytes of a packet starting from the first byte of the packet. The relative offset can be given to the match location. The length of the match can be from 1 to 4 bytes. Hardware with a Trident chip supports the creation of 8 UDF IDs. Each ID can match a 2 byte portion of a packet. Creating a UDF with a length of 3 or 4 bytes requires 2 UDF IDs whereas a UDF

with length of 1 or 2 bytes required 1 UDF id. The length specified for each UDF determines the total number of UDFs supported by Netvisor. If you specify a length of 3 or 4 bytes, a maximum of 4 UDFs can be created. If you specify a length of 1 or 2 bytes, a maximum of 8 UDFs can be created.

Syntax `udf-delete name name-string`

Defaults None

Access CLI

History Command introduced in Version 2.5.3.

Usage Use this command to delete customized fields for vFlow configurations.

Examples To delete the UDF, ud1, use the following syntax:

```
CLI network-admin@switch > udf-delete name ud1
```

udf-show

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A User Defined Field (UDF) can match up to 128 bytes of a packet starting from the first byte of the packet. The relative offset can be given to the match location. The length of the match can be from 1 to 4 bytes. Hardware with a Trident chip supports the creation of 8 UDF IDs. Each ID can match a 2 byte portion of a packet. Creating a UDF with a length of 3 or 4 bytes requires 2 UDF IDs whereas a UDF with length of 1 or 2 bytes required 1 UDF id. The length specified for each UDF determines the total number of UDFs supported by Netvisor. If you specify a length of 3 or 4 bytes, a maximum of 4 UDFs can be created. If you specify a length of 1 or 2 bytes, a maximum of 8 UDFs can be created.

Syntax `udf-show name name-string scope local|fabric offset number-bytes length number-bytes header packet-start|l3-outer|l3-inner|l4-outer|l4-inner`

`name` *`name-string`*	Create the UDF name
`scope local|fabric`	Scope for the UDF
`offset` *`number-bytes`*	The offset in bytes. This is a value between 1 and 128.
`length` *`number-bytes`*	The length in bytes. This is a value between 1 and 4 bytes.
`header packet-start|l3-outer|l3-inner|l4-outer|l4-inner`	The header used to calculate the offset.

Defaults None

Access CLI

History Command introduced in Version 2.5.3.

Usage Use this command to display information about customized fields for vFlow configurations.

Examples To display a UDF with scope local, offset 10, length 2, and header packet-start, use the following syntax:

```
CLI network-admin@switch > udf-show name u1 scope local offset 10
length 2 header packet-start
```

user-create

This command is used to create users on the local switch or fabric.

Syntax `user-create`

`name` *`name-string`*	Specify a name for the user.
`scope local|fabric`	Specify a scope for the user. Select `local` to allow access to the local switch only. Selecting `fabric` allows access to the fabric.

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password *password-string*	Specify a password for the user.
initial-role *role name*	Optionally, specify the initial role for the user.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The parameters, `password` and `initial-role`, added.

Usage Use this command to create users on the local switch or fabric. When you specify a role, it is a role defined using the role- commands.

Examples To create the user, **net-access**, password, **sw0rdf1ght**, on the fabric, use the following command:

```
CLI network-admin@switch > user-create name netaccess scope fabric
password:
Confirm password:
```

user-delete

This command is used to delete users on the local switch or fabric.

Syntax `user-delete`

name *name-string*	Specify a name for the user.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The parameter, `scope`, deprecated.

Usage Use this command to delete users on the local switch or fabric.

Examples To delete the user, `net-access`, use the following command:

```
CLI network-admin@switch > user-delete name netaccess
```

user-modify

This command is used to modify users on the local switch or fabric.

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Syntax `user-modify`

`name` *`name-string`*	Specify a name for the user.
Specify one or more of the following options:	
`password` *`password-string`*	Specify a password for the user. You are prompted for the password after you press the enter key.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The parameters, `password` and `initial-role`, added. The parameter, `scope`, deprecated.
Version 2.2	The parameter, `initial-role`, deprecated.

Usage Use this command to modify users on the local switch or fabric.

Examples To change the password the user, net-access user, use the following command:

```
CLI network-admin@switch > user-modify name netaccess
```

user-show

This command is used to display a list of users on the local switch or fabric.

Syntax `user-show`

`name` *`name-string`*	Displays the name of the user.
`scope local|fabric`	Filters the scope for the user. Select `local` to allow access to the local switch only. Selecting `fabric` allows access to the fabric.
`uid` *`uid-number`*	Filters the user identifier.
`server` *`aaa-tacacs name`*	Filters the AAA TACACS server name.

Defaults None.

Access CLI

History

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Version 1.2	Command introduced.
Version 2.1	The parameters, **password**, **server**, and **initial-role** added.

Usage Use this command to display users on the local switch or fabric.

Examples To display the list of users, use the following command:

```
CLI network-admin@switch > user-show
switch        name               scope  uid
------------- ------------------ ------ -----
              network-admin      fabric 39999
              vlb-web-svr-admin  fabric 40000
              test-admin         fabric 40002
              vlan-test-admin    fabric 40003
              laurap             fabric 40004
              ops-vnet-admin     fabric 40005
              ops-test1-admin    fabric 40006
pleiades24    java-api-admin     local  20000
pleiades24    tester             local  20001
```

user-password-set

This command is used to set a password for a user on the switch.

Syntax `user-password-set name name-string scope local|fabric uid uid-number server aaa-tacacs-name initial-role role-name`

name *name-string*	Specify the name of the user to set the password.
Specify any of the following options:	
scope local|fabric	Specify the scope for the user.
uid *uid-number*	Specify the user ID.
type netvisor|unix|tacacs|web-token|mfg	Specify the type of user.
server *aaa-tacacs-name*	Specify the name of the TACACS+ server.
initial-role *role-name*	Specify the initial role of the user.

Defaults None.

Access CLI

History

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Version 1.2	Command introduced.
Version 2.1	Command changed to `user-password-set`.
Version 2.6.2	The parameter, `type`, added.

Usage You can set the password for the user.

Examples To set the password for user, admin-net, on the TACACS+ server, aaa-tacacs, with the user ID 23, with the initial role, admin, use the following command:

```
CLI network-admin@switch > user-password-set name admin-net scope local
uid 23 server aaa-tacacs initial-role admin
```

user-role-add

This command is used to create a user role on the switch.

Syntax `user-role-add user-name name-string scope role role-name`

`user-name` *`name-string`*	Specify a name for the user.
Specify the following role arguments:	
`role` *`role-name`*	Specify a role for the user.

Defaults None.

Access CLI

History Command introduced in nvOS Version 1.2.1.

Usage Use this command to create user roles on the switch.

Examples To create the user, net-access, with the role, net-admin, use the following command:

```
CLI network-admin@switch > user-role-add user-name net-access role net-
admin
```

user-role-remove

This command is used to remove a user role from the switch.

Syntax `user-role-remove user-name name-string scope role role-name`

`user-name` *`name-string`*	Specify a name for the user.
Specify the following role arguments:	
`role` *`role-name`*	Specify a role for the user.

Defaults None.

Access CLI

History Command introduced in nvOS Version 1.2.1.

Usage Use this command to remove user roles on the switch.

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Examples To remove the user, net-access, with the role, net-admin, use the following command:

```
CLI network-admin@switch > user-role-remove user-name net-access role
net-admin
```

user-role-show

This command is used to display a list of users and the assigned roles.

Syntax `user-role-show user-name name-string role role-name`

`user-name` *`name-string`*	Specify a name for the user.
Specify the following role arguments:	
`role` *`role-name`*	Specify a role for the user.

Defaults None.

Access CLI

History Command introduced in nvOS Version 1.2.1.

Usage Users must hold the proper credentials to manage a switch, cluster, or fabric. Use this command to display roles assigned to users.

Examples To display a list of users and their roles, use the following command:

```
CLI network-admin@switch > user-role-show
switch   user-name     role
-------- ------------- -------------
         network-admin network-admin
pubdev02 lab-admin     lab-admin
```

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V Commands

vcenter-connection-create

Netvisor now provides vCenter Connection Service that allows you to connect to VMware vCenter,

Syntax `vcenter-connection-create`

`name` *`name-string`*	Specify a name for the vCenter connection.
`host` *`host-string`*	Specify the host name of the VMware vCenter server.
`user` *`user-string`*	Specify a valid user on the VMware vCenter server
`password` *`password-string`*	Specify a valid password for the user on the VMware vCenter server.
`enable|disable`	Specify if you want to enable or disable the connection.
`vlans` *`vlan-list`*	Specify a list of VLANs for auto-provisioning of vCenter.
`network-provisioning none|l2-underlay|l3-underlay`	Specify the type of network provisioning for the connection.

Defaults None

Access Network Administrator

History

Version 2.5.2	Command introduced.
Version 2.5.3	The parameter, `vlans`, added.
Version 2.6.2	The parameter, `network-provisioning`, added.

Usage Use this command to create a connection from a Netvisor switch to a VMware vCenter server.

Examples To create a connection called, vCenter-1, with a host name, vHost1, user, jdoe, password, p!zz@, and enable it, use the following syntax:

```
CLI network-admin@switch > vcenter-connection-create name vCenter-1
host vHost1 user jdoe password p!zz@ enable
```

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vcenter-connection-delete

Syntax `vcenter-connection-delete`

name *name-string*	Specify a name for the vCenter connection.

Defaults None

Access Network Administrator

History Command introduced in Version 2.5.2.

Usage Use this command to delete a connection from a Netvisor switch to a VMware vCenter server.

Examples To delete a connection called, vCenter-1, use the following syntax:

```
CLI network-admin@switch > vcenter-connection-delete name vCenter-1
```

vcenter-connection-modify

Syntax `vcenter-connection-modify`

name *name-string*	Specify a name for the vCenter connection.
host *host-string*	Specify the host name of the VMware vCenter server.
user *user-string*	Specify a valid user on the VMware vCenter server
password *password-string*	Specify a valid password for the user on the VMware vCenter server.
enable|disable	Specify if you want to enable or disable the connection.
vlans *vlan-list*	Specify a list of VLANs for auto-provisioning of vCenter.
network-provisioning none|l2-underlay|l3-underlay	Specify the type of network provisioning for the connection.

Defaults None

Access Network Administrator

History

Version 2.5.2	Command introduced.

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Version 2.5.3	The parameter, `vlans`, added.
Version 2.6.2	The parameter, `network-provisioning`, added.

Usage Use this command to modify a connection from a Netvisor switch to a VMware vCenter server.

Examples To modify a connection called, vCenter-1, and modify it to user, konni1, password, c@t3, and , use the following syntax:

```
CLI network-admin@switch >vcenter-connection-modify name vCenter-1 1
user konni1 password c@t3 enable
```

vcenter-connection-show

Netvisor now provides vCenter Connection Service that allows you to connect to VMware vCenter,

Syntax `vcenter-connection-show name name-string host host-string user user-string password password-string enable|disable vlans vlan-list`

`name` *`name-string`*	Specify a name for the vCenter connection.
`host` *`host-string`*	Specify the host name of the VMware vCenter server.
`user` *`user-string`*	Specify a valid user on the VMware vCenter server
`password` *`password-string`*	Specify a valid password for the user on the VMware vCenter server.
`enable|disable`	Specify if you want to enable or disable the connection.
`vlans` *`vlan-list`*	Specify a list of VLANs for auto-provisioning of vCenter.
`network-provisioning none|l2-underlay|l3-underlay`	Specify the type of network provisioning for the connection.

Defaults None

Access Network Administrator

History

Version 2.5.2	Command introduced.
Version 2.5.3	The parameter, `vlans`, added.

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Version 2.6.2	The parameter, `network-provisioning`, added.

Usage Use this command to display information about a connection from a Netvisor switch to a VMware vCenter server.

Examples To display a connection called, vCenter-1, use the following syntax:

```
CLI network-admin@switch > vcenter-connection-show name vCenter-1
```

vflow-class-create

This command is used to add a traffic class to a vflow.

Syntax `vflow-class-create`

name *name-string*	Specify a name for the vflow class.
scope local|fabric	Specify the scope to apply the class.
priority *priority-number*	Specify the traffic priority for the vflow. Select a value between 2 (lowest) and 8 (highest).

Defaults None.

Access CLI

History .

Version 1.2	Command introduced.
Version 2.1	The parameter, `max-egress-bw`, deprecated.

Usage Netvisor provides a full set of traffic class features, including the ability to view and modify traffic classes, and assign traffic classes to flows that manage the quality of service (QoS) of the flow traffic and shape the traffic passing through a Pluribus Networks fabric. Use the command to assign bandwidth and priority for the traffic flow.

Examples To create a vflow named voip-phone with priority of 9, use the following command:

```
vflow-class-create name voip-phone scope fabric priority 9
```

vflow-class-delete

This command is used to remove an existing vFlow class from the configuration.

Syntax `vflow-class-delete`

name *name-string*	Specify a name for the vflow class.

Defaults None.

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Access CLI

History Command introduced in nvOS Version 1.2.1.

Usage Netvisor provides a full set of traffic class features, including the ability to view and modify traffic classes, as well as assigning traffic classes to flows that manage the quality of service (QoS) of the flow traffic and shape the traffic passing through a Pluribus Networks fabric. Use the command to remove the class assigned to a traffic flow.

Examples To remove a vflow named voip-phone, use the following command:

```
CLI network-admin@switch > vflow-class-delete name voip-phone
```

vflow-class-show

This command is used to display information about a traffic class applied to a vFlow.

Syntax `vflow-class-show`

`name` *`name-string`*	Displays the name for the vFlow class.
`scope local|fabric`	Displays the scope to apply the class.
`type system|user`	Displays the type of flow class.
`priority` *`priority-number`*	Displays the traffic priority for the vflow. This is a value between 2 (lowest) and 8 (highest).
`cos` *`cos-number`*	Displays the Class of Service (CoS) value for the vFlow class.

Defaults None.

Access CLI

History .

Version 1.2	Command introduced.
Version 2.1	The option, `reserved`, is deprecated from `type`. The parameter, `max-egress-bw`, is deprecated.
Version 2.4	The parameter, `cos`, added.

Usage Netvisor provides a full set of traffic class features, including the ability to view and modify traffic classes, as well as assigning traffic classes to flows that manage the quality of service (QoS) of the flow traffic and shape the traffic passing through a Pluribus Networks fabric. Use the command to display traffic classes assigned to a traffic flow.

Examples To display all traffic classes, use the following command:

```
CLI network-admin@switch >vflow-class-show
switch:          pleiades25
name:            Fabric-Keepalive
```

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```
id:                 6000021:16
scope:              local
type:               system
in-port:            1-68
ether-type:         ipv4
dst-ip:             239.4.10.132
proto:              udp
flow-class:         control
precedence:         9
action:             copy-to-cpu
stats:              log
stats-interval:     30
switch:             pleiades25
name:               DHCP-client
id:                 6000021:1d
scope:              local
type:               system
in-port:            1-68
ether-type:         ipv4
dst-port:           67
proto:              udp
precedence:         5
action:             copy-to-cpu
stats:              log
stats-interval:     30
switch:             pleiades25
name:               DHCP-server
id:                 6000021:1e
scope:              local
type:               system
in-port:            1-68
ether-type:         ipv4
dst-port:           68
proto:              udp
precedence:         5
action:             copy-to-cpu
stats:              log
stats-interval:     30
```

vFlow Commands

vflow-create

This command is used to create a flow definition for Layer 2 Ethernet or Layer 3 Internet Protocol (IP) packet traffic.

Syntax `vflow-create`

`name` *`name-string`*	Specify the flow name.
`scope local|fabric`	Specify the scope for the flow.
Specify any of the following options:	
`vnet` *`vnet-name`*	Specify the virtual network (VNET) for the flow
`bd bridge-domain name`	Specify the bridge domain for the vFlow.

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vlan *vlan-id*	Specify the VLAN identifier for the flow. The value ranges between 0-4095.
in-port *port-list*	Specify the ingress (input) port for the flow.
out-port *port-list*	Specify the egress (output) port for the flow.
ether-type ipv4|arp|wake|rarp|vlan| ipv6|lacp|mpls-uni|mpls-multi| jumbo| dot1X|aoe|qinq|lldp|macsec|ecp| ptp|fcoe|fcoe-init|qinq-old	Specify the EtherType for the flow.
src-mac *mac-address*	Specify the source MAC address for the flow .
src-mac-mask *mac-address*	Specify the source MAC address wildcard mask for the flow.
dst-mac *mac-address*	Specify the destination MAC address for the flow.
dst-mac-mask *mac-address*	Specify the destination MAC address wildcard mask for the flow.
src-ip *ip-address*	Specify the source IP address for the flow.
src-ip-mask *ip-address*	Specify the source IP address wildcard mask for the flow.
dst-ip *ip-address*	Specify the destination IP address for the flow.
dst-ip-mask *ip-address*	Specify the destination IP address wildcard mask for the flow.
src-port *src-port-number*	Specify the Layer 3 protocol source port for the flow.
src-port-mask *src-port-mask-number*	Specify the source port mask.
src-port-end *src-port-end-number*	Specify the ending port for a range of source ports.
dst-port *dst-port-number*	Specify the Layer 3 protocol destination port for the flow.
dst-port-mask *dst-port-mask-number*	Specify the destination port mask.
dst-port-end *dst-port-end-number*	Specify the ending port for a range of destination ports.
dscp-start *number*	Specify the starting DSCP number. This is a value between 0 and 63.
dscp-end *number*	Specify the ending DSCP number. This is a value between 0 and 63.
dscp *dscp-number*	Specify the 6-bit Differentiated Services Code Point (DSCP) of the flow.
dscp-map dscp-map name | none	Specify the DSCP map to apply on the flow. Please reapply if map priorities are updated.
tos-start *tos-start-number*	Specify the starting ToS number.
tos-end *tos-end-number*	Specify the ending ToS number.

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tos *tos-number*	Specify the Type of Service (ToS) number for the flow.
dropped|no-dropped	Specify if the vFlow matches a dropped packet or forwards the packet.
vlan-pri *number*	Specify the priority for the VLAN. This is a value between 0 (lowest) and 7 (highest).
ttl *ttl-number*	Specify the time to live in seconds.
proto tcp|udp|icmp|igmp|ip| icmpv6	Specify the Layer 3 protocol for the flow.
tcp-flags fin|syn|rst|push|ack|urg| ece|cwr	Specify the TCP flags to filter a vFlow.
flow-class *vflow-class name*	Specify the vflow class.
ingress-tunnel *tunnel-name*	Specify the name of the ingress tunnel.
egress-tunnel tunnel name	Specify the name of the egress tunnel.
bw-min *bw-min-number*	Specify the minimum bandwidth in Gbps for the vflow. This is a range from 0 to 40Gbps.
bw-max *bw-max-number*	Specify the maximum bandwidth in Gbps for the vflow. This is a range from 0 to 40Gbps.
burst-size auto	Specify the burst size. This parameter auto-calculates the burst size based on the maximum bandwidth settings for the vFlow. You can also configure a burst-size number between 256B through 128MB.
vrouter-name *vrouter name*	Specify the vRouter name if you are configuring Policy-based Routing (PBR). You should not use this parameter unless you are configuring PBR.
precedence default	Specify the traffic priority for the flow (between 0 and 15)
action none|drop|to-port|to-cpu|trap| copy-to-cpu|copy-to-port| check| setvlan|add-outer-vlan|set-tpid| to-port-set-vlan|tunnel-pkt| set-tunnel-id|to-span|cpu-rx|cpu-rx-tx|set-metadata|set-dscp| decap|set-dmac|to-next-hop-ip|set-dmac-to-port| to-ports-and-cpu|set-vlan-pri|tcp-seq-offset| tcp-ack-offset|l3-to-cpu-switch|set-smac|drop-cancel-trap|to-ecmp-group| redirect-to-vrouter	Specify the forwarding action to apply to the flow.
action-value *number*	Specify an optional value argument for the forwarding action above (for example, a switch port number to forward the packet to). This is a value between 1 and 64.
action-set-mac-value *mac-address*	Specify a MAC address to apply the action.
action-to-next-hop-ip-value ip-address	Specify the next-hop IP address for packet redirection

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action-to-ecmp-group-value static-ecmp-group group-name	Specify the ECMP group for packet redirection
action-to-ports-value *port-list*	Specify a port list to apply the action.
mirror *mirror-name*	Specify the name of the mirror configuration.
process-mirror| no-process-mirror	Specify to process mirrored traffic for the vflow.
log-packets|no-log-packets	Specify whether to log the packets in the flow.
packet-log-max *packet-log-max-number*	Specify the maximum packet count for log rotation in the flow.
log-stats|no-log-stats	Specify if you want to log statistics or not.
stats-interval *seconds*	Specify the interval to update packet statistics for the log (in seconds). This is a value between 1 and 604800.
dur *dur-number*	Specify the minimum duration required for the flow to be captured (in seconds).
metadata *metadata-number*	Specify a metadata number for the flow.
transient|no-transient	Specify whether to capture transient flows.
vxlan *vxlan-name*	Specify the name of the VXLAN.
vxlan-ether-type ipv4|arp|wake|rarp| vlan|ipv6|lacp|mpls-uni|mpls-multi| jumbo|dot1X|aoe|qinq|lldp| macsec|ecp|ptp|fcoe|fcoe-init|qinq-old	Specify the type of VXLAN.
vxlan-proto tcp|udp|icmp|igmp|ip| icmpv6	Specify the Layer 3 protocol for the flow.
vxlan-proto tcp|udp|icmp|igmp|ip|icmpv6	Specify the protocol type for the VXLAN.
stp-state Disabled|Discarding|Learning| Forwarding packet-res l2-unicast|l2-unknown-unicast|l2-multicast|l2-unknown-multicast|l2-broadcast	Specify the STP state.
packet-res l2-unicast|l2-unknown-unicast|l2-multicast|l2-unknown-multicast| l2-broadcast	Specify the packet resolution in ASIC.
fwding-type vlan|vxlan|vle	Specify the ASIC forwarding type.
set-src *ip-address*	Specify the source IP address of IPv4 packets.
set-dst *ip-address*	Specify the destination IP address of IPv4 packets.
set-src-port *set-src-port-number*	Specify the source port of IPv4 packets.
set-dst-port *set-dst-port-number*	Specify the destination port of IPv4 packets.
udf-name1 udf name	Specify the User-Defined Field name.

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`udf-data1 udf-data1-number`	Specify the User-Defined Field data.
`udf-data1-mask udf-data1-mask-number`	Specify the mask for the User-Defined Field data.
`udf-name2 udf name`	Specify the User-Defined Field name.
`udf-data2 udf-data2-number`	Specify the User-Defined Field data.
`udf-data2-mask udf-data2-mask-number`	Specify the mask for the User-Defined Field data.
`udf-name3 udf name`	Specify the User-Defined Field name.
`udf-data3 udf-data3-number`	Specify the User-Defined Field data.
`udf-data3-mask udf-data3-mask-number`	Specify the mask for the User-Defined Field data.
`enable|no-enable`	Specify if you want to enable or disable flows in hardware.
`table-name` *`vflow-table name`*	Specify a table name from the following list: • SrcMac • DstMac • SrcIp • DstIp • OuterVlanId • OuterVlanPri • EtherType The following actions are supported for this parameter: • InnerVlan • OuterVlan • Dscp • Vxlan • Drop • VlanPri
`cpu-class` *`cpu-class name`*	Specify the CPU class name.
`if mgmt|data`	Specify the administrative service interface.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The parameter, **type**, is deprecated. The option, **cluster**, for **scope** is deprecated. The option, **meter**, for **action** is deprecated. The parameters, **mirror|no mirror**, and **process-mirror|no-process-mirror** added.
Version 2.2.3	The parameters, `dscp-start`, `dscp-end`, `tos-start`, `tos-end`, `vlan-pri` and `ttl` added.
Version 2.2.5	The parameters, `set-dscp|to-ports-and-`

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	cpu|set-vlan-pri| set-dmac|set-dmac-to-port, action-set-mac-value, and action-to-ports-value, added. The parameter, mirror, added. The parameter, mirror|no-mirror changed to process-mirror|no-process-mirror.
Version 2.3	The parameters, set-src, set-dst, set-src-port, and set-dst-port, added.
Version 2.3.1	The parameter, table, added.
Version 2.4	The parameter, type and stats, deprecated. The parameters, src-port-mask and dst-port-mask, added. The action, to-port-set-nat|, is deprecated. The parameter, log-stats added.
Version 2.5.3	The parameter, tcp-flags, added. The fields, UDF- and enable|disable hardware flows also added.
Version 2.5.4	The parameter, burst-size auto, has added functionality. You can configure a burst-size number between 256B through 128MB.
Version 2.6.0	The parameter, table-name, added.
Version 2.6.2	The parameter, dscp-map and cpu-class added.
Version 3.0.0	The parameter, dropped|no-dropped, added.
Version 5.0.0	The parameter, if mgmt|data, added.
Version 5.1.0	The parameter, packet-res, added.
Version 5.2.0	The parameters, src-port-end and dst-port-end, added

Usage Each fabric, cluster, standalone switch, or virtual network can track application flow statistics. This command initiates flow statistics capture for Layer 2 Ethernet or Layer 3 Internet Protocol (IP) packet traffic that matches defined characteristics.

Examples This example shows how to initiate statistcs for a flow named flow1 defined as the Internet Protocol (IP) traffic on VLAN 4091 within the local switch.

```
CLI network-admin@switch > vflow-create name flow1 scope local vlan
4091
```

This example shows how to initiate statistics for a flow, flow2, defined as the fabric-wide Internet

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Protocol (IP) traffic sourced by the host with IP address `172.168.18.2` classified as `dropless`.

```
CLI network-admin@switch > vflow-create name flow2 scope fabric src-ip
172.168.18.2 class dropless stats enable
```

This example shows how to initiate statistics for a flow `flow3` defined as the Internet Protocol (IP)

traffic on `VLAN 99` destined for the host with IP address `172.168.24.1` within the local switch. An action is specified to drop all traffic matching these flow attributes.

```
CLI network-admin@switch > vflow-create name flow3 scope local vlan 99
dst-ip 172.168.24.1 action drop stats enable
```

This example, shows how to create a vFlow with a burst size of 12MB. This is useful because different burst-sizes can be used for different types of metered traffic. For example, if a metered application produces bursty traffic patterns, such as clicking on a Web page link redirecting you to a media-rich page, you can now configure higher burst levels than the pre-calculated default burst levels.

```
CLI network-admin@switch > vflow-create name flow1 scope local in-port
12 bw-max 5G burst-size 12M
```

vflow-delete

This command allows you to delete an existing definition for Layer 2 Ethernet or Layer 3 Internet Protocol (IP) packet traffic.

Syntax `vflow-delete name`

name *name-string*	Specify the flow name.
id *flow-id*	Specify the flow identifier.

Defaults None.

Access CLI

History Command introduced in nvOS Version 1.2.1.

Usage Each fabric, cluster, standalone switch, or virtual network can track application flow statistics. This command initiates flow statistics capture for Layer 2 Ethernet or Layer 3 Internet Protocol (IP) packet traffic that matches defined characteristics.

Examples To delete the vflow definition called flow1, use the following command:

```
CLI network-admin@switch > vflow-delete name flow1
```

vflow-modify

This command is used to modify an existing vflow configuration.

Syntax `vflow-modify`

name *name-string*	Specifies the vFlow name.
id *number*	Specifies the ID assigned to the vFlow.

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`scope local|fabric`	Specifies the scope for the vFlow.
Specify any of the following options:	
`table` *`vflow-table name`*	Specifies the vFlow table name for the flow.
`type system|ofp|vflow|ofp-default|acl-ip|acl-mac|vxlan|nat`	Specifies the type of vFlow.
`vlan` *`vlan-id`*	Specifies the VLAN identifier for the flow.
`vnet` *`vnet-name`*	Specifies the virtual network (VNET) for the flow
`in-port` *`port-list`*	Specifies the ingress (input) port for the flow.
`out-port` *`port-list`*	Specifies the egress (output) port for the flow.
`ether-type ipv4|arp|wake|rarp|vlan|ipv6|mpls-uni|mpls-multi|jumbo|aoe|dot1X|lldp|ecp|macsec|ptp|fcoe|fcoe-init|qinq`	Specifies the EtherType for the flow.
`src-mac` *`mac-address`*	Specifies the source MAC address for the flow .
`src-mac-mask` *`mac-address`*	Specifies the source MAC address wildcard mask for the flow.
`dst-mac` *`mac-address`*	Specifies the destination MAC address for the flow.
`dst-mac-mask` *`mac-address`*	Specifies the destination MAC address wildcard mask for the flow.
`src-ip` *`ip-address`*	Specifies the source IP address for the flow.
`src-ip-mask` *`ip-address`*	Specifies the source IP address wildcard mask for the flow.
`dst-ip` *`ip-address`*	Specifies the destination IP address for the flow.
`dst-ip-mask` *`ip-address`*	Specifies the destination IP address wildcard mask for the flow.
`src-port` *`src-port-number`*	Specifies the Layer 3 protocol source port for the flow.
`src-port-mask` *`src-port-mask-number`*	Specifies the source port mask.
`dst-port` *`dst-port-number`*	Specifies the Layer 3 protocol destination port for the flow.
`dst-port-mask` *`dst-port-mask-number`*	Specifies the destination port mask.
`dscp-start` *`number`*	Specifies the starting DSCP number. This is a value between 0 and 63.
`dscp-end` *`number`*	Specifies the ending DSCP number. This is a value between 0 and 63.
`dscp` *`dscp-number`*	Specifies the 6-bit Differentiated Services Code Point (DSCP) of the flow.
`dscp-map dscp-map name | none`	Specify the DSCP map to apply on the flow. Please reapply if map priorities are updated.

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tos-start *tos-start-number*	Specifies the starting ToS number.
tos-end *tos-end-number*	Specifies the ending ToS number.
tos *tos-number*	Specifies the Type of Service (ToS) number for the flow.
vlan-pri *number*	Specifies the priority for the VLAN. This is a value between 0 (lowest) and 7 (highest).
ttl *ttl-number*	Specifies the time to live in seconds.
proto tcp|udp|icmp|igmp|ip	Specifies the Layer 3 protocol for the flow.
tcp-flags fin|syn|rst|push|ack|urg|ece|cwr	Specify the TCP flags to fileter a vFlow.
flow-class *vflow-class name*	Specifies the vflow class.
ingress-tunnel *tunnel-name*	Specifies the name of the ingress tunnel.
egress-tunnel tunnel name	Specifies the name of the egress tunnel.
bw-min *bw-min-number*	Specifies the minimum bandwidth in Gbps for the vflow.
bw-max *bw-max-number*	Specifies the maximum bandwidth in Gbps for the vflow.
burst-size auto	Specify the burst size.
precedence default	Specifies the traffic priority for the flow (between 0 and 10)
action none|drop|to-port|to-cpu|trap|copy-to-cpu|check|setvlan| tunnel-pkt|set-tunnel-id|to-span|cpu-rx|cpu-rx-tx|set-metadata|set-dscp|decap|set-dmac|set-dmac-to-port|to-ports-and-cpu|set-vlan-pri|tcp-seq-offset|tcp-ack-offset|l3-to-cpu-switch	Specifies the forwarding action to apply to the flow.
action-value *number*	Specifies an optional value argument for the forwarding action above (for example, a switch port number to forward the packet to). This is a value between 1 and 64.
action-set-mac-value *mac-address*	Specifies a MAC address to apply the action.
action-to-ports-value *port-list*	Specifies a port list to apply the action.
mirror *mirror-name*	Specifies the name of the mirror configuration.
process-mirror|no-process-mirror	Specifies to process mirrored traffic for the vflow.
log-packets|no-log-packets	Specifies whether to log the packets in the flow.
packet-log-max *packet-log-max-number*	Specifies the maximum packet count for log rotation in the flow.

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log-stats|no-log-stats	Specifies if you want to log statistics or not.
stats-interval *seconds*	Specifies the interval to update packet statistics for the log (in seconds). This is a value between 1 and 604800.
dur *dur-number*	Specifies the minimum duration required for the flow to be captured (in seconds).
metadata *metadata-number*	Specifies a metadata number for the flow.
metadata-mask *metadata-mask-number*	Specifies a metadata mask for the flow.
transient|no-transient	Specifies whether to capture transient flows.
vxlan *vxlan-name*	Specifies the name of the VXLAN.
vxlan-ether-type ipv4|arp|wake|rarp|vlan|ipv6|mpls-uni|mpls-multi|jumbo|aoe|dot1X|lldp|ecp|macsec|ptp|fcoe|fcoe-init|qinq	Specifies the type of VXLAN.
vxlan-proto tcp|udp|icmp|igmp|ip	Specifies the Layer 3 protocol for the flow.
hw-stats|no-hw-stats	Specifies if hardware statistics is enabled or disabled.
set-src *ip-address*	Specifies the source IP address of IPv4 packets.
set-dst *ip-address*	Specifies the destination IP address of IPv4 packets.
set-src-port *set-src-port-number*	Specifies the source port of IPv4 packets.
set-dst-port *set-dst-port-number*	Specifies the destination port of IPv4 packets.
udf-name1 udf name	Specify the User-Defined Field name.
udf-data1 udf-data1-number	Specify the User-Defined Field data.
udf-data1-mask udf-data1-mask-number	Specify the mask for the User-Defined Field data.
udf-name2 udf name	Specify the User-Defined Field name.
udf-data2 udf-data2-number	Specify the User-Defined Field data.
udf-data2-mask udf-data2-mask-number	Specify the mask for the User-Defined Field data.
udf-name3 udf name	Specify the User-Defined Field name.
udf-data3 udf-data3-number	Specify the User-Defined Field data.
udf-data3-mask udf-data3-mask-number	Specify the mask for the User-Defined Field data.
enable|no-enable	Specify if you want to enable or disable flows in hardware
table-name *vflow-table name*	Specify a table name from the following list: • SrcMac • DstMac • SrcIp • DstIp • OuterVlanId • OuterVlanPri • EtherType

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	The following actions are supported for this parameter: • InnerVlan • OuterVlan • Dscp • Vxlan • Drop • VlanPri
`cpu-class` *`cpu-class name`*	Specify the CPU class name.

Defaults **None.**

Access **CLI**

History

Version 1.2	Command introduced.
Version 2.2	The options, `to-span`, and `to-port-set-nat` added.
Version 2.2.3	The options, `cpu-rx|cpu-rx-tx|set-dscp|set-vlan-pri`, added to the parameter, `action`.
Version 2.2.5	The parameters, `set-dscp|to-ports-and-cpu|set-vlan-pri| set-dmac|set-dmac-to-port, action-set-mac-value`, and `action-to-ports-value`, added. The parameter, `mirror`, added. The parameter, `mirror|no-mirror` changed to `process-mirror|no-process-mirror`.
Version 2.3	The parameters, `set-src`, `set-dst`, `set-src-port`, and `set-dst-port`, added.
Version 2.3.1	The parameter, `table`, added.
Version 2.4	The parameter, `type` and `stats`, deprecated. The parameters, src-port-mask and dst-port-mask, added. The action, `to-port-set-nat|`, is deprecated. The parameter, `log-stats` added.
Version 2.4.1	The parameters, `dur`, `metadata`, `vxlan`, `vxlan-ether-type`, `vxlan-proto`, and `transient`, deprecated.
Version 2.5.3	The parameter, `tcp-flags`, added. The fields, UDF- and enable|disable hardware flows also added.

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Version 2.5.4	The parameter, burst-size `auto`, has added functionality. You can configure a burst-size number between 256B through 128MB.
Version 2.6.0	The parameter, `table-name`, added.
Version 2.6.2	The parameter, `dscp-map`, added.

Usage Each fabric, cluster, standalone switch, or virtual network can track application flow statistics. This command initiates flow statistics capture for Layer 2 Ethernet or Layer 3 Internet Protocol (IP) packet traffic that matches defined characteristics.

Examples This example shows how to modify the flow statistics capture for a flow named flow3 to specify that a duplicate of all matching traffic be forwarded to the switch controller for further analysis.

```
CLI network-admin@switch > vflow-modify name flow3 action copy-to-cpu
```

This example, shows how to create a vFlow with a burst size of 12MB. This is useful because different burst-sizes can be used for different types of metered traffic. For example, if a metered application produces bursty traffic patterns, such as clicking on a Web page link redirecting you to a media-rich page, you can now configure higher burst levels than the pre-calculated default burst levels.

```
CLI network-admin@switch > vflow-modify name flow1 scope local in-port
12 bw-max 5G burst-size 12M
```

vflow-show

This command is used to display information about configured vflows.

Syntax `vflow-show`

`name` *`name-string`*	Specifies the vFlow name.
`id` *`number`*	Specifies the ID assigned to the vFlow.
`scope local|fabric`	Specifies the scope for the vFlow.
Specify any of the following options:	
`table` *`vflow-table name`*	Specifies the vFlow table name for the flow.
`type system|ofp|vflow|ofp-default|acl-ip|acl-mac|vxlan|nat`	Specifies the type of vFlow.
`vlan` *`vlan-id`*	Specifies the VLAN identifier for the flow.
`vnet` *`vnet-name`*	Specifies the virtual network (VNET) for the flow
`in-port` *`port-list`*	Specifies the ingress (input) port for the flow.
`out-port` *`port-list`*	Specifies the egress (output) port for the flow.
`ether-type ipv4|arp|wake|rarp|vlan|ipv6|mpls-uni|mpls-multi|jumbo|aoe|dot1X|lldp|ecp|macsec|ptp|fcoe|fcoe-init|qinq`	Specifies the EtherType for the flow.

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src-mac *mac-address*	Specifies the source MAC address for the flow .
src-mac-mask *mac-address*	Specifies the source MAC address wildcard mask for the flow.
dst-mac *mac-address*	Specifies the destination MAC address for the flow.
dst-mac-mask *mac-address*	Specifies the destination MAC address wildcard mask for the flow.
src-ip *ip-address*	Specifies the source IP address for the flow.
src-ip-mask *ip-address*	Specifies the source IP address wildcard mask for the flow.
dst-ip *ip-address*	Specifies the destination IP address for the flow.
dst-ip-mask *ip-address*	Specifies the destination IP address wildcard mask for the flow.
src-port *src-port-number*	Specifies the Layer 3 protocol source port for the flow.
src-port-mask *src-port-mask-number*	Specifies the source port mask.
dst-port *dst-port-number*	Specifies the Layer 3 protocol destination port for the flow.
dst-port-mask *dst-port-mask-number*	Specifies the destination port mask.
dscp-start *number*	Specifies the starting DSCP number. This is a value between 0 and 63.
dscp-end *number*	Specifies the ending DSCP number. This is a value between 0 and 63.
dscp *dscp-number*	Specifies the 6-bit Differentiated Services Code Point (DSCP) of the flow.
dscp-map dscp-map name | none	Specify the DSCP map to apply on the flow. Please reapply if map priorities are updated.
tos-start *tos-start-number*	Specifies the starting ToS number.
tos-end *tos-end-number*	Specifies the ending ToS number.
tos *tos-number*	Specifies the Type of Service (ToS) number for the flow.
vlan-pri *number*	Specifies the priority for the VLAN. This is a value between 0 (lowest) and 7 (highest).
ttl *ttl-number*	Specifies the time to live in seconds.
proto tcp|udp|icmp|igmp|ip	Specifies the Layer 3 protocol for the flow.
tcp-flags fin|syn|rst|push|ack|urg|ece|cwr	Specify the TCP flags to fileter a vFlow.
flow-class *vflow-class name*	Specifies the vflow class.
ingress-tunnel *tunnel-name*	Specifies the name of the ingress tunnel.

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egress-tunnel tunnel name	Specifies the name of the egress tunnel.
bw-min *bw-min-number*	Specifies the minimum bandwidth in Gbps for the vflow.
bw-max *bw-max-number*	Specifies the maximum bandwidth in Gbps for the vflow.
burst-size auto	Specify the burst size.
precedence default	Specifies the traffic priority for the flow (between 0 and 10)
action none|drop|to-port|to-cpu|trap| copy-to-cpu|check|setvlan| tunnel-pkt| set-tunnel-id|to-span|cpu-rx|cpu-rx-tx| set-metadata|set-dscp|decap|set-dmac| set-dmac-to-port|to-ports-and-cpu|set-vlan-pri|tcp-seq-offset|tcp-ack-offset| l3-to-cpu-switch	Specifies the forwarding action to apply to the flow.
action-value *number*	Specifies an optional value argument for the forwarding action above (for example, a switch port number to forward the packet to). This is a value between 1 and 64.
action-set-mac-value *mac-address*	Specifies a MAC address to apply the action.
action-to-ports-value *port-list*	Specifies a port list to apply the action.
mirror *mirror-name*	Specifies the name of the mirror configuration.
process-mirror| no-process-mirror	Specifies to process mirrored traffic for the vflow.
log-packets|no-log-packets	Specifies whether to log the packets in the flow.
packet-log-max *packet-log-max-number*	Specifies the maximum packet count for log rotation in the flow.
log-stats|no-log-stats	Specifies if you want to log statistics or not.
stats-interval *seconds*	Specifies the interval to update packet statistics for the log (in seconds). This is a value between 1 and 604800.
dur *dur-number*	Specifies the minimum duration required for the flow to be captured (in seconds).
metadata *metadata-number*	Specifies a metadata number for the flow.
metadata-mask *metadata-mask-number*	Specifies a metadata mask for the flow.
transient|no-transient	Specifies whether to capture transient flows.
vxlan *vxlan-name*	Specifies the name of the VXLAN.
vxlan-ether-type ipv4|arp|wake|rarp| vlan|ipv6|mpls-uni|mpls-multi|jumbo| aoe|dot1X|lldp|ecp|macsec|ptp|fcoe| fcoe-init|qinq	Specifies the type of VXLAN.

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`vxlan-proto tcp|udp|icmp|igmp|ip`	Specifies the Layer 3 protocol for the flow.
`hw-stats|no-hw-stats`	Specifies if hardware statistics is enabled or disabled.
`set-src` *`ip-address`*	Specifies the source IP address of IPv4 packets.
`set-dst` *`ip-address`*	Specifies the destination IP address of IPv4 packets.
`set-src-port` *`set-src-port-number`*	Specifies the source port of IPv4 packets.
`set-dst-port` *`set-dst-port-number`*	Specifies the destination port of IPv4 packets.
`udf-name1 udf name`	Specify the User-Defined Field name.
`udf-data1 udf-data1-number`	Specify the User-Defined Field data.
`udf-data1-mask udf-data1-mask-number`	Specify the mask for the User-Defined Field data.
`udf-name2 udf name`	Specify the User-Defined Field name.
`udf-data2 udf-data2-number`	Specify the User-Defined Field data.
`udf-data2-mask udf-data2-mask-number`	Specify the mask for the User-Defined Field data.
`udf-name3 udf name`	Specify the User-Defined Field name.
`udf-data3 udf-data3-number`	Specify the User-Defined Field data.
`udf-data3-mask udf-data3-mask-number`	Specify the mask for the User-Defined Field data.
`enable|no-enable`	Specify if you want to enable or disable flows in hardware
`table-name` *`vflow-table name`*	Specify a table name from the following list: • SrcMac • DstMac • SrcIp • DstIp • OuterVlanId • OuterVlanPri • EtherType The following actions are supported for this parameter: • InnerVlan • OuterVlan • Dscp • Vxlan • Drop • VlanPri
`cpu-class` *`cpu-class name`*	Specify the CPU class name.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The parameter, `type`, is deprecated. The

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	option, `cluster`, for `scope` is deprecated. The option, `meter`, for `action` is deprecated. The parameters, `mirror|no mirror`, and `process-mirror|no-process-mirror`, and `bw-min` added. The options, `to-span|to-port-set-nat| cpu-rx|cpu-rx-tx` added to the parameter `action`.
Version 2.2	The options, `to-cpu-l2-miss|set-metadata| flow-flood|set-dscp` added to the parameter, `type`.
Version 2.2.3	The parameters, `dscp-start`, `dscp-end`, `tos-start`, `tos-end`, and `vlan-pri` added.
Version 2.2.5	The parameters, `set-dscp|to-ports-and-cpu|set-vlan-pri| set-dmac|set-dmac-to-port, action-set-mac-value`, and `action-to-ports-value`, added. The parameter, `mirror`, added. The parameter, `mirror|no-mirror` changed to `process-mirror|no-process-mirror`.
Version 2.3	The parameters, `set-src`, `set-dst`, `set-src-port`, and `set-dst-port`, added.
Version 2.3.1	The parameter, `table`, added.
Version 2.4	The parameter, `type` and `stats`, deprecated. The parameters, `src-port-mask` and `dst-port-mask`, added. The action, `to-port-set-nat|`, is deprecated. The parameter, `log-stats, metadata-mask,` and `hw-stats` added.
Version 2.5.3	The parameter, `tcp-flags`, added. The fields, UDF- and enable|disable hardware flows also added.
Version 2.5.4	The parameter, burst-size `auto`, has added functionality. You can configure a burst-size number between 256B through 128MB.
Version 2.6.0	The parameter, `table-name`, added.
Version 2.6.2	The parameter, `dscp-map`, added.

Usage Each fabric, cluster, standalone switch, or virtual network can track application flow statistics. This command displays information about vflows configured on the switch.

Examples To display vflow information, use the following command:

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```
CLI network-admin@switch > vflow-show name flow1
name  id scope vlan vnet src dst subnet class bw pri action stats dur mask
----- -- ----- ---- ---- --- --- ------ ----- -- --- ------ ----- --- ----
flow1 64 local 4091      ::  ::  ::     normal 0 0 flow_normal no 0   13
```

vflow-snoop

This command is used to display the packet headers of flows directed to the switch CPU.

Syntax `vflow-snoop`

count *count-number*	Specify the packet count.
display-packets-bytes *display-packets-bytes*	Specify the number packet bytes.
name *name-string*	Specify the flow name.
Specify any of the following options:	
id	Specify the ID assigned to the vFlow.
scope local|fabric	Specify the scope for the vFlow.
type ofp|vflow|ofp-default|acl-ip|acl-mac|vxlan|nat|qos|nat-twice| hog-violator|pbr|iptable	Specify the type of vFlow.
hidden true|false	Specify if the vFlow is hidden or not.
vlan *vlan-id*	Specify the VLAN identifier for the vFlow.
vnet *vnet-name*	Specify the virtual network (VNET) for the vFlow
in-port *port-list*	Specify the ingress (input) port for the vFlow.
out-port *port-list*	Specify the egress (output) port for the vFlow.
ether-type ipv4|arp|wake|rarp|vlan|ipv6|mpls-uni|mpls-multi|jumbo|aoe|dot1X|lldp|ecp|macsec|ptp|fcoe|fcoe-init|qinq	Specify the EtherType for the vFlow.
src-mac *mac-address*	Specify the source MAC address for the vFlow.
src-mac-mask *mac-address*	Specify the source MAC address wildcard mask for the vFlow.
dst-mac *mac-address*	Specify the destination MAC address for the vFlow.
dst-mac-mask *mac-address*	Specify the destination MAC address wildcard mask for the vFlow.
src-ip *ip-address*	Specify the source IP address for the vFlow.
src-ip-mask *ip-address*	Specify the source IP address wildcard mask for the vFlow.
dst-ip *ip-address*	Specify the destination IP address for the vFlow.

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dst-ip-mask *ip-address*	Specify the destination IP address wildcard mask for the vFlow.
src-port *src-port-number*	Specify the Layer 3 protocol source port for the vFlow.
src-port-mask *src-port-mask-number*	Specify the source port mask.
dst-port *dst-port-number*	Specify the Layer 3 protocol destination port for the vFlow.
dst-port-mask *dst-port-mask-number*	Specify the destination port mask.
dscp-start *number*	Specify the starting DSCP number. This is a value between 0 and 63.
dscp-end *number*	Specify the ending DSCP number. This is a value between 0 and 63.
dscp *dscp-number*	Specify the 6-bit Differentiated Services Code Point (DSCP) of the flow.
dscp-map dscp-map name | none	Specify the DSCP map to apply on the flow. Please reapply if map priorities are updated.
[tos-start *tos-start-number]*	Specify the starting ToS number.
[tos-end *tos-end-number]*	Specify the ending ToS number.
tos *tos-number*	Specify the Type of Service (ToS) number for the vFlow.
vlan-pri *number*	Specify the priority for the VLAN. This is a value between 0 (lowest) and 7 (highest).
proto tcp|udp|icmp|igmp|ip	Specify the Layer 3 protocol for the flow.
local-subnet|no-local-subnet	Specify a local subnet.
flow-class *vflow-class name*	Specify the vflow class.
ingress-tunnel *tunnel-name*	Specify the name of the ingress tunnel.
egress-tunnel *tunnel-name*	Specify the name of the egress tunnel.
bw-min *bw-min-number*	Specify the minimum bandwidth for the vFlow.
bw-max *bw-max-number*	Specify the maximum bandwidth for the vFlow (in Gbps).
precedence *priority*	Specify the traffic priority for the flow (between 0 and 10)
action none|drop|to-port|to-cpu|trap| copy-to-cpu|check|setvlan|tunnel-pkt| set-tunnel-id|to-span| cpu-rx| cpu-rx-tx| set-metadata|set-dscp|decap|set-dmac| set-dmac-to-port| to-ports-and-cpu|set-vlan-pri|tcp-seq-offset| tcp-ack-offset| l3-to-cpu-switch|set-smac|	Specify the forwarding action to apply to the flow.

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drop-cancel-trap|to-ecmp-group| redirect-to-vrouter	
action-value *number*	Specify an optional value argument for the forwarding action above (for example, a switch port number to forward the packet to). This is a value between 1 and 64.
action-value1 *number*	Specify a VLAN ID from 1 to 4096.
action-set-mac-value *mac-address*	Specify a MAC address value.
action-to-ports-value *port-list*	Specify a port list.
mirror mirror *name*	Specify a mirror name for the configuration.
process-mirror| no-process-mirror	Specify if the vFLow processes mirrored traffic or not.
log-packets| no-log-packets	Specify whether to log the packets in the flow.
packet-log-max *packet-log-max-number*	Specify the maximum packet count for log rotation in the flow.
log-stats|no-log-stats	Specify whether to enable packet statistics or logs for the flow.
stats-interval *seconds*	Specify the interval to update packet statistics for the log (in seconds). This is a value between 1 and 604800.
dur *dur-number*	Specify the minimum duration required for the flow to be captured (in seconds).
[metadata *metadata-number*] [metadata-mask *metadata-mask-number*]	Specify the metadata number and mask for the vflow.
transient|no-transient	Specify whether to capture transient flows.
vxlan *vxlan-name*	Specify the name of the VXLAN.
vxlan-ether-type ipv4|arp|wake|rarp| vlan|ipv6|mpls-uni|mpls-multi| jumbo| aoe| dot1X|lldp|ecp|macsec|ptp|fcoe|fcoe-init|qinq vxlan-proto tcp|udp|icmp| igmp|ip	Specify the type of VXLAN.
vxlan-proto tcp|udp|icmp|igmp|ip|icmpv6	
hw-stats|no-hw-stats	
set-src *ip-address*	Specify the source IP address of IPv4 packets.
set-dst *ip-address*	Specify the destination IP address of IPv4 packets.
set-src-port *set-src-port-number*	Specify the source port of IPv4 packets.
set-dst-port *set-dst-port-number*	Specify the destination port of IPv4 packets.

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`enable|no-enable`	Specify if you want to enable or disable flows in hardware
`table-name` *`vflow-table name`*	Specify a table name from the following list: • SrcMac • DstMac • SrcIp • DstIp • OuterVlanId • OuterVlanPri • EtherType The following actions are supported for this parameter: • InnerVlan • OuterVlan • Dscp • Vxlan • Drop • VlanPri
`cpu-class` *`cpu-class name`*	Specify the CPU class name.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The parameter, **type**, is deprecated. The option, **cluster**, for **scope** is deprecated. The option, **meter**, for **action** is deprecated. The parameters, **mirror|no mirror**, and **process-mirror|no-process-mirror**, **bw-min,** and **metadata** added. The options, `to-span|to-port-set-nat| cpu-rx| cpu-rx-tx` added to the parameter **action**.
Version 2.2.3	The parameters, `dscp-start`, `dscp-end`, `tos-start`, `tos-end`, `vlan-pri`, `action-value`, `mirror`, and `process-mirror` added.
Version 2.3	The parameters, `set-src`, `set-dst`, `set-src-port`, and `set-dst-port`, added. The parameters, `vxlan-proto` and `hw-stats` added. The parameters `action-set-mac-value` and `action-to-ports-value` added.
Version 2.3.1	The parameter, `table`, added.
Version 2.4	The options, `analytics|reserved` deprecated from the parameter `type`. The options, `ofp-default| acl-ip|acl-mac|vxlan|nat` added to the parameter, `type`.
Version 2.5.4	The parameter, burst-size `auto`, has added functionality. You can configure a burst-size number between 256B through 128MB.
Version 2.6.0	The parameter, `table-name`, added.

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Version 2.6.2	The parameter, `dscp-map`, added.

Usage Each fabric, cluster, standalone switch, or virtual network can track application flow statistics. This command displays a running output of headers as they are directed to the switch CPU based on flow definitions specified for Layer 2 Ethernet or Layer 3 Internet Protocol (IP) packet traffic. The display output is stopped by pressing Control-C in the CLI.

Examples This example displays the packet headers as they are directed to the switch CPU based on one or several flow definitions created with the command vflow-create and the action set to copy-to-cpu:

```
CLI network-admin@switch > vflow-snoop
```

```
vflow-snoop
switch: 471aac, flow: 40, port: 25, size: 64
smac: 02:08:20:17:26:77, dmac: 1e:1e:1e:ac:f3:62, vlan: 55, etype: arp
switch: 471aac, flow: 40, port: 13, size: 68
smac: 00:0c:fc:00:b9:6e, dmac: ff:ff:ff:ff:ff:ff, vlan: 1, etype: arp
switch: 471aac, flow: 40, port: 15, size: 68
smac: 00:0c:fc:00:b6:71, dmac: ff:ff:ff:ff:ff:ff, vlan: 1, etype: arp
```

vflow-mgmt-show

This command is used to display the management flow details for the configured vFlows.

Syntax `vflow-mgmt-show`

`name` *`name-string`*	Specifies the vFlow name.
`id` *`number`*	Specifies the ID assigned to the vFlow.
`scope local|fabric`	Specifies the scope for the vFlow.
Specify any of the following options:	
`table` *`vflow-table name`*	Specifies the vFlow table name for the flow.
`type ofp|vflow|ofp-default|acl-ip|acl-mac|vxlan|nat|qos|nat-twice| hog-violator|pbr|iptable`	Specifies the type of vFlow.
`hidden true|false`	Specifies if the vflow is hidden or not.
`vnet` *`vnet-name`*	Specifies the virtual network (VNET) for the flow.
`bd bridge-domain name`	Specifies the bridge domain for the vflow.
`vlan` *`vlan-id`*	Specifies the VLAN identifier for the flow.
`in-port` *`port-list`*	Specifies the ingress (input) port for the flow.
`out-port` *`port-list`*	Specifies the egress (output) port for the flow.
`ether-type ipv4|arp|wake|rarp|vlan| ipv6|lacp|mpls-uni|mpls-multi| jumbo| dot1X|aoe|qinq|lldp|macsec|ecp| ptp|fcoe|fcoe-init|qinq-old`	Specifies the EtherType for the flow.
`src-mac` *`mac-address`*	Specifies the source MAC address for the flow .
`src-mac-mask` *`mac-address`*	Specifies the source MAC address wildcard mask for

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	the flow.
dst-mac *mac-address*	Specifies the destination MAC address for the flow.
dst-mac-mask *mac-address*	Specifies the destination MAC address wildcard mask for the flow.
src-ip *ip-address*	Specifies the source IP address for the flow.
src-ip-mask *ip-address*	Specifies the source IP address wildcard mask for the flow.
dst-ip *ip-address*	Specifies the destination IP address for the flow.
dst-ip-mask *ip-address*	Specifies the destination IP address wildcard mask for the flow.
src-port *src-port-number*	Specifies the Layer 3 protocol source port for the flow.
src-port-mask *src-port-mask-number*	Specifies the source port mask.
dst-port *dst-port-number*	Specifies the Layer 3 protocol destination port for the flow.
dst-port-mask *dst-port-mask-number*	Specifies the destination port mask.
dscp-start *number*	Specifies the starting DSCP number. This is a value between 0 and 63.
dscp-end *number*	Specifies the ending DSCP number. This is a value between 0 and 63.
dscp *dscp-number*	Specifies the 6-bit Differentiated Services Code Point (DSCP) of the flow.
dscp-map dscp-map name	Specify the DSCP map to apply on the flow. Please reapply if map priorities are updated.
tos-start *tos-start-number*	Specifies the starting ToS number.
tos-end *tos-end-number*	Specifies the ending ToS number.
tos *tos-number*	Specifies the Type of Service (ToS) number for the flow.
dropped|no-dropped	Specifies if the match has dropped or forwarded the packet.
vlan-pri *number*	Specifies the priority for the VLAN. This is a value between 0 (lowest) and 7 (highest).
ttl *ttl-number*	Specifies the time to live in seconds.
proto tcp|udp|icmp|igmp|ip|icmpv6	Specifies the Layer 3 protocol for the flow.
tcp-flags fin|syn|rst|push|ack|urg|ece|cwr	Specify the TCP flags to fileter a vFlow.
local-subnet|no-local-subnet	Specifies if the local subnet is used or not.
flow-class *vflow-class name*	Specifies the vflow class.

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ingress-tunnel *tunnel-name*	Specifies the name of the ingress tunnel.
egress-tunnel tunnel name	Specifies the name of the egress tunnel.
bw-min *bw-min-number*	Specifies the minimum bandwidth in Gbps for the vflow.
bw-max *bw-max-number*	Specifies the maximum bandwidth in Gbps for the vflow.
burst-size auto	Specify the burst size.
vrouter-name vrouter name	Specifies the name of the vrouter service.
precedence default	Specifies the traffic priority for the flow (between 0 and 10)
action none|drop|to-port|to-cpu|trap| copy-to-cpu|copy-to-port| check| setvlan|add-outer-vlan|set-tpid| to-port-set-vlan|tunnel-pkt| set-tunnel-id|to-span|cpu-rx|cpu-rx-tx|set-metadata|set-dscp|decap|set-dmac|to-next-hop-ip|set-dmac-to-port|to-ports-and-cpu|set-vlan-pri|tcp-seq-offset| tcp-ack-offset| l3-to-cpu-switch|set-smac|drop-cancel-trap|to-ecmp-group| redirect-to-vrouter	Specifies the forwarding action to apply to the flow.
action-value action-value-number	Specifies an optional value argument for the forwarding action above (for example, a switch port number to forward the packet to). This is a value between 1 and 64.
action-value1 1..4096	Specifies second optional value argument for the forwarding action above (for example, a switch port number to forward the packet to). This is a value between 1 and 64
action-set-mac-value *mac-address*	Specifies a MAC address to apply the action.
action-to-next-hop-ip-value ip-address	Specifies the next hop IP address for packet redirection.
action-to-ecmp-group-value static-ecmp-group group-name	Specifies the ECMP group for packet redirection.
action-to-ports-value *port-list*	Specifies a port list to apply the action.
mirror *mirror-name*	Specifies the name of the mirror configuration.
process-mirror| no-process-mirror	Specifies to process mirrored traffic for the vflow.
log-packets|no-log-packets	Specifies whether to log the packets in the flow.
packet-log-max *packet-log-max-number*	Specifies the maximum packet count for log rotation in the flow.

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log-stats|no-log-stats	Specifies if you want to log statistics or not.
stats-interval *seconds*	Specifies the interval to update packet statistics for the log (in seconds). This is a value between 1 and 604800.
dur *dur-number*	Specifies the minimum duration required for the flow to be captured (in seconds).
metadata *metadata-number*	Specifies a metadata number for the flow.
metadata-mask *metadata-mask-number*	Specifies a metadata mask for the flow.
transient|no-transient	Specifies whether to capture transient flows.
vxlan *vxlan description*	Specifies the name of the VXLAN.
vxlan-ether-type ipv4|arp|wake|rarp| vlan|ipv6|lacp|mpls-uni|mpls-multi| jumbo|dot1X|aoe|qinq|lldp|macsec|ecp| ptp|fcoe|fcoe-init| qinq-old	Specifies the type of VXLAN.
vxlan-proto tcp|udp|icmp|igmp|ip|icmpv6	Specifies the Layer 3 protocol for the flow.
stp-state Disabled|Discarding|Learning| Forwarding	Specifies the STP state.
packet-res l2-unicast|l2-unknown-unicast|l2-multicast| l2-unknown-multicast|l2-broadcast	Specifies the packet resolution in ASIC.
fwding-type vlan|vxlan|vle	Specifies the ASIC forwarding type.
hw-stats|no-hw-stats	Specifies if hardware statistics is enabled or disabled.
set-src *ip-address*	Specifies the source IP address of IPv4 packets.
set-dst *ip-address*	Specifies the destination IP address of IPv4 packets.
set-src-port *set-src-port-number*	Specifies the source port of IPv4 packets.
set-dst-port *set-dst-port-number*	Specifies the destination port of IPv4 packets.
udf-name1 udf name	Specify the User-Defined Field name.
udf-data1 udf-data1-number	Specify the User-Defined Field data.
udf-data1-mask udf-data1-mask-number	Specify the mask for the User-Defined Field data.
udf-name2 udf name	Specify the User-Defined Field name.
udf-data2 udf-data2-number	Specify the User-Defined Field data.
udf-data2-mask udf-data2-mask-number	Specify the mask for the User-Defined Field data.
udf-name3 udf name	Specify the User-Defined Field name.
udf-data3 udf-data3-number	Specify the User-Defined Field data.
udf-data3-mask udf-data3-mask-number	Specify the mask for the User-Defined Field data.

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`enable|no-enable`	Specify if you want to enable or disable flows in hardware
`table-name` *`vflow-table name`*	Specify a table name from the following list: • SrcMac • DstMac • SrcIp • DstIp • OuterVlanId • OuterVlanPri • EtherType The following actions are supported for this parameter: • InnerVlan • OuterVlan • Dscp • Vxlan • Drop • VlanPri
`cpu-class` *`cpu-class name`*	Specify the CPU class name.
`if mgmt|data`	Specifies the administrative service interface.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The parameter, `type`, is deprecated. The option, `cluster`, for `scope` is deprecated. The option, `meter`, for `action` is deprecated. The parameters, `mirror|no mirror`, and `process-mirror|no-process-mirror`, and `bw-min` added. The options, `to-span|to-port-set-nat| cpu-rx|cpu-rx-tx` added to the parameter `action`.
Version 2.2	The options, `to-cpu-l2-miss|set-metadata| flow-flood|set-dscp` added to the parameter, `type`.
Version 2.2.3	The parameters, `dscp-start`, `dscp-end`, `tos-start`, `tos-end`, and `vlan-pri` added.
Version 2.2.5	The parameters, `set-dscp|to-ports-and-cpu|set-vlan-pri| set-dmac|set-dmac-to-port, action-set-mac-value`, and `action-to-ports-value`, added. The parameter, `mirror`, added. The parameter, `mirror|no-mirror` changed to `process-mirror|no-process-mirror`.

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Version 2.3	The parameters, `set-src`, `set-dst`, `set-src-port`, and `set-dst-port`, added.
Version 2.3.1	The parameter, `table`, added.
Version 2.4	The parameter, `type` and `stats`, deprecated. The parameters, `src-port-mask` and `dst-port-mask`, added. The action, `to-port-set-nat|`, is deprecated. The parameter, `log-stats`, `metadata-mask`, and `hw-stats` added.
Version 2.5.3	The parameter, `tcp-flags`, added. The fields, UDF- and enable|disable hardware flows also added.
Version 2.5.4	The parameter, burst-size `auto`, has added functionality. You can configure a burst-size number between 256B through 128MB.
Version 2.6.0	The parameter, `table-name`, added.
Version 2.6.2	The parameter, `dscp-map`, added.
Version 5.0.0	The parameter, `if mgmt|data`, added.

Usage Each fabric, cluster, standalone switch, or virtual network can track application flow statistics. This command displays information about vflows configured on the switch.

Examples To display vflow information, use the following command:

```
CLI network-admin@switch > vflow-show name flow1

name  id scope vlan vnet src dst subnet class bw pri action stats dur mask
flow1 64 local 4091      ::  ::  ::     normal 0 0 flow_normal no 0   13
```

vflow-mgmt-stats-clear

This command displays management flow statistics for Layer 2 Ethernet or Layer 3 Internet Protocol (IP) traffic.

Syntax `vflow-mgmt-stats-show`

Specify any of the following options:	
`start-time` *`yyyy-mm-ddThh:mm:ss`*	Specify the start time of the flow using the notation yyyymm- ddThh:mm:ss.
`end-time` *`yyyy-mm-ddThh:mm:ss`*	Specify the start time of the flow using the notation yyyymm-

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	ddThh:mm:ss
dur *duration-number*	Specify the duration of the flow (in seconds).
interval duration: #d#h#m#s	Specify the length of time between collection intervals.
since-start|no-since-start	Specify if the statistics are collected from the start of the vflow.
older-than duration: #d#h#m#s	Specify if the statistics are older than the stated duration.
within-last duration: #d#h#m#s	Specify the statistics collected within the last duration.
name vflow *name*	Specify the name of the vflow.
Specifyvnet *vnet name*	Specify the VNET.
id	Specify the ID assigned.
pkts *pkts-number*	Specify the total number of packets.
bytes *bytes-number*	Specify the total number of bytes.
cpu-pkts *cpu-pkts-number*	Specify the total number of CPU packets.
cpu-bytes *cpu-bytes-number*	Specify the total number of CPU bytes.
mismatches *mismatches-number*	Specify the number of mismatched packets.
drops *drops-number*	Specify the number of dropped packets.
drops-bytes *drops-bytes-number*	Specify the number of dropped bytes.
policer-drops *policer-drops-number*	Specify the number of policer dropped packets.
policer-drop-bytes *policer-drop-bytes-number*	Specify the number of policer dropped bytes.
cpu-tx-pkts *cpu-tx-pkts-number*	Specify the number of packets sent from the CPU.

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`cpu-tx-bytes` *`cpu-tx-bytes-number`*	Specify the number of bytes sent from the CPU.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.4.1	The parameter, `vnet`, added.

Usage Each fabric, cluster, standalone switch, or virtual network can track application flow statistics. This command clears vflow statistics.

Examples This example shows how to clear vFlow management statistics:

```
CLI network-admin@switch > vflow-stats-clear
```

vflow-mgmt-stats-show

This command displays flow statistics for Layer 2 Ethernet or Layer 3 Internet Protocol (IP) traffic.

Syntax `vflow-mgmt-stats-show`

Specify any of the following options:	
`start-time` *`yyyy-mm-ddThh:mm:ss`*	Specifies the start time of the statistic collection using the notation yyyymm- ddThh:mm:ss.
`end-time` *`yyyy-mm-ddThh:mm:ss`*	Specifies the end time of the statistic collection using the notation yyyymm- ddThh:mm:ss
`duration` *`duration-number`*	Specifies the duration of the statistic collection (in seconds).
`interval duration: #d#h#m#s`	Specifies the length of time between collection intervals.
`since-start|no-since-start`	Specifies if the statistics are collected from the start of the vflow.
`older-than duration: #d#h#m#s`	Specifies if the statistics are older than the stated duration.
`within-last duration: #d#h#m#s`	Specifies the statistics collected within the last duration.

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`name vflow name`	Specifies the name of the vflow.
`vnet vnet-name`	Specifies the name of the VNET.
`id`	Specifies the ID assigned.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.4.1	The parameter, `vnet`, added.

Usage Each fabric, cluster, standalone switch, or virtual network can track application flow statistics. This command displays flow statistics.

Examples This example shows how to display flow statistics.

```
CLI network-admin@switch > vflow-stats-show
switch       name                 packets bytes cpu-packets cpu-bytes
pleiades24   IGMP-Flow            1.98M   130M  1.99M       123M
pleiades24   LLDP-Flow            218K    24.2M 218K        23.4M
pleiades24   Host-Agent-Discover  3.92K   251K  0           0
pleiades24   ECP                  0       0     0           0
pleiades24   Fabric-Discovery    282K     159M  273K        157M
pleiades24   SYSTEM-S            777K     60.2M 763K        56.0M
pleiades24   SYSTEM-F            719K     67.3M 711K        63.5M
pleiades24   SYSTEM-R            288K     18.0M 285K        16.7M
pleiades24   System-A            36.5M    2.28G 36.5M       2.14G
pleiades24   DHCP-client         83.6K    40.7M 37.9K       19.3M
pleiades24   DHCP-server         53.2K    23.0M 31.4K       10.5M
```

vflow-settings-modify

You modify the settings for vFlows to enable User Defined flows and VXLAN analytics.

Syntax `vflow-settings-modify enable-user-defined-flow|no-enable-user-defined-flow vxlan-analytics|no-vxlan-analytics`

`enable-user-defined-flow|no-enable-user-defined-flow`	Enable or disable User defined vflows.
`vxlan-analytics|no-vxlan-analytics`	Enable or disable collecting VXLAN statistics.
`inflight-vxlan-analytics|no-inflight-vxlan-analytics`	Enable or disable inflight VXLAN analytics.

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`longlived-tcp-conn-stats|no-longlived-tcp-conn-stats`	Enable or disable long lived TCP connection stats.

Defaults Both settings are disabled by default.

Access Network Administrator

History

Version 2.5.3	Command introduced.
Version 2.6.2	The parameter, `inflight-vxlan-analytics`, added.
Version 5.1.0	The parameter, `long-lived-tcp-conn-stats`, added.

Usage Use this command to enable or disable user defined vFlows or VXLAN analytics.

Examples To enable VXLAN analytics, use the following syntax:

```
CLI network-admin@switch > vflow-settings-modify  vxlan-analytics
```

vflow-settings-show

You can display the settings for vFlows.

Syntax `vflow-settings-show`

`enable-user-defined-flow|no-enable-user-defined-flow`	Enable or disable User defined vflows.
`vxlan-analytics|no-vxlan-analytics`	Enable or disable collecting VXLAN statistics.
`inflight-vxlan-analytics|no-inflight-vxlan-analytics`	Enable or disable inflight VXLAN analytics.
`longlived-tcp-conn-stats|no-longlived-tcp-conn-stats`	Enable or disable long lived TCP connection stats.

Defaults Both settings are disabled by default.

Access Network Administrator

History

Version 2.5.3	Command introduced.
Version 2.6.2	The parameter, `inflight-vxlan-analytics`, added.

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Version 5.1.0	The parameter, `long-lived-tcp-conn-stats`, added.

Usage Use this command to display information about user defined vFlows or VXLAN analytics.

Examples To display vFlow settings, use the following syntax:

```
CLI network-admin@switch > vflow-settings-show
```

vflow-stats-clear

This command displays flow statistics for Layer 2 Ethernet or Layer 3 Internet Protocol (IP) traffic.

Syntax `vflow-stats-show`

Specify any of the following options:	
`start-time` *`yyyy-mm-ddThh:mm:ss`*	Specify the start time of the flow using the notation yyyymm- ddThh:mm:ss.
`end-time` *`yyyy-mm-ddThh:mm:ss`*	Specify the start time of the flow using the notation yyyymm- ddThh:mm:ss
`dur` *`duration-number`*	Specify the duration of the flow (in seconds).
`interval duration: #d#h#m#s`	Specify the length of time between collection intervals.
`since-start|no-since-start`	Specify if the statistics are collected from the start of the vflow.
`older-than duration: #d#h#m#s`	Specify if the statistics are older than the stated duration.
`within-last duration: #d#h#m#s`	Specify the statistics collected within the last duration.
`name vflow` *`name`*	Specify the name of the vflow.
`Specifyvnet` *`vnet name`*	Specify the VNET.
`id`	Specify the ID assigned.
`pkts` *`pkts-number`*	Specify the total number of packets.

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bytes *bytes-number*	Specify the total number of bytes.
cpu-pkts *cpu-pkts-number*	Specify the total number of CPU packets.
cpu-bytes *cpu-bytes-number*	Specify the total number of CPU bytes.
mismatches *mismatches-number*	Specify the number of mismatched packets.
drops *drops-number*	Specify the number of dropped packets.
drops-bytes *drops-bytes-number*	Specify the number of dropped bytes.
policer-drops *policer-drops-number*	Specify the number of policer dropped packets.
policer-drop-bytes *policer-drop-bytes-number*	Specify the number of policer dropped bytes.
cpu-tx-pkts *cpu-tx-pkts-number*	Specify the number of packets sent from the CPU.
cpu-tx-bytes *cpu-tx-bytes-number*	Specify the number of bytes sent from the CPU.

Defaults None.

Access CLI

History

Version 2.4.0	Command introduced.
Version 2.6.2	The parameters, `policer-drops`, `policer-drop-bytes`, `cpu-tx-pkts`, and `cpu-tx-bytes`, added.

Usage Each fabric, cluster, standalone switch, or virtual network can track application flow statistics. This command clears vflow statistics.

Examples This example shows how to clear vflow statistics:

```
CLI network-admin@switch > vflow-stats-clear
```

vflow-stats-show

This command displays flow statistics for Layer 2 Ethernet or Layer 3 Internet Protocol (IP) traffic.

Syntax `vflow-stats-show`

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Specify any of the following options:	
`start-time` *`yyyy-mm-ddThh:mm:ss`*	Specifies the start time of the flow using the notation yyyymm- ddThh:mm:ss.
`end-time` *`yyyy-mm-ddThh:mm:ss`*	Specifies the start time of the flow using the notation yyyymm- ddThh:mm:ss
`dur` *`duration-number`*	Specifies the duration of the flow (in seconds).
`interval duration: #d#h#m#s`	Specifies the length of time between collection intervals.
`since-start|no-since-start`	Specifies if the statistics are collected from the start of the vflow.
`older-than duration: #d#h#m#s`	Specifies if the statistics are older than the stated duration.
`within-last duration: #d#h#m#s`	Specifies the statistics collected within the last duration.
`name vflow` *`name`*	Specifies the name of the vflow.
`vnet vnet-name`	Specifies the name of the VNET.
`id`	Specifies the ID assigned.

Defaults None.

Access CLI

History .

Version 1.2	Command introduced.
Version 2.4.1	The parameter, `vnet`, added.

Usage Each fabric, cluster, standalone switch, or virtual network can track application flow statistics. This command displays flow statistics.

Examples This example shows how to display flow statistics.

```
CLI network-admin@switch > vflow-stats-show
switch       name                 packets bytes cpu-packets cpu-bytes
------       -----------          ------- ----- ----------- --------
```

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```
pleiades24   IGMP-Flow            1.98M   130M  1.99M       123M
pleiades24   LLDP-Flow            218K    24.2M 218K        23.4M
pleiades24   Host-Agent-Discover  3.92K   251K  0           0
pleiades24   ECP                  0       0     0           0
pleiades24   Fabric-Discovery    282K     159M  273K        157M
pleiades24   SYSTEM-S            777K     60.2M 763K        56.0M
pleiades24   SYSTEM-F            719K     67.3M 711K        63.5M
pleiades24   SYSTEM-R            288K     18.0M 285K        16.7M
pleiades24   System-A            36.5M    2.28G 36.5M       2.14G
pleiades24   DHCP-client         83.6K    40.7M 37.9K       19.3M
pleiades24   DHCP-server         53.2K    23.0M 31.4K       10.5M
```

vflow-stats-settings-modify

This command allows you to modify the settings for collection vFlow statistics.

Syntax `vflow-stats-settings-modify`

`enable|disable`	Specify to enable or disable statistics collection.
`interval duration:`*`#d#h#m#s*	Specify the interval between statistics collection.
`disk-space` *`disk-space-number*	Specify the amount of disk space to reserve for the statistics.

Defaults None

Access CLI

History Command introduced in Version 2.1.

Usage Use this command to modify the setting for statistics collection.

Examples To modify the vFlow statistics disk size to 8G, use the following command:

```
CLI network-admin@switch > vflow-stats-settings-modify disk-space 8g
```

vflow-stats-settings-show

This command allows to display the settings for collection vFlow statistics.

Syntax `vflow-stats-settings-show`

Defaults None

Access CLI

History Command introduced in Version 2.1.

Usage Use this command to display the settings for statistics collection.

Examples To display the vFlow statistics, use the following command:

```
CLI network-admin@switch > vflow-stats-settings-show
```

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```
switch:     pleiades25
enable:     yes
interval:   1m
disk-space: 50M
```

vflow-table-show

This command displays table vFlow statistics for all vFlows.

Syntax `vflow-table-show`

Specify any of the following options:

name *Flow_Name*	Displays the flow name.
id *Flow_ID*	Displays the flow identifier.
[flow-max *flow-max-number*]	Displays the maximum number of entries.
[flow-used *flow-used-number*]	Displays the number of vFlows used.
[flow-tbl-slices *flow-tbl-slices-number*]	Displays the total number of tables for slicing.
capability none|set-metadata|match-metadata	Displays the vFlow table capability.
flow-tbl-bank *flow-tbl-bank-string*	Displays the vFlow table bank.
flow-profile system|application|vxlan|nat|openflow|security|vxlan-encap|ipv4|ipv6|mac|npu-app|MAX	Displays the vFlow profile type.

Defaults None.

Access CLI

History Command introduced in Version 2.3.1.

Usage Each fabric, cluster, standalone switch, or virtual network can track application flow statistics. This command displays flow tables.

Examples This example shows how to display flow tables.

```
CLI network-admin@switch > vflow-table-show
switch       name                 packets bytes cpu-packets cpu-bytes
------       -------------------  ------- ----- ----------- ---------
pleiades24   IGMP-Flow            1.98M   130M  1.99M       123M
pleiades24   LLDP-Flow            218K    24.2M 218K        23.4M
pleiades24   Host-Agent-Discover  3.92K   251K  0           0
pleiades24   ECP                  0       0     0           0
```

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```
pleiades24   Fabric-Discovery    282K     159M  273K        157M
pleiades24   SYSTEM-S            777K     60.2M 763K        56.0M
pleiades24   SYSTEM-F            719K     67.3M 711K        63.5M
pleiades24   SYSTEM-R            288K     18.0M 285K        16.7M
pleiades24   System-A            36.5M    2.28G 36.5M       2.14G
pleiades24   DHCP-client         83.6K    40.7M 37.9K       19.3M
pleiades24   DHCP-server         53.2K    23.0M 31.4K       10.5M
```

vflow-table-profile-modify

This command allows you to modify vFlow IPv6 table profiles.

Syntax `vflow-table-profile-modify`

Specify any of the following options:

`profile application|ipv6|qos`	Specify the profile to modify.
`hw-tbl switch-main|switch-hash| npu-main|npu-hash h`	Specify the hardware table used by the vFlow.
`enable|no-enable`	Specify if you want to enable or disable the vFlow profile table.

Defaults None.

Access CLI

History

Version 2.6.0	Command introduced.
Version 3.0.0	The parameters, `percentage`, `min-percentage`, removed.

Usage This command allows you to modify IPv6 vFlow table profiles .

Examples This example shows how to modify a flow table.

```
CLI network-admin@switch > vflow-table-profile-modify profile ipv6 hw-tbl switch-main percent 20
```

vflow-table-profile-show

Display vFlow table profiles.

Syntax `vflow-table-profile-show`

`profile system|application|ipv6| qos|pbr|MAX`	Displays the type of vFlow profile.
`hw-tbl switch-main|switch-hash|`	Displays the hardware table used by the vFlow profile.

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`npu-main|npu-hash|max`	
`capability none|set-metadata| match-metadata`	Displays the capability assigned to the vFlow profile.
`flow-capacity` *`flow-capacity-number`*	Displays the total capacity assigned to the vFlow profile.
`flow-slices-needed` *`flow-slices-needed-number`*	Displays the number of vFlow slices needed for minimum tables.
`flow-slices-used` *`flow-slices-used-number`*	Displays the number of vFlow slices used in the table.
`actual-percent-used` *`actual-percent-used-number`*	Displays the actual percentage used by the vFlow profile.

Defaults None.

Access CLI

History

Version 2.6.0	Command introduced.
Version 3.0.0	The parameters, `percentage`, `min-percentage`, removed.

Usage Use this command to display information about vFlow tables.

Examples To display vFlow table profiles, use the following syntax:

`CLI network-admin@switch >` `vflow-table-profile-show`

```
switch      profile     hw-tbl      percent min-percent-needed capability flow-
capacity flow-slices-needed
----------- ----------- ----------- ------- ------------------ ----------
------------- ------------------
draco-dev01 system      switch-main 14      14                 none       768
          4
draco-dev01 npu-app     npu-main    100     0                  none       0
            0
draco-dev01 application switch-main 0       4                  none       0
            1
draco-dev01 qos         switch-main 0       8                  none       0
            1
draco-dev01 ipv6        switch-main 0       8                  none       0
            1
draco-dev01 pbr         switch-main 10      0                  none       0
            0
draco-dev02 system      switch-main 14      14                 none       768
          4
draco-dev02 npu-app     npu-main    100     0                  none       0
```

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```
            0
draco-dev02 application switch-main 0       4                   none       0
            1
draco-dev02 qos         switch-main 0       8                   none       0
            1
draco-dev02 ipv6        switch-main 0       8                   none       0
            1
draco-dev02 pbr         switch-main 10      0                   none       0
            0

flow-slices-used
----------------
4
0
0
0
0
0
4
0
0
0
0
0
```

VLAG Commands

vlag-create

To create a new virtual link aggregation group (VLAG), use this command.

> **Informational Note:** Before you configure VLAGs, you must have two switches in a cluster configuration. One switch is the local switch used to specify the local port and the other is a peer switch used to specify the peer port.
>
> A switch can only participate in one cluster.

Syntax `vlag-create name`

`name` *`name-string`*	Specify the name of the VLAG.
`port` *`vlag-usable-port`*	Specify the local VLAG port.
`peer-port vlag-usable-port`	Specify the peer VLAG port.
`mode active-standby| active-active`	Specify the mode for the VLAG. Active-standby indicates one side is active and the other is in standby mode. (Not Supported) Active-Active indicates that both sides of the VLAG are up by default.
`peer-switch` *`fabric-node-name`*	Specify the fabric name of the peer switch.

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`peer-port` *`port-number`*	Specify the port number on the peer switch.
`failover-move-L2|` `failover-ignore-L2`	Specify the failover action as move or ignore.
`lacp-mode off|passive|active`	Specify the LACP mode.
`lacp-timeout slow|fast`	Specify the LACP timeout as slow (30 seconds) or fast (4 seconds).
`lacp-fallback bundle|individual`	Specify the LACP fallback mode as bundle or individual.
`lacp-fallback-timeout` *`seconds`*	Specify the LACP fallback timeout between 30 and 60 seconds. The default value is 50 seconds.
`lacp-port-priority` *`number`*	Specify the LACP port priority as a value between 1 and 65535.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The parameters for `failover` and `LACP` added.
Version 2.2	The parameters for mode `lacp-mode`, `active-standby` and `active-active` added. `Local-port` changed to `port`.
Version 2.2.6	The parameter, port, deprecated. The parameters, `port vlag-usable-port name`, and `peer-port vlag-usable-port name` added.
Version 2.4.0	The parameters, `lacp-fallback` and `lacp-fallback-timeout`, added.
Version 2.5.0	The parameter, `lacp-port-priority`, added.

Usage A virtual link aggregation group (VLAG) allows links that are physically connected to two different Pluribus Networks devices to appear as a single trunk to a third device. The third device can be a switch, server, or any Ethernet device. A VLAG can provide Layer 2 multipathing, which allows you to create redundancy by increasing bandwidth, enabling multiple parallel paths between nodes and loadbalancing traffic where alternative paths exist. This command creates a new VLAG.

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Examples This example shows how to create a VLAG with identifier 1 to aggregate the links connected to port 1 of both the local and peer switch.

```
CLI network-admin@switch > vlag-create id 1 port 1 peer-switch a1634:b
peer-port 1
```

vlag-delete

This command deletes an existing VLAG from the configuration.

Syntax `vlag-delete name name-string`

name *name-string*	Specify the VLAG name.

Defaults None.

Access CLI

History Command introduced in nvOS Version 1.2.1.

Usage A virtual link aggregation group (VLAG) allows links that are physically connected to two different Pluribus Networks devices to appear as a single trunk to a third device. The third device can be a switch, server, or any Ethernet device. A VLAG can provide Layer 2 multipathing, which allows you to create redundancy by increasing bandwidth, enabling multiple parallel paths between nodes and loadbalancing traffic where alternative paths exist. This command deletes a VLAG.

Examples To delete a VLAG with the identifier, 34, use the following command:

```
CLI network-admin@switch > vlag-delete 34
```

vlag-modify

To modify an existing virtual link aggregation group (VLAG), use this command.

Syntax `vlag-modify`

name *name-string*	Specify the name of the VLAG.
port *vlag-usable-port*	Specify the local VLAG port.
peer-port vlag-usable-port	Specify the peer VLAG port.
mode active-standby| active-active	Specify the mode for the VLAG. Active-standby indicates one side is active and the other is in standby mode. (Not Supported) Active-Active indicates that both sides of the VLAG are up by default.
peer-switch *fabric-node-name*	Specify the fabric name of the peer switch.
peer-port *port-number*	Specify the port number on the peer switch.

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`failover-move-L2| failover-ignore-L2`	Specify the failover action as move or ignore.
`lacp-mode off|passive|active`	Specify the LACP mode.
`lacp-timeout slow|fast`	Specify the LACP timeout as slow (30 seconds) or fast (4 seconds).
`lacp-fallback bundle|individual`	Specify the LACP fallback mode as bundle or individual.
`lacp-fallback-timeout` *seconds*	Specify the LACP fallback timeout between 30 and 60 seconds. The default value is 50 seconds.
`lacp-port-priority` *number*	Specify the LACP port priority as a value between 1 and 65535.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The parameters for `failover` and `LACP` added.
Version 2.2	The parameters for mode `lacp-mode`, `active-standby` and `active-active` added. `Local-port` changed to `port`.
Version 2.2.6	The parameter, port, deprecated. The parameters, `port vlag-usable-port name`, and `peer-port vlag-usable-port name` added.
Version 2.4.0	The parameters, `lacp-fallback` and `lacp-fallback-timeout`, added.
Version 2.5.0	The parameter, `lacp-port-priority`, added.

Usage A virtual link aggregation group (VLAG) allows links that are physically connected to two different Pluribus Networks devices to appear as a single trunk to a third device. The third device can be a switch, server, or any Ethernet device. A VLAG can provide Layer 2 multipathing, which allows you to create redundancy by increasing bandwidth, enabling multiple parallel paths between nodes and loadbalancing traffic where alternative paths exist. This command modifies an existing VLAG configuration.

Examples This example shows how to modify a VLAG named spine1-vlag to lacp-timeout fast.

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```
CLI network-admin@switch > vlag-modify name spine1-vlag lacp-timeout
fast
```

vlag-show

This command displays current VLAG configurations on the fabric.

Syntax `vlag-show`

id *vlag-id*	Specifies the VLAG identifier.
name *name-string*	Specifies the name of the VLAG.
cluster *cluster-name*	Specifies the name of the cluster.
mode active-standby| active-active	Specifies the mode for the VLAG. Active-standby indicates one side is active and the other is in standby mode. Active-Active indicates that both sides of the VLAG are up by default.
failover-move-L2|failover-ignore-L2	Specifies the behavior in the event of a failover.
status peer-down|normal	Specifies the status of the VLAG.
local-state enabled|up|coming-up	Specifies the local state of the VLAG.
peer-state enabled|up|coming-up	Specifies the peer state of the VLAG.
lacp-mode off|passive|active	Specifies the LACP mode.
lacp-timeout slow|fast	Specifies the LACP timeout.
lacp-key *lacp-key-number*	Specifies the generated LACP key.
lacp-system-id *lacp-system-id-number*	Specifies the LACP system ID.
lacp-fallback bundle|individual	Specifies the LACP fallback mode as bundle or individual.
lacp-fallback-timeout *seconds*	Specifies the LACP fallback timeout between 30 and 60 seconds. The default value is 50 seconds.

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`lacp-individual` *`port-list`*	Specifies the LACP ports operating individually.
`lacp-port-priority` *`number`*	Specify the LACP port priority as a value between 1 and 65535.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The parameters for `failover` and `LACP` added.
Version 2.2	The parameters for mode `lacp-mode`, `active-standby` and `active-active` added. `Local-port` changed to `port`.
Version 2.2.6	The parameter, port, deprecated. The parameters, `port vlag-usable-port name`, and `peer-port vlag-usable-port name` added.
Version 2.4.0	The parameters, `lacp-fallback` and `lacp-fallback-timeout`, added.
Version 2.5.0	The parameter, `lacp-port-priority`, added.

Usage A virtual link aggregation group (VLAG) allows links that are physically connected to two different Pluribus Networks devices to appear as a single trunk to a third device. The third device can be a switch, server, or any Ethernet device. A VLAG can provide Layer 2 multi-pathing, which allows you to create redundancy by increasing bandwidth, enabling multiple parallel paths between nodes and load-balancing traffic where alternative paths exist.

Examples To display all VLAGs, use the following command:

```
CLI network-admin@switch > vlag-show format all layout vertical
id:               a000030:0
name:             fh2
cluster:          pubdev
mode:             active-active
switch:           pubdev01
port:             55
peer-switch:      pubdev02
peer-port:        55
failover-move-L2: no
status:           normal
local-state:      enabled
lacp-mode:        off
lacp-timeout:     slow
```

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```
lacp-key:         13811
lacp-system-id:   110013777969294
```

vlag-stats-clear

This command is used to clear collected statistics from a VLAG configuration.

Syntax `vlag-stats-clear`

`time date/time: yyyy-mm-ddTHH:mm:ss`	Display by date and time.
`start-time date/time: yyyy-mm-ddTHH:mm:s`	Display by start date and time.
`end-time date/time: yyyy-mm-ddTHH:mm:ss`	Display by end date and time.
`duration duration: #d#h#m#s`	Display by duration.
`interval duration: #d#h#m#s`	Display by interval.
`since-start`	Specify a start time for the statistics.
`older-than duration: #d#h#m#s`	Display statistics older than a specific date.
`within-last duration: #d#h#m#s`	Display statistics within a specific duration.
`tunnel-name` *`tunnel-name`*	Display by tunnel name.
`counter` *`counter-number`*	Displays the number of counters.
`ibytes` *`ibytes-number`*	Displays the number of incoming bytes.
`ibits` *`ibits-number`*	Displays the number of incoming bits.
`iUpkts` *`iUpkts-number`*	Displays the number of incoming Unicast packets.
`iBpkts` *`iBpkts-number`*	Displays the number of incoming Broadcast packets.
`iMpkts` *`iMpkts-number`*	Displays the number of incoming Multicast packets.
`iPauseFs` *`iPauseFs-number`*	Displays the number of incoming Pause frames.
`iCongDrops iCongDrops-number`	Displays the number of incoming packets dropped due to congestion.
`ierrs` *`errs-number`*	Displays the number of incoming packets with errors.
`obytes` *`obytes-number`*	Displays the number of outgoing bytes.
`obits` *`obits-number`*	Displays the number of outgoing bits.
`oUpkts` *`oUpkts-number`*	Displays the number of outgoing Unicast packets.
`oBpkts` *`oBpkts-number`*	Displays the number of outgoing Broadcast packets.
`oMpkts` *`oMpkts-number`*	Displays the number of outgoing Multicast packets.
`oPauseFs` *`oPauseFs-number`*	Displays the number of outgoing Pause frames.
`oCongDrops oCongDrops-number`	Displays the number of outgoing packets dropped due

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	to congestion.
oerrs *oerrs-number*	Displays the number of outgoing packets with errors.
mtu-errs *mtu-errs-number*	Displays the number of MTU errors.
HER-pkts HER-pkts-number	Displays the number of head-end replicated packets.
HER-bytes *HER-bytes-number*	Displays the number of head-end replicated bytes.

Defaults None

Access Network Administrator

History Command introduced in Version 2.6.0.

Usage Use this command to clear statistics about a VLAG configuration.

Examples To clear statistics for a VLAG configuration, use the following syntax:

```
CLI network-admin@switch > vlag-stats-clear
```

vlag-stats-show

This command is used to display information about VLAG statistics.

Syntax `vlag-stats-show`

Specify any of the following options:

time date/time: yyyy-mm-ddThh:mm:ss	Specifies a time for the packet count statistics using the timestamp format YYYY-MM-DDTHH:MM:SS, where: • YYYY specifies the 4 digit calendar year; • MM specifies the 2 digit month of the year; • DD specifies the 2 digit day of the month; • HH specifies the 2 digit time of the day (24H notation); • MM specifies the 2 digit minute of the hour; SS specifies the 2 digit second of the minute
start-time *start-time*	Specifies a start time for the packet count statistics using the timestamp format YYYY-MM-DDTHH:MM:SS, where: • YYYY specifies the 4 digit calendar year; • MM specifies the 2 digit month of the year; • DD specifies the 2 digit day of the month; • HH specifies the 2 digit time of the day (24H notation);

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	• MM specifies the 2 digit minute of the hour; • SS specifies the 2 digit second of the minute.
end-time *end-time*	Specifies an end time for the packet count statistics using the timestamp format YYYY-MM-DDTHH:MM:SS, where: • YYYY specifies the 4 digit calendar year; • MM specifies the 2 digit month of the year; • DD specifies the 2 digit day of the month; • HH specifies the 2 digit time of the day (24H notation); • MM specifies the 2 digit minute of the hour; • SS specifies the 2 digit second of the minute.
duration *duration*	Specifies the duration in seconds.
interval duration: #d#h#m#s	Specifies the interval between statistics collection.
since-start| no-since-start	Specifies if the statistics are collected from the start of collecting statistics.
older-than duration: #d#h#m#s	Specifies if the statistics are older than the duration in days, hours, minutes, and seconds.
within-last duration: #d#h#m#s	Specifies if the statistics are within the duration in days, hours, minutes, and seconds.
vlag_name *name-string*	Specifies the name of the VLAG.
port *port-list*	Specifies one or more switch network data port numbers. The port number must be in the range of 1 to 64. Multiple ports can be specified as a comma-separated list of numbers or a range (-).
counter *counter-number*	Specifies the counter number.
ibytes ibytes-number	Specifies the incoming number of bytes.
ibits *ibits-number*	Displays the number of incoming bits.
iUpkts *iUpkts-number*	Specifies the number of incoming unicast

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	packets.
iBpkts *iBpkts-number*	Specifies the number of incoming broadcast packets.
iMpkts *iMpkts-number*	Specifies the number of incoming multicast packets.
iPauseFs *iPauseFs-number*	Specifies the number of incoming pause frames.
iCongDrops *iCongDrops-number*	Specifies the number of incoming packets dropped due to congestion.
idiscards *idiscards-number*	Specifies the number of incoming packets discarded.
ierrs *ierrs-number*	Specifies the number of incoming errors.
obytes *obytes-number*	Specifies the number of outgoing bytes.
obits *obits-number*	Displays the number of outgoing bits.
oUpkts *oUpkts-number*	Specifies the number of outgoing unicast packets.
oBpkts *oBpkts-number*	Specifies the number of outgoing broadcast packets.
oMpkts *oMpkts-number*	Specifies the number of outgoing multicast packets.
oPauseFs *oPauseFs-number*	Specifies the number of outgoing pause frames.
oCongDrops *oCongDrops*-number	Specifies the number of outgoing packets dropped due to congestion.
odiscards *odiscards-number*	Specifies the number of outgoing discarded packets.
oerrs *oerrs-number*	Specifies the number of outgoing errors.
mtu-errs *mtu-errs-number*	Specifies the number of MTU errors.
HER-packets *HER-pts-number*	Specifies the number of Head End Replicated (HER) packets.

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HER-bytes *HER-bytes-number*	Specifies the number of Head End Replicated (HER) bytes.

Defaults None

Access Network Administrator

History Command introduced in Version 2.6.0.

Usage Use this command to display statistics about a VLAG configuration.

Examples To display statistics for a VLAG configuration, use the following syntax:

```
CLI network-admin@switch > vlag-stats-show
```

VLAN Commands

vlan-create

This command is used to create a new VLAN on the network.

Syntax `vlan-create`

id *vlan-id*	Specify a VLAN identifier for the VLAN. This is a value between 2 and 4092.
range *vlan-list*	Specify a range of VLAN IDs.
vnet *vnet-name*	Specify the VNET assigned to this VLAN.
vxlan *vxlan-id*	Specify the VXLAN mapped to the VLAN for the tunnel.
vxlan-mode standard|transparent	Specify the VXLAN mode as standard or transparent.
replicators vtep-group name|none	Specify the replicator group.
public-vlan *vlan-id*	Specify the ID of the public VLAN.
scope local|cluster|fabric	Specify a scope for the VLAN.
Specify any of the following options:	
description *description-string*	Specify a description for the VLAN.
stats|no-stats	Specify if you want to collect statistics for a VLAN. Statistic collection is enabled by default.

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`ports` *`port-list`*	Specifies the switch network data port number, list of ports, or range of ports. Port numbers must be in the range of 1 to 64.
`untagged-ports` *`untagged-port-list`*	Specifies the ports that should have untagged packets mapped to the VLAN. Untagged packets are packets that do not contain IEEE 802.1Q VLAN tags..

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.2	The parameter, `stats`, added. The scope option, `cluster`, deprecated.
Version 2.3	The parameter, `name`, changed to `description`.
Version 2.4.1	The parameters, `vxlan`, `vxlan-mode`, and `public-vlan`, added. The option, `cluster`, added.
Version 2.5.2	The parameter `vxlan-mode standard| transparent` added.
Version 2.6.2	The parameter, `range`, added.
Version 3.0.0	The parameter, `range`, deprecated. The parameter, `replicators`, added.

Usage VLANs are used to isolate network traffic at Layer 2. Use this command to create a new VLAN.

Informational Note:

The VLAN identifiers 0 and 4095 are reserved and cannot be used per the IEEE 802.1Q standard.

The range of configurable VLAN identifiers is 2 through 4092.

Examples To create a new fabric-wide VLAN with the description, finance VLAN, and an identifier of 7, use the following command:

```
CLI network-admin@switch > vlan-create id 7 description finance-VLAN
scope fabric
```

vlan-delete

This command deletes an existing VLAN.

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Syntax `vlan-delete`

`id` *`vlan-id`*	Specify the VLAN identifier. This is a value between 2 and 4092.
`range` *`vlan-list`*	Specify a range of VLAN IDs.
`vnet` *`vnet-name`*	Specify the VNET assigned to this VLAN.

Defaults None.

Access CLI

History .

Version 1.2	Command introduced.
Version 2.4.1	The parameter, `vnet`, added.
Version 2.6.2	The parameter, `range`, added.

Usage VLANs can be used to isolate network traffic at Layer 2. Use this command to delete an existing VLAN.

Examples To delete a VLAN with the identifier 7, use the following command:

```
CLI network-admin@switch > vlan-delete id 7
```

vlan-modify

This command is used to modify a VLAN or VXLAN on the network.

Syntax `vlan-modify`

`id` *`vlan-id`*	Specify a VLAN identifier for the VLAN. This is a value between 2 and 4092.
`range` *`vlan-list`*	Specify a range of VLAN IDs.
Specify any of the following options:	
`description` *`description-string`*	Specify a description for the VLAN.
`vxlan` *`vxlan-id`*	Specify the VXLAN mapped to the VLAN for the tunnel.
`replicators vtep-group name|none`	Specify the replicator group.
`vnet` *`vnet-name`*	Specify the VNET assigned to this VLAN.
`public-vlan` *`vlan-id`*	Specify the public VLAN for the VNET VLAN.

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Defaults None.

Access CLI

History

Version 2.2.4	Command introduced.
Version 2.4.1	The parameter, `vxlan` and `vnet`, added.
Version 2.6.2	The parameter, `range`, added.
Version 3.0.0	The parameter, `range`, deprecated. The parameter, `replicators`, added.

Usage VLANs are used to isolate network traffic at Layer 2. Use this command to modify a VLAN.

Examples To create a modify a VLAN named finance to the name finance-2, use the following command:

```
CLI network-admin@switch > vlan-modify id 7 name finance-2
```

vlan-show

This command displays a list of existing VLANs or VXLANs on the switch.

Syntax `vlan-show`

`id` *`vlan-id`*	Displays the VLAN ID as a value from 2 to 4092.
`vnet` *`vnet-name`*	Displays the VNET assigned to this VLAN.
`type public|private`	Displays the VLAN type
`vxlan` *`vxlan-id`*	Displays the VXLAN ID.
`vxlan-type user|fabric`	Displays the VXLAN type as user or fabric.
`vxlan-mode standard|transparent`	Displays the VXLAN mode as standard or transparent.
`hw-vpn` *`hw-vpn-number`*	Displays the hardware VPN.
`hw-mcast-group` *`hw-mcast-group-number`*	Displays the hardware multicast group.
`replicators vtep-group name|none`	Displays the replicator group.

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repl-vtep *ip-address*	Displays the replicator VTEP.
public-vlan *vlan-id*	Displays the ID of the public VLAN.
scope local|fabric	Displays the scope of the VLAN.
description *description-string*	Displays a description for the VLAN.
active yes|no	Displays if the VLAN is active on the network.
stats|no-stats	Displays if stats collection is enabled.
vrg *vrg-name*	Displays the name of the VRG assigned to the VLAN.
ports *port-list*	Displays the list of ports assigned to the VLAN.
untagged-ports *port-list*	Displays the list of untagged ports assigned to the VLAN.
active-edge-ports *port-list*	Displays any active edge ports for the VLAN.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.4.1	The parameters, `vnet`, `type`, `vxlan`, `vxlan-mode`, and `public-vlan`, added. The option, `cluster`, added.
Version 2.6.2	The parameter, `range`, added.
Version 3.0.0	The parameter, `range`, deprecated.

Usage VLANs are used to isolate network traffic at Layer 2. Use this command to modify a VLAN.

Examples To display a list of VLANs, use the following command:

```
CLI network-admin@switch > vlan-show
switch:            pubdev03
id:                1
type:              public
scope:             local
```

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```
description:       default-1
active:            yes
stats:             yes
vrg:               0:0
ports:             1-54,57-72,128,255
untagged-ports:    1-54,57-72,128,255
active-edge-ports: 65,128
switch:            pubdev02
id:                1
type:              public
scope:             local
description:       default-1
active:            yes
stats:             yes
vrg:               0:0
ports:             1-8,15-54,57-72,128
untagged-ports:    1-8,15-54,57-72,128
active-edge-ports: 65,128
```

vlan-port-add

This command is used to add a port to an existing VLAN.

Syntax `vlan-port-add`

`vlan-id` *`vlan-id`*	Specifies the identifier of the VLAN in the range from 2 to 4092.
`vlan-range` *`vlan-list`*	Specify the range of VLAN IDs.
`vlan-vnet` *`vnet-name`*	Specify the name of the VNET assigned to the VLAN.
Specify the following port arguments:	
`switch` *`switch-name`*	Specify the name of the switch with the port.
`ports` *`port-list`*	Specifies the switch network data port number, list of ports, or range of ports. Port numbers must be in the range of 1 to 64.
`untagged yes|no`	Specifies if the ports tag packets with the IEEE 802.1Q VLAN header or untagged packets should automatically be mapped to the VLAN. This means that both ingress and egress packets do not contain the 802.1Q VLAN header.

Defaults None.

Access CLI

History

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Version 1.2	Command introduced.
Version 2.4.1	The parameter, `vnet`, added.
Version 3.0.0	The parameter, `vlan-range`, added.

Usage VLANs can be used to isolate network traffic at Layer 2. This command adds a new port to a VLAN.

Examples To add ports 17 and 18 and set them to transmit and receive untagged Ethernet packets on VLAN 7 on VNET finance-1, use the following command:

```
CLI network-admin@switch > vlan-port-add vlan-id 7 vlan-vnet finance-1
ports 17,18 untagged yes
```

vlan-port-remove

This command removes an existing port from a VLAN.

Syntax `vlan-port-remove`

`vlan-id` *`vlan-id`*	Specifies the identifier of the VLAN in the range from 2 to 4092.
`vlan-range` *`vlan-list`*	Specify the range of VLAN IDs.
`vlan-vnet` *`vnet-name`*	Specify the name of the VNET assigned to the VLAN.
Specify the following port arguments:	
`switch` *`switch-name`*	Specify the name of the switch with the port.
`ports` *`port-list`*	Specifies the switch network data port number, list of ports, or range of ports. Port numbers must be in the range of 1 to 64.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.4.1	The parameter, `vnet`, added.
Version 3.0.0	The parameter, `vlan-range`, added.

Usage VLANs can be used to isolate network traffic at Layer 2. This command removes a VLAN port.

Examples To remove ports 17 and 18 from VLAN 7 and VNET, finance-1, use the following command:

```
CLI network-admin@switch > vlan-port-remove vlan-id 7 vnet finance-1
ports 17,18
```

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vlan-stats-show

This command displays traffic statistics per VLAN.

Syntax `vlan-stats-show`

`time date/time: yyyy-mm-ddThh:mm:ss`	Specifies the time for the statistics.
`start-time` *`start-time`*	Specifies the start time for the statistics display using the notation *yyyy-mm-ddThh:mm:ss*.
`end-time` *`end-time`*	Specifies the end time for the statistics display using the notation *yyyy-mm-ddThh:mm:ss.*
`duration duration: #d#h#m#s`	Specify the duration for the traffic statistics.
`interval duration: #d#h#m#s`	Specifies the time interval for the statistics display.
`since-start|no-since-start`	Specifies if the statistics are collected from the start of the VLAN.
`older-than duration: #d#h#m#s`	Specifies if the statistics are older than the stated duration.
`within-last duration: #d#h#m#s`	Specifies the statistics collected within the last duration.
`vlan` *`vlan-id`*	Specify a specific VLAN to display statistics.
`vnet` *`vnet-name`*	Specify a VNET name.
`public-vlan` *`vlan-id`*	Specify a public VLAN ID.
`vxlan` *`vxlan-id`*	Specify a VXLAN ID.
`ibits` *`ibits-number`*	Displays the number of incoming bits for the VLAN.
`obits` *`obits-number`*	Displays the number of outgoing bits for the VLAN.

Defaults None.

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Access CLI

History

Version 1.2	Command introduced.
Version 2.2.3	The parameter, `id`, and `name`, deprecated. The parameters, `duration`, and `interval`, added.
Version 2.4.1	The parameters, `vnet`, `public-vlan`, and `VXLAN` added.
Version 3.0.0	The parameters, `ibits` and `obits`, added.

Usage VLANs can be used to isolate network traffic at Layer 2. This command displays traffic statistics per VLAN.

Examples This example shows how to display traffic statistics logs between the times of 8:00 am and 8:01 am on January 31, 2019.

```
CLI network-admin@switch > vlan-stats-log-show start-time 12:00:00 end-time 12:25:00
```

```
switch:       pleiades24
time:         12:20:42
vlan:         1
ibytes:       546M
ipkts:        1.64M
idrops-bytes: 256
idrops-pkts:  4
obytes:       0
opkts:        0
odrops-bytes: 0
odrops-pkts:  0
switch:       pleiades25
time:         12:20:42
vlan:         100
ibytes:       305M
ipkts:        4.41M
idrops-bytes: 64
idrops-pkts:  1
obytes:       0
opkts:        0
odrops-bytes: 0
odrops-pkts:  0
```

vlan-stats-settings-modify

This command allows you to modify the settings for collection of VLAN statistics.

Syntax `vlan-stats-settings-modify`

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Specify one or more of the following options:

`enable|disable`	Specify to enable or disable statistics collection.
`interval duration:`*`#d#h#m#s*	Specify the interval between statistics collection.
`disk-space` *`disk-space-number`*	Specify the amount of disk space to reserve for the statistics.

Defaults None.

Access CLI

History Command introduced in Version 2.1.

Usage Use this command to modify the setting for statistics collection.

Examples To modify the VLAN statistics disk size to 8G, use the following command:

```
CLI network-admin@switch > vlan-stats-settings-modify  disk-space  8g
```

vlan-stats-settings-show

This command allows to display the settings for collecting VLAN statistics.

Syntax `vlan-stats-settings-show`

Defaults None.

Access CLI

History Command introduced in Version 2.1..

Usage Use this command to display the settings for statistics collection.

Examples To display the VLAN statistics settings, use the following command:

```
CLI network-admin@switch > vlan-stats-settings-show
switch:     pleiades25
enable:     yes
interval:   1m
disk-space: 50M
```

Virtual Link Extension Commands

vle-create

This command creates virtual link extension tracking. You can execute this command from any fabric node to create a virtual link extension between any two switches in the fabric and ports on the same switch.

Syntax `vle-create`

`name` *`name-string`*	Specify the name of the VLE.

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node1 *fabric-node name*	Specify the name of VLE node 1.
node-2 *fabric-node name*	Specify the name of VLE node 2.
node-1-port *node-1-port-number*	Specify the name of the node-1 port that is part of VLE.
node-2-port *node-2-port-number*	Specify the name of the node-2 port that is part of VLE.
[tracking|no-tracking]	Enable or disable tracking between VLE ports.

Defaults None.

Access CLI

History Command introduced in Version 2.5.4.

Usage

Provides a mechanism for link state tracking between two ports of two switches in the same fabric for Virtual Link Extension (VLE). When a VLE is created between two physical ports of two switches, the VLE remains up as long as both physical ports are in the state link up.

When VLE tracking is created on a trunk port, the VLE stays up as long as at least one port in the trunk is link up and the remote port is also up. When the last trunk member goes link down, the VLE is brought down. When you configure VLE tracking on a trunk port, you cannot configure tracking on individual trunk members.

VLE tracking helps achieve VLE high availability on Netvisor nodes and avoid the need on the client side to run LACP for link up/down detection.

Examples This example shows how create virtual link extension tracking between two ports of two switches with tracking enabled.

```
CLI network-admin@switch > vle-create name myvle node-1 myfabric node-1-port 56 node-2 yourfabric node-2-port 66 tracking
```

vle-delete

This command deletes virtual link extension tracking. You can execute this command from any fabric node to delete a virtual link extension between any two switches in the fabric.

Syntax `vle-delete name name-string`

name *name-string*	Specify the name of the VLE to delete.

Defaults None.

Access CLI

History Command introduced in Version 2.5.4.

Usage

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Provides a mechanism for link state tracking between two ports of two switches in the same fabric for Virtual Link Extension (VLE). When a VLE is created between two physical ports of two switches, the VLE remains up as long as both physical ports are in the state link up.

When VLE tracking is created on a trunk port, the VLE stays up as long as at least one port in the trunk is link up and the remote port is also up. When the last trunk member goes link down, the VLE is brought down. When you configure VLE tracking on a trunk port, you cannot configure tracking on individual trunk members.

VLE tracking helps achieve VLE high availability on Netvisor nodes and avoid the need on the client side to run LACP for link up/down detection.

Examples This example shows how to delete the VLE named myvle.

```
CLI network-admin@switch > vle-delete name myvle
```

vle-modify

This command enables or disables tracking between existing VLE ports.

Syntax `vle-modify name name-string node1 tracking|no-tracking`

`name name-string`	Specify the name of the VLE you want to modify.
`tracking|no-tracking`	Enable or disable tracking between VLE ports.

Defaults None.

Access CLI

History Command introduced in Version 2.5.4.

Usage

Provides a mechanism for link state tracking between two ports of two switches in the same fabric for Virtual Link Extension (VLE). When a VLE is created between two physical ports of two switches, the VLE remains up as long as both physical ports are in the state link up.

When VLE tracking is created on a trunk port, the VLE stays up as long as at least one port in the trunk is link up and the remote port is also up. When the last trunk member goes link down, the VLE is brought down. When you configure VLE tracking on a trunk port, you cannot configure tracking on individual trunk members.

VLE tracking helps achieve VLE high availability on Netvisor nodes and avoid the need on the client side to run LACP for link up/down detection.

Examples This example shows how enable tracking on an existing VLE port myvle.

```
CLI network-admin@switch > vle-modify name myvle tracking
```

vle-show

This command displays a virtual link extension status

Syntax `vle-show`

`vle-name name-string`	Displays the virtual link extension

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id	Displays the ID assigned to the VLE.
node-1 fabric-node name	Displays the name of VLE node 1.
node-2 fabric-node name	Displays the name of VLE node 2.
node-1-port node-1-port-number	Displays the node-1 port that is part of VLE.
node-2-port node-2-port-number	Displays the node-2 port that is part of VLE.
status unknown|remote-down| local-down|up|down	Displays the VLE status.
tracking|no-tracking	Displays tracking status as enabled or disabled.

Defaults None.

Access CLI

History Command introduced in Version 2.5.4.

Usage

Provides a mechanism for link state tracking between two ports of two switches in the same fabric for Virtual Link Extension (VLE). When a VLE is created between two physical ports of two switches, the VLE remains up as long as both physical ports are in the state link up.

When VLE tracking is created on a trunk port, the VLE stays up as long as at least one port in the trunk is link up and the remote port is also up. When the last trunk member goes link down, the VLE is brought down. When you configure VLE tracking on a trunk port, you cannot configure tracking on individual trunk members.

VLE tracking helps achieve VLE high availability on Netvisor nodes and avoid the need on the client side to run LACP for link up/down detection.

Examples To display virtual link extension status, use this command:

```
CLI network-admin@switch > vle-show
name       node-1   node-2   node-1-port node-2-port status tracking
---------- -------- -------- ----------- ----------- ------ --------
Test1       mynode1 mynode2   11           11          up     yes
```

vle-transparent-modify

This command modifies the VLE error transparent mode.

Syntax `vle-transparent-modify`

mode enable|disable	Enable or disable VLE error transparent mode across the fabric.

Defaults None.

Access CLI

History Command introduced in Version 5.2.0.

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Usage

Enabling error transparency allows the VLE tunnel to transparently pass frames with CRC errors and runt traffic with size of 50 bytes.

Examples This example shows how to enable VLE error transparent mode on the fabric.

```
CLI network-admin@switch > vle-transparent-modify  enable
```

vle-transparent-show

This command displays the fabric VLE error transparent mode.

Syntax `vle-transparent-show`

Defaults None.

Access CLI

History Command introduced in Version 5.2.0.

Usage

Enabling error transparency allows the VLE tunnel to transparently pass frames with CRC errors and runt traffic with size of 50 bytes. This command displays the mode of the VLE tunnel transparent mode, i.e., it show if the functionality is enabled or disabled.

Examples This example command shows that the VLE error transparent mode is currently enabled on the fabric.

```
CLI network-admin@switch > vle-transparent-show
fabric: Transparent VLE mode is enabled
```

vle-transparent-port-add

This command adds local ports to VLE error transparent mode.

Syntax `vle-transparent-port-add`

`port` *`port-list`*	Specify the ports to be added to VLE error transparent mode.

Defaults None.

Access CLI

History Command introduced in Version 5.2.0.

Usage

Enabling error transparency allows the VLE tunnel to transparently pass frames with CRC errors and runt traffic with size of 50 bytes. This command adds local ports to the VLE error transparent mode.

Examples This example adds local ports 17 and 18 VLE error transparent mode.

```
CLI network-admin@switch > vle-transparent-port-add  port  17,18
```

vle-transparent-port-remove

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This command remove local ports from VLE error transparent mode.

Syntax `vle-transparent-port-add`

`port` *`port-list`*	Specify the ports to be removed from VLE error transparent mode.

Defaults None.

Access CLI

History Command introduced in Version 5.2.0.

Usage

Enabling error transparency allows the VLE tunnel to transparently pass frames with CRC errors and runt traffic with size of 50 bytes. This command removes local ports from VLE error transparent mode.

Examples This example command removes local ports 20 and 21 from VLE error transparent mode.

```
CLI network-admin@switch > vle-transparent-port-remove port 20,21
```

vle-transparent-port-show

This command displays the local ports removed from VLE error transparent mode.

Syntax `vle-transparent-port-show`

Defaults None.

Access CLI

History Command introduced in Version 5.2.0.

Usage

Enabling error transparency allows the VLE tunnel to transparently pass frames with CRC errors and runt traffic with size of 50 bytes. This command displays the local ports that are removed from VLE error transparent mode.

Examples This example command shows the ports removed from VLE error transparent mode on the local switch. Currently there are none.

```
CLI network-admin@switch1 > vle-transparent-port-show

switch: switch1

switch1: ports removed from VLE transparent mode: none
```

Virtual Network Commands

vnet-cli-alias-add

You use this command to add an alias for a group of commands.

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Syntax `vnet-cli-alias-add`

`vnet-name` *`name-string`*	Specify the VNET name.
`name name-string`	Specify a name for the alias.
`command` *`command-string`*	Specify command to add to the alias.
`description` *`description-string`*	Specify a description of the alias.

Defaults None

Access Network Administrator

History Command introduced in Version 3.1.0.

Usage Use the command to add an alias to the CLI.

Examples To create an alias, use the following syntax:

```
CLI network-admin@switch > vnet-cli-alias-add
```

vnet-cli-alias-remove

You use this command to remove an alias for a group of commands.

Syntax `vnet-cli-alias-remove`

`vnet-name` *`name-string`*	Specify the VNET name.
`name name-string`	Specify a name for the alias.
`command` *`command-string`*	Specify command to add to the alias.
`description` *`description-string`*	Specify a description of the alias.

Defaults None

Access Network Administrator

History Command introduced in Version 3.1.0.

Usage Use the command to remove an alias from the CLI.

Examples To remove an alias, use the following syntax:

```
CLI network-admin@switch > vnet-cli-alias-remove
```

vnet-cli-alias-modify

You use this command to add an alias for a group of commands.

Syntax `vnet-cli-alias-modify`

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vnet-name *name-string*	Specify the VNET name.
name name-string	Specify a name for the alias.
command *command-string*	Specify command to add to the alias.
description *description-string*	Specify a description of the alias.

Defaults None

Access Network Administrator

History Command introduced in Version 3.1.0.

Usage Use the command to modify an alias in the CLI.

Examples To modify an alias, use the following syntax:

```
CLI network-admin@switch > vnet-cli-alias-modify
```

vnet-cli-alias-show

You use this command to display an alias for a group of commands.

Syntax vnet-cli-alias-show

vnet-name *name-string*	Specify the VNET name.
name name-string	Specify a name for the alias.
command *command-string*	Specify command to add to the alias.
description *description-string*	Specify a description of the alias.

Defaults None

Access Network Administrator

History Command introduced in Version 3.1.0.

Usage Use the command to display an alias in the CLI.

Examples To display an alias, use the following syntax:

```
CLI network-admin@switch > vnet-cli-alias-show
```

vnet-create

This command creates a new virtual network (VNET) for a fabric, cluster, or standalone switch.

Syntax vnet-create name

name *name-string*	Specify the name of the virtual network (VNET).

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`scope local|fabric`	Specify the scope of the virtual network (VNET)
Specify one or more of the following options:	
`vrg` *`vrg-name`*	Specify the name of the virtual resource group (VRG).
`vlan-type public|private`	Specify the type of VLAN used by the VNET.
`num-vlans` *`number`*	Specify the number of VLANs to assign to the VNET. Using this parameter allows you to assign a group of VLANs rather than specific VLANs.
`vlans` *`vlan-list`*	Specify the list of VLANs to assign to the VNET. You can specify a list or range of VLANs that the VNET assigns to VNET interfaces.
`num-private-vlans` *`number`*	Specify the number of private VLANs that the VNET administrator can create for the VNET. This is a number between 1 and 4094.
`vxlans` *`vxlan-id`*	Specify the VLXN ID assigned to the VNET.
`vxlan-end` *`vxlan-id`*	Specify the last VXLAN ID assigned to the VNET.
`managed-ports` *`port-list`*	Specify the list of managed ports on the VNET.
`shared-ports` *`port-list`*	Specify the shared ports for the VNET.
`shared-port-vlans` *`vlan-list`*	Displays VLANs on the shared ports.
`config-admin|` `no-config-admin`	Specify an administrator for the VNET. This is optional.
`admin` *`user-name`*	Specify the user name for the admin role.
`create-vnet-mgr|` `no-create-vnet-mgr`	Specify if you want to create or not create a VNET manager.
`vnet-mgr-name` *`name-string`*	Specify the name of the VNET manager. If you don't specify a name, one is automatically configured.
`vnet-mgr-storage-pool` *`storage-pool-name`*	Specify the storage pool for the VNET.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The parameter, `config-admin`, added.
Version 2.4.1	The parameters, `num-private-vlans`, `vxlans`, and `vxlan-end` added.
Version 2.5.4	The parameter, `create-vnet-mgr|` `no-create-vnet-mgr` was added.
Version 3.1.0	The parameter, `shared-port-vlans`, added.

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Usage A fabric, cluster, or standalone switch can be virtualized into tenant networks called virtual networks (VNETs). This command creates a new VNET.

Examples This example shows how to create a fabric-wide virtual network (VNET) named MyVMotionVNET.

```
CLI network-admin@switch > vnet-create name MyVMotionVNET scope fabric
vlan 777 ports 35-37
```

vnet-delete

This command is used to delete an existing VNET from the configuration on the switch.

Syntax `vnet-delete name name-string`

name *name-string*	Specify the name of the VNET to delete.

Defaults None.

Access CLI

History Command introduced in nvOS Version 1.2.1.

Usage A fabric, cluster, or standalone switch can be virtualized into tenant networks called virtual networks (VNETs). This command deletes a VNET.

Examples To delete a fabric-wide virtual network (VNET) named `MyVMotionVNET`, use the following command:

```
CLI network-admin@switch > vnet-delete name MyVMotionVNET
```

vnet-modify

This command is used to modify an existing VNET on the configuration on the switch.

Syntax `vnet-modify`

name *name-string*	Specify the name of the VNET to modify.
vlans *vlan-list*	Specify the list of VLANs to modify.
managed-ports *port-list*	Specify the list of managed ports on the VNET.
num-private-vlans *number*	Specify the number of private VLANs that the VNET administrator can create for the VNET. This is a number between 1 and 4094.
public-vlans *vlan-list*	Specify the public VLANs assigned to the private VLAN VNET.
vxlans *vxlan-id*	Specify the VLXN ID assigned to the VNET.
vxlan-end *vxlan-id*	Specify the last VXLAN ID assigned to the VNET.
shared-ports *port-list*	Specify the shared ports for the VNET.
shared-port-vlans *vlan-list*	Displays VLANs on the shared ports.

Defaults None.

Access CLI

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History

Version 1.2	Command introduced.
Version 2.1	The parameter, `vrg`, is deprecated.
Version 2.4.1	The parameters, `num-private-vlans`, `vxlans`, and `vxlan-end` added.
Version 2.5	The parameter, `public-vlans`, added.
Version 3.1.0	The parameter, `shared-port-vlans`, added.

Usage A fabric, cluster, or standalone switch can be virtualized into tenant networks called virtual networks (VNETs). This command deletes a VNET.

Examples To modify a fabric-wide virtual network (VNET) named `MyVMotionVNET`, and modify the VLANs to the range, `11-15`, use the following command:

```
CLI network-admin@switch > vnet-modify name MyVMotionVNET vlans 11-15
```

vnet-show

This command is used to display information about VNETs configured on the switch

Syntax `vnet-show`

`id` *`id-num`*	Displays the identifier of the VNET.
`name` *`name-string`*	Displays the name of the virtual network (VNET).
`scope local|fabric`	Displays the scope of the virtual network (VNET)
`vrg` *`vrg-name`*	Displays the name of the virtual resource group (VRG).
`vlan-type public|private`	Displays the type of VLAN for the VNET.
`num-vlans` *`number`*	Displays the number of VLANs assigned to the VNET.
`vlans` *`vlan-list`*	Displays the list of VLANs assigned to the VNET.
`num-private-vlans` *`number`*	Displays the number of private VLANs that the VNET administrator can create for the VNET. This is a number between 1 and 4094.
`public-vlans` *`vlan-list`*	Displays the public VLANs assigned to the private VLAN VNET.
`vxlans` *`vxlan-id`*	Displays the VLXN ID assigned to the VNET.
`vxlan-end` *`vxlan-id`*	Displays the last VXLAN ID assigned to the VNET.
`managed-ports` *`port-list`*	Displays the list of managed ports on the VNET.
`shared-ports` *`port-list`*	Displays the shared ports for the VNET.
`shared-port-vlans` *`vlan-list`*	Displays VLANs on the shared ports.
`ports` *`port-list`*	Displays the ports for the VNET.

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admin *user-name*	Displays the user name for the admin role.
vnet-mgr-name *name-string*	Displays the name of the VNET manager.
vnet-mgr-storage-pool *storage-pool-name*	Displays the storage pool for the VNET.
vnet-mgr-id	Displays the VNET manager identifier.
vnet-mgr-zone-id	Displays the VNET manager zone identifier.
vnet-mgr-location *location-number*	Displays the VNET manager location identifier.
vrg-created-by-vnet true|false	Displays if the VRG was created by the VNET.
global true|false	Displays if the VNET is global or not.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The parameter, `global`, added.
Version 2.5	The parameter, `public-vlans`, `vlan-type`, and `shared-ports`, added.
Version 3.1.0	The parameter, `shared-port-vlans`, added.

Usage A fabric, cluster, or standalone switch can be virtualized into tenant networks called virtual networks (VNETs). This command displays information about a VNET.

Examples To display information about all VNETs, use the following command:

```
vnet-show layout vertical
switch:                 pleiades24
name:                   red-os
scope:                  fabric
vlans:                  66-67,69
managed-ports:          none
admin:                  red-os-admin
vnet-mgr-name:          red-os-mgr
switch:                 pleiades24
name:                   tester-1
scope:                  fabric
vlans:                  10
managed-ports:          65-69
admin:                  tester-1-admin
vnet-mgr-name:          tester-1-mgr
switch:                 mitch-aquila2
name:                   tp-lab-global
scope:                  fabric
vlans:                  none
managed-ports:          none
```

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vnet-manager-create

This command creates additional VNET manager zones.

Syntax `vnet-manager-create`

name *name-string*	Specify the name of service configuration.
vnet *vnet name*	Specify the VNET assigned to the service.
Specify one or more of the following options:	
disable|enable	Specify the state of the service.
location *fabric-node name*	Specify the location of the service.
storage-pool storage-pool name	Specify the storage pool assigned to the service.

Defaults None.

Access CLI

History Command introduced in Version 2.5.4.

Usage VNET HA provides high availability for switch access through a VNET manager. The VNET manager is a zone, typically with one IP interface, allows a VNET administrator to log into and administer a VNET using the CLI or a REST API. HA functionality is provided by allowing you to create multiple VNET managers. Access to the VNET managers is enabled when you add either standard or VRRP VIP interfaces to the VNET managers.

CLI network-admin@switch >

vnet-manager-delete

This command deletes a VNET Manager zone.

Syntax `vnet-manager-delete name name-string`

name *name-string*	Specify the name of VNET you want to delete.

Defaults None.

Access CLI

History Command introduced in Version 2.5.4

Usage VNET HA provides high availability for switch access through a VNET manager. The VNET manager is a zone, typically with one IP interface, allows a VNET administrator to log into and administer a VNET using the CLI or a REST API. HA functionality is provided by allowing you to create multiple VNET managers. Access to the VNET managers is enabled when you add either standard or VRRP VIP interfaces to the VNET managers.

vnet-manager-migrate

This command is used to migrate a vitrual network (VNET) manager from one location to another.

Syntax `vnet-manager-migrate`

name *name-string*	Specify the name of the VNET manager.

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Specify one or both of the following options:	
`location` *`fabric-node-name`*	Specify the location name.
`storage-pool` *`storage-pool-name`*	Specify the storage pool name.

Defaults None.

Access CLI

History Command introduced in nvOS Version 1.2.1.

Usage A virtual network manager (VNET manager) can administer a virtual network (VNET) but the same management abstraction can also be used to administer a fabric, cluster, or standalone switch. This command migrates a VNET managers in a fabric to a storage pool.

Examples To migrate the VNET manager, MyVNET, to storage pool, keep-all, use the following command:

```
CLI network-admin@switch > vnet-manager-migrate MyVNET location net-
fabric storage-pool keep-all
```

vnet-manager-modify

This command is used to modify an existing virtual network (VNET) manager configuration.

Syntax `vnet-manager-modify`

`name` *`name-string`*	Specify the name of the VNET manager.
Specify one or more of the following options:	
`disable|enable`	Specify if you want to disable or enable the VNET manager.
`location` *`fabric-node name`*	Specify the location of the service.
`storage-pool storage-pool name`	Specify the storage pool assigned to the service.
`gateway` *`ip-address`*	Specify the gateway IP address.

Defaults None.

Access CLI

History Command introduced in nvOS Version 1.2.1.

Usage A virtual network manager (VNET manager) can administer a virtual network (VNET) but the same management abstraction can also be used to administer a fabric, cluster, or standalone switch. This command modifies a VNET manager configuration.

Examples To disable the VNET manager, MyVNET, use the following option:

```
CLI network-admin@switch > vnet-manager-modify MyVNET disable
```

vnet-manager-show

This command is used to display information about an existing virtual network (VNET) manager configuration.

Syntax `vnet-manager-show`

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name *name-string*	Specifies the name of the VNET manager.
type vnet-mgr|vrouter|vlb| dhcp|dns|netzone|ofpd| orphaned|netvm|nat|openstack|netvmm|ovs	Specifies the type of VNET manager service.
scope loca|fabric	Specifies the scope of the VNET manager.
vnet *vnet-name*	Specifies the name of the VNET.
is-global true|false	Specifies if the service is global or not.
location fabric-node *name*	Specifies the location of the VNET manager.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The options, `openstack` and `netvmm`, added to the parameter type. The parameter, `location`, added.

Usage A virtual network manager (VNET manager) can administer a virtual network (VNET) but the same management abstraction can also be used to administer a fabric, cluster, or standalone switch. This command displays information about a VNET manager configuration.

Examples To display the VNET manager, MyVNET, with the `layout` option `vertical`, use the following option:

```
CLI network-admin@switch > vnet-manager-show MyVNET layout vertical
name:                   myVNET
type:                   vnet-mgr
scope:                  fabric
vnet:                   ops-mgmt
vnet-service:           shared
state:                  enabled
gateway:                10.1.1.1
switch:                 pleiades34
```

vnet-manager-interface-add

To create a new virtual network manager interface (VNET manager) for a fabric, cluster, standalone switch, or virtual network, use the `vnet-manager-create` command.

Syntax `vnet-manager-interface-add`

vnet-manager-name *name-string*	Specify the name for the VNET manager interface.
Specify the following parameter:	
vlan *vlan-id*	Specify the VLAN identifier. This is a value between 1 and 4094.
Specify any of the following options:	
ip *ip-address*	Specify the IP address of the interface.
netmask *netmask*	Specify the netmask.

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`assignment none|dhcp|dhcpv6`	Specify the DHCP method to assign the IP address.
`vnet` *`vnet-name`*	Specify the VNET for the interface.
`vlan-type public|private`	Specify the VLAN type as public or private.
`vxlan` *`vxlan-id`*	Specify the VXLAN identifier. This is a value between 0 and 16777215.
`if mgmt|data|span`	Specify if the interface is a management, data or span interface.
`alias-on` *`alias-on-string`*	Specify an alias for the interface.
`exclusive|` `no-exclusive`	Specify if the interface is exclusive to the configuration. Exclusive means that other configurations cannot use the interface.
`nic-enable|` `nic-disable`	Specify if the NIC is enabled or disabled.
`vrrp-primary` *`vrrp-primary-string`*	Specify the VRRP primary interface.
`vrrp-priority` *`number`*	Specify the VRRP priority for the interface. Range is 0 - 254.
`vrrp-adv-int` *`ms`*	Specify the VRRP Advertisement Interval. In ms, min 10, max 40950, default 1000.
`vrrp-primary` *`vrrp-primary-string`*	Specify the VRRP primary interface.
`secondary-macs` *`secondary-macs-string`*	Specify a secondary MAC address.
`sriov-vf|no-sriov-vf`	Specify a VNIC.
`mirror-traffic true|false`	Specify to mirror a physical NIC traffic to VNIC.
`if-nat-realm internal|external`	Specify a NAT realm interface as internal or external.
`priority-tag|` `no-priority-tag`	Specify if you want to add a VLAN 0 priority tag on forwarded traffic.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The parameters, `exclusive` and `nic`, added.
Version 2.2.5	The parameters, `l3-port`, and `secondary-macs`, added.
Version 2.3.1	The option, `autov6`, added.
Version 2.4	The parameter, `l3-port`, deprecated.
Version 2.4.1	The parameter, `vlan-type`, added.

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Version 2.5	The parameters, `vnet` and `sriov-vf`, added.
Version 2.5.4	The parameters, `vrrp-id`, `vrrp primary`, `vrrp priority`, and `vrrp-adv-int` added.
Version 2.6.2	The parameter, `if-nat-realm`, added.
Version 3.1.0	The parameter, `priority-tag`, added.

Usage A virtual network manager interface (VNET manager) can administer a virtual network (VNET) but the same management abstraction can also be used to administer a fabric, cluster, or standalone switch. This command creates a new VNET manager interface.

Examples To add a VNET manager interface named, MyVNETmgr, with the IP address, 192.168.11.21 netmask 32, use this command:

```
CLI network-admin@switch > vnet-manager-interface MyVNETmgr ip
192.168.11.21 netmask 32
```

To create VRRP interfaces on VNET manager zones, use this command:

```
CLI network-admin@switch > vnet-manager-interface-add vnet-manager-name
name-string [vrrp-id 0,,255][vrrp-primary vrrp-primary-string][vrrp-
priorty 0..254][vrrp-ad-int 10..40950]
```

vnet-manager-interface-modify

To modify a virtual network manager interface (VNET manager) for a fabric, cluster, standalone switch, or virtual network, use the `vnet-manager-create` command.

Syntax `vnet-manager-interface-add`

`vnet-manager-name` *`name-string`*	Specify the name for the VNET manager interface.
Specify the following interface arguments:	
`nic` *`nic-string`*	Specify the NIC to modify.
Specify any of the following options:	
`ip` *`ip-address`*	Specify the IP address of the interface.
`netmask` *`netmask`*	Specify the netmask.
`assignment none|dhcp|dhcpv6|autov6`	Specify the DHCP method.
`vnet` *`vnet-name`*	Specify the VNET for the interface.
`vlan-type public|private`	Specify the VLAN type as public or private.
`vlan` *`vlan-id`*	Specify the VLAN identifier. This is a value between 1 and 4094.
`vxlan` *`vxlan-id`*	Specify the VXLAN identifier. This is a value between 0 and 16777215.
`if mgmt|data|span`	Specify if the interface is a management, data or span interface.
`alias-on` *`alias-on-string`*	Specify an alias for the interface.

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`exclusive|no-exclusive`	Specify if the interface is exclusive to the configuration. Exclusive means that other configurations cannot use the interface.
`nic-enable|nic-disable`	Specify if the NIC is enabled or disabled.
`vrrp-primary` *`vrrp-primary-string`*	Specify the VRRP primary interface.
`vrrp-priority` *`number`*	Specify the VRRP priority for the interface. Range is 0 - 254.
`vrrp-adv-int` *`ms`*	Specify the VRRP Advertisement Interval. In ms, min 10, max 40950, default 1000.
`vrrp-primary` *`vrrp-primary-string`*	Specify the VRRP primary interface.
`secondary-macs` *`secondary-macs-string`*	Specify a secondary MAC address.
`sriov-vf|no-sriov-vf`	Specify a VNIC.
`mirror-traffic true|false`	Specify to mirror a physical NIC traffic to VNIC.
`if-nat-realm internal|external`	Specify a NAT realm interface as internal or external.
`priority-tag|no-priority-tag`	Specify if you want to add a VLAN 0 priority tag on forwarded traffic.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The parameters, `exclusive` and `nic`, added.
Version 2.2.5	The parameters, `l3-port`, and `secondary-macs`, added.
Version 2.3.1	The option, `autov6`, added.
Version 2.4	The parameter, `l3-port`, deprecated.
Version 2.4.1	The parameter, `vlan-type`, added.
Version 2.5	The parameters, `vnet` and `sriov-vf`, added.
Version 2.5.4	The parameters, `vrrp-id`, `vrrp primary`, `vrrp priority`, and `vrrp-adv-int` added.
Version 2.6.2	The parameter, `if-nat-realm`, added.
Version 3.1.0	The parameter, `priority-tag`, added.

Usage A virtual network manager interface (VNET manager) can administer a virtual network (VNET) but the same management abstraction can also be used to administer a fabric, cluster, or standalone switch. This command modifies a VNET manager interface.

Examples To modify a VNET manager interface named, MyVNETmgr, with the IP address, 192.168.11.21 netmask 32 to VLAN 16, use the following command:

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```
CLI network-admin@switch > vnet-manager-interface MyVNETmgr ip
192.168.11.21 netmask 32 vlan 16
```

To create VRRP interfaces on VNET manager zones, use this command:

```
CLI network-admin@switch > vnet-manager-interface-add vnet-manager-name
name-string [vrrp-id 0,,255][vrrp-primary vrrp-primary-string][vrrp-priorty
0..254][vrrp-ad-int 10..40950]
```

vnet-manager-interface-remove

This command is used to remove a virtual network (VNET) manager interface from the configuration.

Syntax `vnet-manager-interface-remove vnet-manager-name` *`name-string`* `nic nic-string`

`vnet-manager-name` *`name-string`*	Specify the name of the VNET manager interface to remove.
Specify the following interface arguments:	
`nic` *`nic-string`*	Specify the NIC to remove.

Defaults None.

Access CLI

History Command introduced in nvOS Version 1.2.1.

Usage

A virtual network manager interface (VNET manager) can administer a virtual network (VNET) but the same management abstraction can also be used to administer a fabric, cluster, or standalone switch. This command removes a VNET manager interface.

Examples

To remove the VNET manager interface, MyVNETmgr, use the following command:

```
CLI network-admin@switch > vnet-manager-interface-remove name MyVNETmgr
nic eth0.3
```

vnet-manager-interface-show

This command is used to display information about configured virtual network (VNET) manager interfaces.

Syntax `vnet-manager-interface-show`

`vnet-manager-name` *`name-string`*	Specifies the name for the VNET manager interface.
Specify the following interface arguments:	
`nic` *`nic-string`*	Specifies the NIC of the interface.
`ip` *`ip-address`*	Specifies the IP address of the interface.
`netmask` *`netmask`*	Specifies the netmask.
`assignment none|dhcp|dhcpv6|autov6`	Specifies the DHCP method.

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mac *mac-address*	Specifies the MAC address of the interface.
vnet *vnet-name*	Specifies the name of the VNET.
vlan *vlan-id*	Specifies the VLAN identifier. This is a value between 1 and 4094.
vlan-type public|private	Specifies the VLAN type as public or private.
if mgmt|data|span	Specifies if the interface is a management, data or span interface.
alias-on *alias-on-string*	Specifies an alias for the interface.
vm-nic-type e1000|virtio	Specifies the type of virtual NIC.
exclusive| no-exclusive	Specifies if the interface is exclusive to the configuration. Exclusive means that other configurations cannot use the interface.
nic-enable| nic-disable	Specifies if the NIC is enabled or disabled.
nic-state down|up	Specifies if the NIC state is up or down. If the NIC is disabled, then the state is down.
vrrp-id *id*	Specify the ID assigned to VRRP. Range is 0 - 255.
vrrp-primary *vrrp-primary-string*	Specify the VRRP primary interface.
vrrp-priority *number*	Specify the VRRP priority for the interface. Range is 0 - 254.
vrrp-adv-int *ms*	Specify the VRRP Advertisement Interval. In ms, min 10, max 40950, default 1000.
secondary-macs *secondary-macs-string*	Specifies a secondary MAC address.
if-nat-realm internal|external	Specify a NAT realm interface as internal or external.
priority-tag| no-priority-tag	Specify if you want to add a VLAN 0 priority tag on forwarded traffic.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The parameters, `exclusive`, `nic`, and `nic-state`, added.
Version 2.2.5	The parameters, `l3-port`, and `secondary-macs`, added.
Version 2.3.1	The option, `autov6`, added.
Version 2.4	The parameter, `l3-port`, deprecated.
Version 2.4.1	The parameter, `vlan-type`, `vnet`, and `public-`

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	vlan, added.
Version 2.5	The parameters, vnet and sriov-vf, added.
Version 2.5.4	The parameters, vrrp-id, vrrp primary, vrrp priority, and vrrp-adv-int added.
Version 2.6.2	The parameter, if-nat-realm, added.
Version 3.1.0	The parameter, priority-tag, added.

Usage A virtual network manager interface (VNET manager) can administer a virtual network (VNET) but the same management abstraction can also be used to administer a fabric, cluster, or standalone switch. This command removes a VNET manager interface.

Examples To display information about all VNET manager interfaces, use the following command:

```
CLI network-admin@switch > vnet-manager-interface-show
```

vnet-manager-service-modify

This command is used to modify virtual network (VNET) manager services.

Syntax `vnet-manager-service-modify v`

vnet-manager-name *name-string*	Specify the name of the VNET manager.
Specify the following service arguments:	
if *if-string*	Specify the interface to modify.
Specify any of the following options:	
ssh|no-ssh	Specify if you want to use SSH or not.
web|no-web	Specify if you want to configure Web services or not.
web-ssl|no-web-ssl	Specify if SSL is used.
web-ssl-port *web-ssl-port-number*	If you specify web-ssl, configure the port number.
web-port *web-port-number*	Specify the port number for Web services.
net-api|no-net-api	Specify if the Netvisor APIs are enabled or disabled.
icmp|no-icmp	Specify if you want to use Internet Control Message Protocol (ICMP) for diagnostic purposes.
ntp|no-ntp	Specify if you want to enable Network Time Protocol (NTP).

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The parameters, web-ssl and web-ssl-port, added.

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Version 2.2.6	The parameter, `ntp`, added.
Version 2.4	The parameter, `net-api`, added.

Usage Use the command to allow specific services on the VNET manager interface. In some use cases, you may want to allow Web services or use SSL.

Examples Modify the VNET manager, MyVNET, to use ICMP using the following command:

```
CLI network-admin@switch > vnet-manager-services-modify name MyVNET
icmp
```

vnet-manager-service-show

This command is used to display the available services on a VNET manager.

Syntax `vnet-manager-service-show`

`vnet-manager-name` *`name-string`*	Specifies the name of the VNET manager.
Specify the following service arguments:	
`ssh|no-ssh`	Specifies if you want to use SSH or not.
`web|no-web`	Specifies if you want to configure Web services or not.
`web-ssl|no-web-ssl`	Specify if SSL is used.
`web-ssl-port` *`web-ssl-port-number`*	If you specify `web-ssl`,displays the port number.
`web-port` *`web-port-number`*	Specifies the port number for Web services.
`net-api|no-net-api`	Specify if the Netvisor APIs are enabled or disabled.
`icmp|no-icmp`	Specifies if you want to use Internet Control Message Protocol (ICMP) for diagnostic purposes.
`ntp|no-ntp`	Specify if you want to enable Network Time Protocol (NTP).

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The parameters, `web-ssl`, `web-ssl-port`, `snmp`, and `net-api`, added.
Version 2.2.6	The parameter, `ntp`, added.
Version 2.4	The parameter, `net-api`, added.

Usage Use this command to display services on the VNET manager interface.

Examples To display services on all VNET managers, use the following command:

```
CLI network-admin@switch > vnet-manager-service-show
```

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```
switch   vnet-manager-name if      ssh web web-ssl web-ssl-port web-port icmp
-------- ---------------- ------ --- --- ------- ------------ -------- ----
pubdev02 joedoe-mgr          eth1.5 on   on   off      443            80         on    off
```

vnet-manager-ssh-host-key-show

This command is used to display the VNET Manager host keys in order to copy-and-paste to ~/.ssh/

Syntax `vnet-manager-ssh-host-key-show`

Specify between 0 and 2 of the following options:	
`vnet` *`vnet name`*	Specifies the VNET assigned service.
`scope local|cluster|fabric`	Specifies the scope of service: fabric or local.

Defaults None.

Access CLI

History Command introduced in Version 2.5.4.

Usage Use this command to copy and paste VNET Manager host keys to ~/.ssh/known_hosts.

vnet-port-add

This command is used to add a port to an existing virtual network (vNET).

Syntax `vnet-port-add`

`vnet-name` *`name-string`*	Specify the name of the vNET.
Specify the following port arguments:	
`switch` *`switch-name`*	Specify the switch name.
`ports` *`port-list`*	Specify the ports to add to the vNET.
`vlans` *`vlan-list`*	Specify the VLANS for the ports.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.2.6	The parameter, `VLANs`, added.

Usage A fabric, cluster, or standalone switch can be virtualized into tenant networks called virtual networks (VNETs). This command adds a port to a VNET.

Examples To add port `4` to switch, `aquila24`, and VNET, `v-network`, use the following command:

```
CLI network-admin@switch > vnet-port-add vnet-name v-network switch
aquila24 ports 4
```

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vnet-port-remove

This command is used to remove a port from an existing virtual network (vNET).

Syntax `vnet-port-remove`

`vnet-name` *`name-string`*	Specify the name of the vNET.
`switch switch-name`	Specify the switch name.
`ports` *`port-list`*	Specify the ports to add to the vNET.

Defaults None.

Access CLI

History Command introduced in nvOS Version 1.2.1.

Usage A fabric, cluster, or standalone switch can be virtualized into tenant networks called virtual networks (vNETs). This command removes a port from a vNET.

Examples To remove port `26` from switch, `aquila24`, and vNET, `v-network`, use the following command:

```
CLI network-admin@switch > vnet-port-remove vnet-name v-network switch
aquila24 ports 26
```

vnet-public-vlans-modify

This command modifies public VLANs assigned to a vNET.

Syntax `vnet-public-vlans-modify vlans vlan-list ]`

`vlans` *`vlan-list`*	Specify the list of public VLANs to modify.

Defaults None.

Access CLI

History Command introduced in Version 2.5.1

Usage A fabric, cluster, or standalone switch can be virtualized into tenant networks called virtual networks (vNETs). This command modifies the list of public VLANs assigned to a vNET.

Examples This example shows how to modify the VLAN list to

```
CLI network-admin@switch > vnet-public-vlans-modify vlans 33-35
```

vnet-public-vlans-show

This command displays public VLANs assigned to a VNET.

Syntax `vnet-public-vlans-modify vlans vlan-list ]`

`vlans` *`vlan-list`*	Specify the list of public VLANs to modify.

Defaults None.

Access CLI

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History Command introduced in Version 2.5.1

Usage A fabric, cluster, or standalone switch can be virtualized into tenant networks called virtual networks (VNETs). This command displays the list of public VLANs assigned to a VNET.

Examples This example shows how to display the VLAN list 3-35:

```
CLI network-admin@switch > vnet-public-vlans-show vlans 33-35
```

vnet-tunnel-network-add

VNET managers can add, modify, and delete VXLAN tunnels from a VNET. A software VTEP server is connected to a port not part of the VNET. The port for the software VTEP server is configured (tagged or untagged) for a VLAN configured by the fabric administrator that routes into the Layer 3 network used by the hardware VTEPs. The VNET administrator accesses the VTEP server using either an out of band management port or a dedicated in-band VLAN..

Syntax `vnet-tunnel-network-add`

`name` *`name-string`*	Specify the name for the VNET tunnel.
`network` *`ip-address`*	Specify the IP address for the tunnel.
`netmask` *`netmask`*	Specify the netmask of the IP address.
`description` *`description-string`*	Specify a description for the VNET tunnel.

Defaults None

Access VNET Administrator

History Command introduced in Version 2.5.0

Usage The fabric administrator enables the VNET administrator to create tunnels from software VTEPs to hardware VTEPs by provisioning a route on each switch from a VLAN or subnet associated with the VNET to the Layer 3 network where hardware VTEP tunnels are configured. In addition, ACLs are configured to constrain software VTEPs to only exchange packets with software VTEPs in the same VNET and hardware VTEPs.

Examples To add a VNET tunnel, **t1**, with IP address, 10.100.100.224, and netmask 155.255.255.248

```
CLI network-admin@switch > vnet-tunnel-network-add vnet-name t1 network
10.100.100.224 netmask 255.255.255.248
```

vnet-tunnel-network-modify

VNET managers can add, modify, and delete VXLAN tunnels from a VNET. A software VTEP server is connected to a port that is not part of the VNET. The port for the software VTEP server is configured (tagged or untagged) for a VLAN configured by the fabric administrator that routes into the Layer 3 network used by the hardware VTEPs. The VNET administrator accesses the VTEP server using either an out of band management port or a dedicated in-band vlan.

Syntax `vnet-tunnel-network-modify`

`name` *`name-string`*	Specify the name for the VNET tunnel.

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network *ip-address*	Specify the IP address for the tunnel.
netmask *netmask*	Specify the netmask of the IP address.
description *description-string*	Specify a description for the VNET tunnel.

Defaults None

Access VNET Administrator

History Command introduced in Version 2.5.0

Usage The fabric administrator enables the VNET administrator to create tunnels from software VTEPs to hardware VTEPs by provisioning a route on each switch from a VLAN or subnet associated with the VNET to the Layer 3 network where hardware VTEP tunnels are configured. In addition, ACLs are configured to constrain software VTEPs to only exchange packets with software VTEPs in the same VNET and hardware VTEPs.

Examples To modify VNET tunnel, t1, to IP address, 172.16.21.131, and netmask 255.255.255.0, use the following syntax

```
CLI network-admin@switch > vnet-tunnel-network-modify vnet-name t1
network 172.16.21.131 netmask 255.255.255.248
```

vnet-tunnel-network-remove

VNET managers can add, modify, and delete VXLAN tunnels from a VNET. A software VTEP server is connected to a port that is not part of the VNET. The port for the software VTEP server is configured (tagged or untagged) for a VLAN configured by the fabric administrator that routes into the Layer 3 network used by the hardware VTEPs. The VNET administrator accesses the VTEP server using either an out of band management port or a dedicated in-band vlan.

Syntax `vnet-tunnel-network-remove`

name *name-string*	Specify the name for the VNET tunnel.
network *ip-address*	Specify the IP address for the tunnel.
netmask *netmask*	Specify the netmask of the IP address.

Defaults None

Access VNET Administrator

History Command introduced in Version 2.5.

Usage The fabric administrator enables the vnet administrator to create tunnels from software VTEPs to hardware VTEPs by provisioning a route on each switch from a VLAN or subnet associated with the VNET to the Layer 3 network where hardware VTEP tunnels are configured. In addition, ACLs are configured to constrain software VTEPs to only exchange packets with software VTEPs in the same VNET and hardware VTEPs.

Examples To remove VNET tunnel, t1, use the following syntax:

```
CLI network-admin@switch > vnet-tunnel-network-remove vnet-name t1
```

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vnet-tunnel-network-show

VNET managers can add, modify, and delete VXLAN tunnels from a VNET. A software VTEP server is connected to a port that is not part of the VNET. The port for the software VTEP server is configured (tagged or untagged) for a VLAN configured by the fabric administrator that routes into the Layer 3 network used by the hardware VTEPs. The VNET administrator accesses the VTEP server using either an out of band management port or a dedicated in-band vlan.

Syntax `vnet-tunnel-network-show`

`name` *`name-string`*	Specify the name for the VNET tunnel.
`network` *`ip-address`*	Specify the IP address for the tunnel.
`netmask` *`netmask`*	Specify the netmask of the IP address.
`description` *`description-string`*	Specify a description for the VNET tunnel.

Defaults None

Access VNET Administrator

History Command introduced in Version 2.5.

Usage The fabric administrator enables the vnet administrator to create tunnels from software VTEPs to hardware VTEPs by provisioning a route on each switch from a VLAN or subnet associated with the VNET to the Layer 3 network where hardware VTEP tunnels are configured. In addition, ACLs are configured to constrain software VTEPs to only exchange packets with software VTEPs in the same VNET and hardware VTEPs.

Examples To display a VNET tunnel, t1, with IP address, 10.100.100.224, and netmask 255.255.255.248, use the following syntax:

```
CLI network-admin@switch > vnet-tunnel-network-add vnet-name t1 network
10.100.100.224 netmask 255.255.255.248
```

vport-create

This command is used to create a virtual port on a switch. Virtual ports track information across nodes on the fabric.

Syntax `vport-create`

`mac` *`mac-address`*	Specify the MAC address of the vPort.
Specify up to two of the following options:	
`vlan` *`vlan-id`*	Specify a VLAN from 0 to 4095.
`vxlan` *`vxlan-id`*	Specify a VXLAN from 0 to 16777215.
`vnet` *`vnet-name`*	Specify a VNET assigned to the vPort.
Specify at least one of the following options:	

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ip *ip-address*	Specify an IP address.
owner *node-name*	Specify the switch ID.
intf *intf-number*	Specify the interface number.
Specify any of the following options:	
public-vlan *vlan-id*	Specify the ID of the public VLAN.
num-ips *num-ips-number*	Specify the number of IP addresses for the vPort.
config-intf *config-intf-number*	Specify the configuration interface number.
svc-name *svc-name-string*	Specify the vCenter connection service name.
hostname *hostname-string*	Specify the host name of the switch.
entity *entity-string*	Specify the VM or VM Kernel device name.
power none|powered-off|powered-on|standby|suspended|unknown	Specify the vPort entry power status.
cpus *cpus-number*	Specify the number of CPUs assigned to the VM.
disk *disk-number*	Specify the disk number of the VM location.
os *os-string*	Specify an operating system, such as CentOS or Ubuntu, on the VM.
portgroup *portgroup-string*	Specify the Port Group name associated with VM MAC address.
pg-vlans *vlan-list*	Specify the valid VLANs for the port group.
vswitch *vswitch-string*	Specify the vitual switch name associated with the NIC.
vs-type none|host-vs|distributed-vs|unknown	Specify the virtual switch type.
vnic-type untagged|tagged|trunked|vm-mgmt|vm-kernel|vMotion|vSAN|FTL|rep|p-NFC|r-NFC|mgmt|unknown	Specify the type of vNIC attached to the VM or VM Kernel.
rem-switch *node-name*	Specify the remote switch for the vPort.
hw-index *hw-index-number*	Specify the hardware index number.
rt-if *rt-if-string*	Specify the router interface.
hw-flags invalid-vlan|invalid-port	Specify the vPort hardware flags.

Defaults None

Access CLI

History

Version 2.2	Command introduced.
Version 2.3	The parameters, `num-ips` and `vm-status`,

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	added.
Version 2.3.1	The parameter, `switch-id`, changed to `owner`.
Version 2.4	The parameters, `hw-index` and `rt-if`, added.
Version 2.4.1	The parameters, `vnet`, `hw-flags`, and `public-vlan`, added. The parameter, `blocked-ports`, deprecated.
Version 2.6.2	The parameter, `svc-name`, `power`, `entity`, `portgroup`, `pg-vlans`, `vswitch`, `vs-type`, and `vnic-type`, added. The parameters, `hypervisor`, `vm-id`, `vm-name`, `vm-flavor`, `vm-status`, `memory`, deprecated.

Usage Use this command to create a vPort on the switch. vPorts are mirrored across the fabric so that every switch knows about all the L2 entries on the fabric. This is useful for troubleshooting connections across the fabric.

Examples To configure a vPort with the MAC address of 06:60:00:02:10:38, IP address of 192.168.11.11, on VLAN 107, use the following syntax:

```
CLI network-admin@switch > vport-create mac 06:60:00:02:10:38 vlan 107
ip 192.168.11.11
```

vport-delete

This command is used to delete a virtual port on a switch. Virtual ports track information across nodes on the fabric.

Syntax `vport-delete mac mac-address vlan vlan-id vxlan vxlan-id ip ip-address`

`mac` *`mac-address`*	Specify the MAC address of the vPort to delete from the configuration.
`vnet` *`vnet-name`*	Specify a VNET assigned to the vPort.
`vlan` *`vlan-id`*	Specify the VLAN ID of the vPort to delete from the configuration.
`vxlan` *`vxlan-id`*	Specify the VXLAN ID of the vPort to delete from the configuration.
`ip` *`ip-address`*	Specify the IP address of the vPort to delete from the configuration.

Defaults None

Access CLI

History

Version 2.2	Command introduced.
Version 2.4.1	The parameter, `vnet`, added.

Usage Use this command to remove a vPort from the configuration.

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Examples To remove the vPort with the IP address, 192.168.11.9, use the following command:

```
CLI network-admin@switch > vport-delete ip 192.168.11.9
```

vport-history-show

This command is used to display historical information about virtual ports on a fabric. Virtual ports track information about servers, virtual machines, and switches in a fabric.

> **Informational Note**: Netvisor does not automatically populate the output fields for hypervisor and VM. In future releases, Netvisor gathers this information using a multicast communication across the fabric.

Syntax `vport-history-show`

`time date/time: yyyy-mm-ddThh:mm:ss`	Specifies a point in tjme for displaying historical information.
`start-time date/time: yyyy-mm-ddThh:mm:ss`	Specifies the start time for vPort history collection.
`end-time date/time: yyyy-mm-ddThh:mm:ss`	Specifies the end time for vPort history collection.
`duration duration: #d#h#m#s`	Specifies the duration to collect the vPort history.
`interval duration: #d#h#m#s`	Specifies the intervals to collects vPort history.
`since-start`	Specifies to display all of the vPort history since collection began on the fabric.
`older-than duration: #d#h#m#s`	Specifies to display vPort information older than a specific duration.
`within-last duration: #d#h#m#s`	Specifies to display vPort information with a specific duration.
`log-type l2-save|l3-save|restart|l2-modify|l2-delete|l3-modify| l3-delete`	Filter output by the log type of each entry. The log-type column displays when a vPort is created, modified, saved, or deleted.
`[caller init|config|status|switch-cb| cluster|gre|ARP|router|flow-cb|vdp| vlag|port|inject|evict|vxlan|stats|vnm-vnic|adjacency|stp|trunk|intsw|ttl1| flood|flush|retire|loop|dhcp|fabric| table|l3-age-out|vlan|l2-checker| igmp|l2-age-out|port-mirror|mac-move| cluster-status|cluster-status-delete| vxlan-routing| subnet| br-dom|vrf|ND`	Specifies the feature that made the change for this entry.
`[last-caller init|config|status|switch-cb|cluster|gre|ARP|router| flow-cb|vdp| vlag|port|inject|evict|vxlan|stats|vnm-vnic| adjacency|stp|trunk|intsw|ttl1| flood|flush|retire|loop|dhcp| fabric| table|l3-age-out |vlan|l2-checker|igmp|l2-age-out|port-mirror|mac-move|cluster-status`	Specifies the most recent caller for this entry.

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[reason activate|deactivate|port-move| ip-move|ip-remove|batch-move| timeoutretire|break-loop|break-loop-timeout|create|modify|delete|policy| owner-status|remove-node|port-flags| check-owner|trunk-port-add| trunk-port-remove|move-router-if|age-out|hw-remove|restart|undo|flush| update-vxlan-vlan|needs-peer-status| owner-lost|owner-change	Specifies the reason for history entry.
last-reason activate|deactivate|port-move|ip-move|ip-remove|batch-move| retire|break-loop|break-loop-timeout| create|modify|delete|policy|owner-status|remove-node|port-flags|check-owner|trunk-port-add|trunk-port-remove| move-router-if|age-out|hw-remove| restart|undo|flush|update-vxlan-vlan| needs-peer-status|owner-lost|owner-change	Specifies most recent reason for this entry.
changes owner|mac|ip|num-ips|config-intf|intf|ports|state|local-intf|local-ports|local-state|alt-owner| alt-owner-port|alt-owner-ports| alt-owner-state|hostname|hypervisor|vm-id|vm-name|vm-flavor|vm-status|memory| cpus|disk|os|config|rem-switch|rem-intf|rem-ports|peer-intf|peer-state| peer-owner-state|status|tunnel|create-time|last-seen|vxlan-lru|hit| migrate|drops|hw-index|rt-if| hw-flags	Specifies what changed in this entry.
count *count-number*	Filter output by the number of entries summed using the sum-by argument.
owner *node-name*	the switch-id of the vPort.
mac *mac-address*	Filter output by the Filter output by MAC address.
vlan *vlan-id*	Filter output by the VLAN ID.
vxlan *vxlan-id*	Filter output by the VXLAN ID.
vnet *vnet-name*	Specify the VNET assigned to the vPort.
public-vlan *vlan-id*	Specify the ID of the public VLAN.
ip *ip-address*	Filter output by the IP address.
num-ips *num-ips-number*	Specify the number of IP addresses for the vPort.
intf *intf-number*	Filter output by the interface number. This is the port or trunk number of the vPort.
config-intf *config-intf-number*	Filter output by the configured interface of the vPort.

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ports port-list	Filter output by the list of ports.
state active|static|vrrp|tunnel|software|needs-peer-status|port-mac|hit|ageout-check|moving|loop-probe|local-tunnel|igmp-mac|user-flush|vxlan-loopback|router	Filter output by the state of the vPort.
svc-name *svc-name-string*	Specify the vCenter connection service name.
hostname *hostname-string*	Specify the host name of the switch.
entity *entity-string*	Specify the VM or VM Kernel device name.
power none|powered-off|powered-on|standby|suspended|unknown	Specify the vPort entry power status.
cpus *cpus-number*	Filter output by the number of CPUs assigned to the VM.
os *os-string*	Filter output by the OS installed on the VM.
portgroup *portgroup-string*	Specify the Port Group name associated with VM MAC address.
pg-vlans *vlan-list*	Specify the valid VLANs for the port group.
vswitch *vswitch-strin*g	Specify the vitual switch name associated with the NIC.
vs-type none|host-vs|distributed-vs|unknown	Specify the virtual switch type.
vnic-type untagged|tagged|trunked|vm-mgmt|vm-kernel|vMotion|vSAN|FTL|rep|p-NFC|r-NFC|mgmt|unknown	Specify the type of vNIC attached to the VM or VM Kernel.
rem-switch *node-name*	Filter output by the remote switch name.
rem-intf *rem-intf-number*	Filter output by the remote interface number.
rem-ports *port-list*	Filter output by the remote ports.
peer-intf *peer-intf-number*	Filter output by the peer interface.
peer-state active|static|vrrp|tunnel|software|needs-peer-status|port-mac|hit|ageout-check|moving|loop-probe|local-tunnel|igmp-mac|user-flush|vxlan-loopback|router	Filter output by peer-state
peer-owner-state active|static|vrrp|tunnel|software|needs-peer-status|port-mac|hit|ageout-check|moving|loop-probe|local-tunnel|igmp-mac|user-flush|vxlan-loopback|router	Filter output by owner state.
status hy-up|up|disabled|hw-nat-loop|mirror-loop|mirror-to|inuse|PN-switch|PN-fabric|PN-other|PN-cluster|PN-internal|PN-hypervisor|PN-guest|snmp-	Filter output by the status of the vPort.

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host|host|uplink|drop-pkts|no-pktin|no-fwd|no-flood|STP-BPDUs|LLDP|trunk|l3-port|remote-l3-port|vdp|dhcp|dhcpsvr|blocked|no-BPDU|LACP-PDUs|vlag-active|vlag-blocked|stp-edge-port|LACP-wait|LACP-fallback|adjacency-wait|adjacency-check|vlag-wait|multicast-router|host-disabled|loop|vxlan-loopback|vlan-up|ND	
vtep-ip *ip-address*	Displays the VTEP IP address.
tunnel *tunnel-string*	Specifies the vPort tunnel.
create-time date/time: yyyy-mm-ddThh:mm:ss	Filter output by the time that the vPort was created.
last-seen date/time: yyyy-mm-ddThh:mm:s	Filter output by the time that the vPort was last seen on the fabric.
vxlan-lru date/time: yyyy-mm-ddTHH:mm:ss	Filter output by the VXLAN LRU.
hit *hit-number*	Filter output by the number of received hits.
migrate *migrate-number*	Filter output by the number of times that the vPort migrated on the fabric.
drops *drops-number*	Filter output by the number of drops on the fabric.
hw-index *hw-index-number*	Filter by the hardware index.
rt-if *rt-if-string*	Filter by the router interface.
hw-flags invalid-vlan|invalid-port	Filter by hardware flags.

Defaults None

Access CLI

History

Version 2.2	Command introduced.
Version 2.2.6	The parameters, stp-edge-port|LACP-wait|adjacency-wait|adjacency-check|vlag-wait|multicast-router, added.
Version 2.3	The parameters, num-ips and vm-status, added.
Version 2.3.1	The parameters, caller, last-call, reason, last-reason, and changes added.
Version 2.4	The options, l3-modify, l3-save, and l3-delete, added to log-type. The parameters, peer-intf, peer-state, and peer-owner-state added.
Version 2.4.1	The parameters, vnet and public-vlan, added. The options, retire|break-loop|break-loop-

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	timeout, added to the parameter reason. The options vxlan-loopback|router, added to the parameter, state. The parameters, hw-index, rt-if, and hw-flags, added.
Version 2.6.2	The parameter, svc-name, power, entity, portgroup, pg-vlans, vswitch, vs-type, and vnic-type, added. The parameters, hypervisor, vm-id, vm-name, vm-flavor, vm-status, memory, deprecated.
Version 3.1.0	The parameters, vtep-ip and ND, added.

Usage Use this command to display vPort history on the switch. vPorts are mirrored across the fabric so that every switch knows about all the L2 entries on the fabric. This is useful for troubleshooting connections across the fabric.

Examples To display vPort history, with the parameter since-start, use the following syntax:

```
CLI network-admin@switch > vport-history-show since-start format all layout vertical

  time:                09-10,15:17:03
  log-type:         l2-modify
  switch-id:       pleaides24
  mac:                  64:0e:94:28:03:3e
  vlan:             1
  intf:             65
  ports:           65
  local-intf:    65
  local-ports:   65
  create-time:    09-10,15:17:06
  time:                09-10,15:17:06
  log-type:         l2-modify
  switch-id:       pleaides24
  mac:                  64:0e:94:28:03:3e
  vlan:             1
  intf:             65
  ports:           65
  state:            active
  local-intf:    65
  local-ports:   65
  local-state:   active
  create-time:    09-10,15:17:06
  last-seen:       09-10,15:17:06
  hit:              1
  time:                09-10,15:17:07
  log-type:         l2-modify
```

vport-modify

This command is used to modify a virtual port on a switch. Virtual ports track information across nodes on the fabric.

Syntax vport-modify

mac *mac-address*	Specify the MAC address of the vPort.
vlan *vlan-id*	Specify a VLAN from 0 to 4095.

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`vxlan` *`vxlan-id`*	Specify a VLAN from 0 to 16777215.
`vnet` *`vnet-name`*	Specify a VNET assigned to the vPort.
`ip` *`ip-address`*	Specify the IP address of the vPort.

Specify any of the following options:

`owner` *`node-name`*	Specify the switch ID.
`public-vlan` *`vlan-id`*	Specify the ID of the public VLAN.
`num-ips` *`num-ips-number`*	Specify the number of IP addresses for the vPort.
`intf` *`intf-number`*	Specify the interface number.
`config-intf` *`config-intf-number`*	Specify the configuration interface number.
`svc-name` *`svc-name-string`*	Specify the vCenter connection service name.
`hostname` *`hostname-string`*	Specify the host name of the switch.
`entity` *`entity-string`*	Specify the VM or VM Kernel device name.
`power none|powered-off|powered-on|standby|suspended|unknown`	Specify the vPort entry power status.
`cpus` *`cpus-number`*	Specify the number of CPUs assigned to the VM.
`disk` *`disk-number`*	Specify the disk number of the VM location.
`os` *`os-string`*	Specifies an operating system, such as CentOS or Ubuntu, on the VM.
`rem-switch` *`node-name`*	Specify the remote switch for the vPort.
`hw-index` *`hw-index-number`*	Specify the hardware index number.
`rt-if` *`rt-if-string`*	Specify the router interface.
`hw-flags invalid-vlan|invalid-port`	Specify the hardware flags.

Defaults None

Access CLI

History

Version 2.2	Command introduced.
Version 2.3	The parameters, `num-ips` and `vm-status`, added.
Version 2.4	The parameters, `hw-index` and `rt-if`, added.
Version 2.4.1	The parameters, `vnet`, `hw-flags`, and `public-vlan`, added. The parameter, `blocked-ports`, deprecated.
Version 2.6.2	The parameter, `svc-name`, `power`, `entity`, `portgroup`, `pg-vlans`, `vswitch`, `vs-type`, and `vnic-type`, added.

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	The parameters, `hypervisor`, `vm-id`, `vm-name`, `vm-flavor`, `vm-status`, `memory`, deprecated.

Usage Use this command to modify a vPort configuration on the switch. vPorts are mirrored across the fabric so that every switch knows about all the L2 entries on the fabric. This is useful for troubleshooting connections across the fabric.

Examples To modify a vPort with the MAC address of 06:60:00:02:10:38, IP address of 192.168.11.11, and change the VLAN to 107, use the following syntax:

```
CLI network-admin@switch > vport-modify mac 06:60:00:02:10:38 vlan 107
ip 192.168.11.11
```

vport-show

This command is used to display information about virtual ports on a fabric. Virtual ports track switch information across nodes on the fabric.

> **Informational Note**: Netvisor does not automatically populate the output fields for hypervisor and VM. In future releases, Netvisor gathers this information using a multicast communication across the fabric.

Syntax `vport-show`

`owner node` *`name`*	Displays the owner name.
`mac` *`mac-address`*	Displays the MAC address of the vPort.
`vnet vnet-name`	Displays the VNET name.
Specify up to two of the following options:	
`vlan` *`vlan-id`*	Displays a VLAN from 0 to 4095.
`public-vlan` *`vlan-id`*	Displays the ID of the public VLAN.
`vxlan` *`vxlan-id`*	Displays a VXLAN from 0 to 16777215.
`ip` *`ip-address`*	DisplaysDisplays an IP address.
`num-ips` *`num-ips-number`*	Displays the number of IP addresses for the vPort.
Displays any of the following options:	
`config-intf` *`config-intf-number`*	Displays the configuration interface number.
`ports` *`port-list`*	Displays the list of ports.
`state active|static|vrrp|tunnel|software|needs-peer-status|port-mac|hit|ageout-check|moving|loop-probe|local-tunnel|igmp-mac|user-flush|vxlan-loopback|router|update-peer-only|active-state-mismatch|peer-port-missing|peer-port-not-vlag|peer-port-not-orphaned|peer-port-not-cluster-link|sw-active|anycast|hsrp|invalid-vlan|owner-lost`	Displays the vPort state.

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svc-name *svc-name-string*	Displays the name of the vCenter connection service.
hostname *hostname-string*	Displays the hypervisor or switch host name.
entity *entity-string*	Displays the VM or KVM device name.
power none|powered-off|powered-on| standby|suspended|unknown	Displays the vPort entry status.
cpus *cpus-number*	Displays the number of CPUs assigned to the VM.
os *os-string*	Displays an operating system, such as CentOS or Ubuntu, on the VM.
portgroup *portgroup-string*	Displays the port group name associated with the VM MAC address.
pg-vlans *vlan-list*	Displays the VLANs assigned to a port group.
vswitch vswitch-string	Displays the name of the virtual switch associated with a NIC.
vs-type none|host-vs|distributed-vs| unknown	Displays the type of virtual switch.
vnic-type untagged|tagged|trunked|vm-mgmt|vm-kernel|vMotion|vSAN|FTL| rep|p-NFC|r-NFC|mgmt|unknown	Displays the type of vNIC associated with the VM or VM-Kernel.
config none|owner|ip|port|hostname| entity|cpus|os	Displays the configuration type for the virtual switch.
rem-switch node *name*	Displays the name of the remote switch.
rem-intf *rem-intf-number*	Displays the remote interface number.
rem-ports *port-list*	Displays the remote switch ports.
peer-intf *peer-intf-number*	Displays the peer interface number.
peer-state active|static|vrrp|tunnel| software|needs-peer-status|port-mac| hit|ageout-check|moving|loop-probe| local-tunnel|igmp-mac|user-flush|vxlan-loopback|router|update-peer-only| active-state-mismatch|peerport-missing| peer-port-not-vlag|peer-port-not orphaned|peer-port-not-cluster-links| sw-active|anycast| hsrp||invalid-vlan| owner-lost	Displays the state of the peer vPorts.
peer-owner-state active|static|vrrp| tunnel|software|needs-peer-status|port-mac|hit|ageout-check|moving|loop-probe| local-tunnel|igmp-mac|user-flush|vxlan-loopback|router|update-peer-only| active-state-mismatch|peerport-missing| peer-port-not-vlag|peer-port-not orphaned|peer-port-not-cluster-links|	Displays the state of the peer owner vPorts.

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sw-active|anycast| hsrp|invalid-vlan|owner-lost	
status phy-up|up|disabled|hw-nat-loop| mirror-loop|mirror-to|inuse| PN-switch| PN-fabric|PN-other|PN-cluster|PN-internal|PN-hypervisor|PN-guest|snmp-host|host|uplink|drop-pkts|no-pktin|no-fwd|no-flood|STP-BPDUs|LLDP|trunk|l3-port|remote-l3-port|vdp|dhcp|dhcpsvr| blocked|no-BPDU|LACP-PDUs|vlag-active| vlag-blocked| stp-edge-port|LACP-wait| LACP-fallback|adjacency-wait| adjacency-check|vlag-wait|multicast-router|host-disabled|loop|vxlan-loopback|vlan-up|vle|vle-wait|phy-down| down|enabled|err-bpdu-guard|mac-violation|stp-bpdu-guard|stp-root-guard|ND	Displays the vPort status.
vtep-ip *ip-address*	Displays the VTEP IP address.
tunnel *tunnel-string*	Displays the vPort tunnel.
create-time date/time: yyyy-mm-ddTHH:mm:ss	Displays the vPort create time.
last-seen date/time: yyyy-mm-ddTHH:mm:ss	Displays the last time the vPorts was seen.
vxlan-lru date/time: yyyy-mm-ddTHH:mm:ss	Displays the time and date of the VXLAN LRU.
hit *hit-number*	Displays the number of hits.
migrate *migrate-number*	Displays the number of times the entry migrated.
drops *drops-number*	Displays the number of dropped packets.
hw-index *hw-index-number*	Displays the hardware index number.
rt-if *rt-if-string*	Displays the router interface.
hw-flags invalid-vlan|invalid-port	Displays hardware flags.

Defaults None

Access CLI

History

Version 2.2	Command introduced.
Version 2.2.6	The parameters, stp-edge-port|LACP-wait| adjacency-wait|adjacency-check|vlag-wait| multicast-router, added.
Version 2.3	The parameters, num-ips and vm-status, added.

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Version 2.4.1	The parameter, `public-vlan`, added.
Version 2.6.2	The parameter, `svc-name`, `power`, `entity`, `portgroup`, `pg-vlans`, `vswitch`, `vs-type`, and `vnic-type`, added. The parameters, `hypervisor`, `vm-id`, `vm-name`, `vm-flavor`, `vm-status`, `memory`, deprecated.
Version 3.0.0	The options, `anycast`, `invalid-vlan`, and `owner-lost`, added to `state`, `peer-state`, and `peer-owner-state`.
Version 3.1.0	The parameters, `vtep-ip` and `ND`, added.

Usage Use this command to display vPort information on the switch. Netvisor mirrors vPorts across the fabric so every switch knows about all the L2 entries on the fabric. You may find this useful for troubleshooting connections across the fabric.

Examples To display vPorts, use the following syntax:

```
CLI network-admin@switch > vport-show format all layout vertical
mac:          66:0e:94:21:64:74
vlan:         103
config-intf:  70
config:       port
switch-id:    pleiades24
mac:          00:00:5e:00:01:0a
vlan:         107
config:       switch
rem-switch:   pleiades25
switch-id:    pleiades25
mac:          66:0e:94:21:a9:6c
vlan:         100
ip:           192.168.11.4
intf:         65
ports:        65
state:        active
hostname:     pleiades25
status:       PN-internal
create-time:  09-10,15:17:47
last-seen:    09-15,10:55:22
hit:          2
migrate:      1
switch-id:    pleiades24
mac:          66:0e:94:21:64:74
vlan:         100
ip:           192.168.100.12
intf:         65
ports:        65
hostname:     pleiades24
status:       PN-internal
create-time:  09-10,15:17:48
last-seen:    09-10,15:17:48
hit:          1
switch-id:    pleiades24
```

vport-settings-modify

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vPort information is collected and stored on a disk on the switch at specific intervals. This command is used to modify the vPort settings.

Syntax `vport-settings-modify`

Specify one or more of the following options:	
`vport-disk-space` *`vport-disk-space-number`*	Specify the amount of disk space for vPorts. The default is 500M.
`stats-max-memory` *`stats-max-memory-number`*	Specify the maximum memory for collecting vPort information. The default memory is 50M.
`stats-log-enable| stats-log-disable`	Specify if you want to enable or disable logs for vPort statistics. Enabled by default.
`stats-log-interval duration:` *`#d#h#m#s`*	Specify the interval between logging events. The default is one minute.
`stats-log-disk-space` *`disk-space-number`*	Specify the amount of disk space for vPort logs. The default is 50M.
`system-stats-log-enable|system-stats-log-disable`	Specify if you want to enable or disable logging for the system. Enabled by default.
`system-stats-log-interval duration:` *`#d#h#m#s`*	Specify the interval between logging events. The default is one minute.
`system-stats-log-disk-space` *`disk-space-number`*	Specify the disk space for system statistics. The default is 50M.

Defaults See individual parameters.

Access CLI

History Command introduced in nvOS Version 2.2.

Usage Use the command to modify vPort settings to collect vPort information.

Examples To modify the vPort disk space from 500M to 1G, use the following syntax:

```
CLI network-admin@switch > vport-settings-modify  vport-disk-space  1G
```

vport-settings-show

Netvisor collects and stores vPort information on a disk on the switch at specific intervals. This command is used to display the vPort settings.

Syntax `vport-settings-show`

Defaults See individual parameters.

Access CLI

History Command introduced in nvOS Version 2.2.

Usage Use the command to display vPort settings for collecting vPort information.

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Examples To display vPort settings, use the following syntax:

```
CLI network-admin@switch > vport-settings-show

switch:                      pleiades24
vport-disk-space:            1G
stats-max-memory:            50M
stats-log-enable:            yes
stats-log-interval:          1m
stats-log-disk-space:        50M
system-stats-max-memory:     50M
system-stats-log-enable:     yes
system-stats-log-interval:   1m
system-stats-log-disk-space: 50M
switch:                      pleiades25
vport-disk-space:            500M
stats-max-memory:            50M
stats-log-enable:            yes
stats-log-interval:          1m
stats-log-disk-space:        50M
system-stats-max-memory:     50M
system-stats-log-enable:     yes
system-stats-log-interval:   1m
system-stats-log-disk-space: 50M
```

vport-stats-show

This command is used to display vPort statistics including the number of incoming and outgoing packets.

Syntax `vport-stats-show`

`time date/time: yyyy-mm-ddThh:mm:ss`	Specifies a point in tjme for displaying historical information.
`start-time date/time: yyyy-mm-ddThh:mm:ss`	Specifies the start time for vPort history collection.
`end-time date/time: yyyy-mm-ddThh:mm:ss`	Specifies the end time for vPort history collection.
`duration duration: #d#h#m#s`	Specifies the duration to collect the vPort history.
`interval duration: #d#h#m#s`	Specifies the intervals to collect vPort history.
`since-start`	Specifies to display all of the vPort history since collection began on the fabric.
`older-than duration: #d#h#m#s`	Specifies to display vPort information older than a specific duration.
`within-last duration: #d#h#m#s`	Specifies to display vPort information with a specific duration.
`switch-id node name`	Specifies the switch ID for collecting vPort statistics.
`hostname hostname-string`	Specifies the host name statistics.
`ip ip-address`	Specifies IP address statistics.

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mac *mac-address*	Specifies the MAC address assigned to the vPort.
vnet *vnet name*	Specifies VNET statistics.
vlan *vlan-id*	Specifies VLAN statistics. Range is 0..4095.
vxlan *vxlan-id*	Specifies VXLAN statistics. Range is 0..16777215.
entity *entity-string*	Specifies the VM or VM Kernel device name.
vnic-type untagged|tagged|trunked|vm-mgmt|vm-kernel|vMotion|vSAN|FTL| rep| p-NFC|r-NFC|mgmt|unknown	Specifies the vNic attached to VM traffic type.
vs-type none|host-vs|distributed-vs| unknow	Specifies the Virtual Switch type
ibytes *ibytes-number*	Specifies number of incoming bytes.
ipkts *ipkts-number*	Specifies number of incoming packets.
idiscards *idiscards-number*	Specifies number of incoming packets discarded.
ierrs *ierrs-number*	Specifies number of incoming packets with errors..
obytes *obytes-number*	Specifies number of outoing bytes.
opkts *opkts-number*	Specifies number of outoing packets.
odiscards *odiscards-number*	Specifies number of outgoing packets discarded.
oerrs *oerrs-number*	Specifies number of outgoing packets with errors.
count *count-number*	Specifies the statistics count.

Defaults None

Access CLI

History .

Version 2.3	Command introduced.
Version 2.4.1	The parameter, `count`, added.
Version 2.5.4	The parameters, `entity`, `vnic-type`, and `vs-type` added.

Usage Use this command to display vPort statistics.

Examples To generate a report, use the following syntax:

```
CLI network-admin@switch > vport-stats-show
```

vrf-create

Virtual Routing and Forwarding (VRF) is a technology that virtualizes the hardware routing capabilities of a vRouter or a Layer 3 switch and offers per logical instance dedicated control and data planes. This command creates a VRF.

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Syntax `vrf-create name`

name *name-string*	Specify a name for the VRF.
vnet *name-string*	Specify the name of the vNET.
scope local|cluster|fabric	Specify the scope of the VRF.
vrf-gw *ip-address*	Specify an IPv4 address for the gateway.
vrf-gw2 *ip-address*	Specify a second IPv4 address for the gateway.
vrf-gw-ip6 *ip-address*	Specify an IPv6 address for the gateway.
vrf-gw2-ip6 *ip-address*	Specify a second IPv6 address for the gateway.
enable|disable	Enable or disable VRF.

Defaults None

Access Network Administrator

History Command introduced in Version 3.1.0

Usage Use this command to configure VRF.

Examples To configure VRF, **blue**, on vNET **red**, scope **local**, and a gateway address, **192.168.11.5**, use the following syntax:

```
CLI network-admin@switch > vrf-create name blue vnet red scope local
vrf-gateway 192.168.11.5
```

vrf-delete

Virtual Routing and Forwarding (VRF) is a technology that virtualizes the hardware routing capabilities of a vRouter or a Layer 3 switch and offers per logical instance dedicated control and data planes. This command deletes a VRF configuration.

Syntax `vrf-delete`

name *name-string*	Specify a name for the VRF.
vnet *name-string*	Specify the name of the vNET.

Defaults None

Access Network Administrator

History Command introduced in Version 3.1.0

Usage Use this command to delete a VRF.

Examples To delete VRF, **blue**, and vNet, **red**, , use the following syntax:

```
CLI network-admin@switch > vrf-delete name blue vnet red
```

vrf-modify

Virtual Routing and Forwarding (VRF) is a technology that virtualizes the hardware routing capabilities of a

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vRouter or a Layer 3 switch and offers per logical instance dedicated control and data planes. This command modifies a VRF configuration.

Syntax `vrf-modify`

`name` *`name-string`*	Specify a name for the VRF.
`vnet` *`name-string`*	Specify the name of the vNET.
`scope local|cluster|fabric`	Specify the scope of the VRF.
`vrf-gw` *`ip-address`*	Specify an IPv4 address for the gateway.
`vrf-gw2` *`ip-address`*	Specify a second IPv4 address for the gateway.
`vrf-gw-ip6` *`ip-address`*	Specify an IPv6 address for the gateway.
`vrf-gw2-ip6` *`ip-address`*	Specify a second IPv6 address for the gateway.
`enable|disable`	Enable or disable VRF.

Defaults None

Access Network Administrator

History Command introduced in Version 3.1.0

Usage Use this command to modify a VRF.

Examples To modify VRF, **blue**, and a gateway address, **192.168.13.7**, use the following syntax:

```
CLI network-admin@switch > vrf-modify name blue vnet red vrf-gateway
192.168.13.7
```

vrf-show

Virtual Routing and Forwarding (VRF) is a technology that virtualizes the hardware routing capabilities of a vRouter or a Layer 3 switch and offers per logical instance dedicated control and data planes. This command displays a VRF configuration.

Syntax `vrf-show`

`name` *`name-string`*	Displays the VRF name.
`vnet` *`name-string`*	Displays the name of the vNET.
`scope local|cluster|fabric`	Displays the scope of the VRF.
`vrf-gw` *`ip-address`*	Displays an IPv4 address for the gateway.
`vrf-gw2` *`ip-address`*	Displays a second IPv4 address for the gateway.
`vrf-gw-ip6` *`ip-address`*	Displays an IPv6 address for the gateway.
`vrf-gw2-ip6` *`ip-address`*	Displays a second IPv6 address for the gateway.
`active yes|no`	Displays the status of the VRF.
`hw-router-mac` *`mac-address`*	Displays the MAC address of the vRouter.
`hw-vrid` *`number`*	Displays the vRouter ID as a number from 1 to 15.

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enable|disable	Enable or disable VRF.

Defaults None

Access Network Administrator

History Command introduced in Version 3.1.0.

Usage Use this command to display information about a VRF configuration.

Examples To display information for the VRF configuration,blues, use the following syntax:

```
CLI network-admin@switch > vrf-show
```

vrf-mroute-show

This command displays information about distrbuted multicast forwarding in a L3/VXLAN network.

Syntax `vrf-mroute-show`

type <*,G>|<*,G,V>|	Displays the hardware router type.
srcip *ip-address*	Displays the source IP address.
srcip-mask *srcip-mask-number*	Displays the source netmask.
group *ip-address*	Displays the group IP address.
group-mask *group-mask-number*	Displays the netmask.
vnet *vnet name*	Displays the vNET name.
bd *bridge-domain name*	Displays the bridge domain name.
vlan *vlan-id*	Displays the VLAN ID.
vrid *vrid-number*	Displays the vRouter ID.
hw-group-id *hw-group-id-number*	Displays the hardware group ID.
send_vnet *vnet name*	Displays the sending vNET name.
send-vlan *vlan-id*	Displays the sending VLAN ID.
send-bd *send-bd-string*	Displays the sending bridge domain.
ports *port-list*	Displays the port list.
encap-id *encap-id-number*	Displays the encapsulation ID.
flags Trunk|Active	Displays the hardware flags.

Defaults None

Access Network Administrator

History Command introduced in Version 5.1.0.

Usage Use this command to display multicast information on virtual routing and fowarding.

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Examples To display multicast routing, use the following syntax:

```
CLI network-admin@switch > vrf-mroute-show
type    srcip   group     vnet bd vlan vrid hw-group-id send_vnet send-vlan  send-bd ports encap-id flags
------- ------- --------- ---- -- ---- ---- ----------- --------- ---------  ------- ----- -------- ------
<*,G,V> 0.0.0.0 225.1.1.1 10 0 0x2000009 10                                          none  -1      Active
<*,G,V> 0.0.0.0 225.1.1.1 10 0 0x2000009 0                                            19    4      Active
```

vrf-multicast-modify

This commands allows to modify multicast routing for VRF on a switch.

Syntax `vrf-multicast-modify`

`scope local|fabric`	Specify the scope for multicast routing.
`enable|disable`	Specify to enable or disable multicast routing. Enabled by default.

Defaults None

Access Network Administrator

History Command introduced in Version 5.1.0.

Usage Use this command to modify multicast routing for VRF on a switch.

> **Warning!** You must reboot the switch after changing the settings. Rebooting may cause a disruption on the network.

Examples To disable multicast routing use the following syntax:

```
CLI network-admin@switch > vrf-multicast-modify  disable
```

vrf-multicast-show

This commands displays multicast routing for VRF on a switch.

Syntax `vrf-multicast-show`

`scope local|fabric`	Specify the scope for multicast routing.
`enable|disable`	Specify to enable or disable multicast routing. Enabled by default.

Defaults None

Access Network Administrator

History Command introduced in Version 5.1.0.

Usage Use this command to display multicast routing for VRF on a switch.

Examples To display multicast routing, use the following syntax:

```
CLI network-admin@switch > vrf-multicast-show
```

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vrf-route-add

Virtual Routing and Forwarding (VRF) is a technology that virtualizes the hardware routing capabilities of a vRouter or a Layer 3 switch and offers per logical instance dedicated control and data planes. This command adds a static route to a VRF configuration.

Syntax `vrf-route-add`

`vrf-name` *`name-string`*	Specify the name of the VRF configuration.
`vnet vnet` *`name-string`*	Specify the vNET of the VRF.
Specify the following route arguments:	
`network` *`ip-address`*	Specify an IP address.
`netmask` *`netmask`*	Specify the netmask.
`gateway-ip` *`ip-address`*	Specify the VRF gateway IP address.

Defaults None

Access Network Administrator

History Command introduced in Version 3.1.0

Usage Use this command to configure a static route for a VRF configuration.

Examples To add the static route 172.21.16.25 with the netmask 255.255.255.0 for the VRF configuration, **blue**, use the following syntax:

```
CLI network-admin@switch > vrf-route-add vrf-name blue vnet red network
172.21.16.25 netmask 255.255.255.0 gateway-ip 192.168.13.7
```

vrf-route-remove

Virtual Routing and Forwarding (VRF) is a technology that virtualizes the hardware routing capabilities of a vRouter or a Layer 3 switch and offers per logical instance dedicated control and data planes. This command removes a static route from a VRF configuration.

Syntax `vrf-route-remove`

`vrf-name` *`name-string`*	Specify the name of the VRF configuration.
`vnet vnet` *`name-string`*	Specify the vNET of the VRF.
Specify the following route arguments:	
`network` *`ip-address`*	Specify an IP address.
`netmask` *`netmask`*	Specify the netmask.
`gateway-ip` *`ip-address`*	Specify the VRF gateway IP address.

Defaults None

Access Network Administrator

History Command introduced in Version 3.1.0

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Usage Use this command to remove a static route from a VRF configuration.

Examples To remove the static route 172.21.16.25 with the netmask 255.255.255.0 for the VRF configuration, **blue**, use the following syntax:

```
CLI network-admin@switch > vrf-route-remove vrf-name blue vnet red
network 172.21.16.25 netmask 255.255.255.0 gateway-ip 192.168.13.7
```

vrf-route-show

Virtual Routing and Forwarding (VRF) is a technology that virtualizes the hardware routing capabilities of a vRouter or a Layer 3 switch and offers per logical instance dedicated control and data planes. This command displays a static route on a VRF configuration.

Syntax `vrf-route-show`

`vrf-name` *`name-string`*	Displays the name of the VRF configuration.
`vrf-vnet vnet` *`name-string`*	Displays the vNET of the VRF.
`scope local|cluster|fabric`	Displays the scope of the VRF.
`network` *`ip-address`*	Displays the IP address.
`netmask` *`netmask`*	Displays the netmask.
`gateway-ip` *`ip-address`*	Displays the VRF gateway IP address.
`active in-rib|not-in-rib`	Displays the status of the static route.

Defaults None

Access Network Administrator

History Command introduced in Version 3.1.0

Usage Use this command to display a static route for a VRF configuration.

Examples To display the static route for the VRF configuration, blue, use the following syntax:

```
CLI network-admin@switch > vrf-show vrf-name vrf-vnet red
```

vrouter-bfd-neighbor-show

Bidirectional Forwarding Detection (BFD) provides fast BFD peer failure detection times independently of all media types, encapsulations, topologies, and routing protocols BGP, EIGRP, IS-IS, and OSPF. By sending rapid failure detection notices to the routing protocols in the local router to initiate the routing table recalculation process, BFD contributes to greatly reduced overall network convergence time.

Syntax `vrouter-bfd-neighbor-show`

`vrouter-name` *`name-string`*	Specifies a name for the vRouter service.
Specify the following BFD arguments:	
`out-addr` *`ip-address`*	Specifies the outgoing IP address.
`neighbor` *`ip-address`*	Specifies a neighbor IP address.

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`local-discr` *`local-discr-number`*	Specifies the local discriminator.
`remote-discr` *`remote-discr-number`*	Specifies the remote discriminator.
`holdown holdown-number(ms)`	Specifies the detection time if the BFD session is established.
`multiplier` *`multiplier-number`*	Specifies a detection time multiplier.
`state unknown|admin-down|down|init|upno-session|not-replicator-vtep`	Specifies the state of the BFD session.
`interface` *`interface-string`*	Specifies the interface of the connection.
`flap-count` *`flap-count-number`*	Specifies the flap count on the router.
`remote-router` *`remote-router-string`*	Specifies the remote router name derived from the IP address.
`tx-int` *`tx-int-number`*	Specifies the minimum transmit interval in milliseconds.
`rx-int` *`rx-int-number`*	Specifies the minimum receive interval in milliseconds.

Defaults None.

Access CLI

History

Version 2.2.6	Command introduced.
Version 2.4.1	The parameters, `flap-count` and `remote-router`, added.

Usage Displays information about Bidirectional Forwarding Direction neighbors.

Examples To display information about BFD, use the following command:

```
CLI network-admin@switch > vrouter-bfd-neighbor-show
```

vrouter-bgp-add

This command adds Border Gateway Protocol (BGP) to a virtual router (vRouter) service on a fabric, cluster, or standalone switch.

Syntax `vrouter-bgp-add`

`vrouter-name` *`name-string`*	Specify a name for the vRouter service.
Specify the following BGP arguments:	
`neighbor` *`ip-address`*	Specify a neighbor IP address to use for BGP filtering.
`l3-port` *`l3port-usable-port name`*	Specify the L3 port name for the BGP session.
`remote-as` *`remote-as-number`*	Specify the remote Autonomous System (AS) number. This is a value between 1 and 4294967295.
Specify any of the following BGP options:	

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next-hop-self| no-next-hop-self	Specify if the next-hop is the same router or not.
password *password-string*	Specify a password, if desired.
ebgp-multihop *number*	Specify a value for external BGP to accept or attempt BGP connections to external peers, not directly connected, on the network. This is a value between 1 and 255.
update-source vrouter *loopback-interface ip*	Specify the source IP address of BGP packets sent by the router. This parameter is required if you want BGP to perform peering over a loopback interface.
prefix-list-in vrouter *prefix-list name*	Specify the prefix list to filter traffic inbound.
prefix-list-out vrouter *prefix-list name*	Specify the prefix list to filter traffic outbound.
route-reflector-client| no-route-reflector-client	Specify if a route reflector client is used.
override-capability| no-override-capability	Specify if you want to override capability.
soft-reconfig-inbound| no-soft-reconfig-inbound	Specify if you want a soft reconfiguration of inbound routes.
max-prefix *max-prefix-number*	Specify the maximum number of prefixes.
max-prefix-warn-only| no-max-prefix-warn-only	Specify if you want a warning message when the maximum number of prefixes is exceeded.
bfd|no-bfd	Specify if you want BFD protocol support for fault detection.
bfd-multihop|no-bfd-multihop	Specify if you want to always use BFD multihop port for fault detection.
multi-protocol ipv4-unicast|ipv6-unicast|	Specify a multi-protocol for BGP.
weight none|*weight*	Specify a default weight value between 0 and 65535 for the neighbor routes.
default-originate| no-default-originate	Specify if you want to announce default routes to the neighbor or not.
neighbor-keepalive-interval *seconds*	Specify the BGP keepalive interval in seconds. This is a value between 0 and 65535 seconds.
neighbor-holdtime *seconds*	Specify the BGP neighbor hold time in seconds. This is a value between 0 and 65535 seconds.
connect-retry-interval *seconds*	Specify the interval between retrying a connection. The interval can be from 0 to 65535 seconds.
route-map-in vrouter *route-map name*	Specify the name of the route map for incoming routes.
route-map-out vrouter *route-map name*	Specify the name of the route map for outgoing routes.

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`allowas-in|no-allowas-in`	Specify if you want to reject routes with local AS in AS_PATH. Normally, when you do not set this option, nodes reject routes containing their own AS which helps prevent routing loops. However, in some cases nodes that belong to the same AS have no direct connectivity; for example when you form clusters and choose not to use the cluster link for iBGP communication. In this case the only way to direct routes through connected eBGP neighbors is to set this option so that routes are not rejected from the cluster peer.
`interface` *`vrouter interface nic`*	Specify the interface to reach the neighbor.
`advertisement-interval` *`seconds`*	Specify the minimal time between sending out BGP routing updates. This is a value between 0 and 600 seconds. The default value is zero (0) seconds.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.2	Parameters `next-hop-self` and `password` added.
Version 2.2.2	The parameters, `ebgp-multihop`, and `update-source vrouter`, added.
Version 2.2.3	The parameters, `prefix-list-in`, and `prefix-list-out` added. The parameters, `override-capability`, `soft-reconfig-inbound`, `max-prefix`, and `max-prefix-warn` added.
Version 2.2.6	The parameter, `bfd|no-bfd`, added.
Version 2.3.1	The parameter, `multi-protocol`, added.
Version 2.4	The parameters, `weight` and `default-originate` added. The parameters, `neighbor-keepalive-interval`, `neighbor-holdtime`, `route-map-in vrouter`, and `route-map-out vrouter`, added. The options, `ipv4-multicast|ipv6-multicast| vpnv4-unicast`, are deprecated for `multi-protocol`.
Version 2.4.1	The options, `ipv4-multicast|ipv6-multicast| vpnv4-unicast`, are deprecated for `multi-protocol`.
Version 2.5.2	The parameter, `allowas-in|no-allowas-in`, added.
Version 2.6.2	The parameters, `bfd-multihop` and `interface`, added.
Version 3.0.2	The parameter, `connection-retry-interval` added.

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Version 3.1.0	The parameter, `advertisement-interval`, added.
Version 5.1.3	The parameter, `l3-port`, added.

Usage Each fabric, cluster, standalone switch, or virtual network (VNET) can provide tenants with a vRouter service that forwards traffic between networks and implements Layer 4 protocols. Use this command to add BGP to the vRouter service.

Examples To add BGP to the vRouter service, BGP-vService, the neighbor IP address of 209.75.183.3, remote AS 45, and network address of 172.26.21.7/32, use the following command:

```
CLI network-admin@switch > vrouter-bgp-add vrouter-name BGP-vService
neighbor 209.75.183.3 remote-as 45 network 172.26.21.7/32
```

vrouter-bgp-modify

This command modifies Border Gateway Protocol (BGP) to a virtual router (vRouter) service on a fabric, cluster, or standalone switch.

Syntax `vrouter-bgp-modify`

`vrouter-name` *`name-string`*	Specify a name for the vRouter service.
Specify the following BGP arguments:	
`neighbor` *`ip-address`*	Specify a neighbor IP address to use for BGP filtering.
`l3-port` *`l3port-usable-port name`*	Specify the L3 port name for the BGP session.
`remote-as` *`remote-as-number`*	Specify the remote Autonomous System (AS) number. This is a value between 1 and 4294967295.
Specify any of the following BGP options:	
`next-hop-self| no-next-hop-self`	Specify if the next-hop is the same router or not.
`password` *`password-string`*	Specify a password, if desired.
`ebgp-multihop` *`number`*	Specify a value for external BGP to accept or attempt BGP connections to external peers, not directly connected, on the network. This is a value between 1 and 255.
`update-source vrouter` *`loopback-interface ip`*	Specify the source IP address of BGP packets sent by the router. This parameter is required if you want BGP to perform peering over a loopback interface.
`prefix-list-in vrouter` *`prefix-list name`*	Specify the prefix list to filter traffic inbound.
`prefix-list-out vrouter` *`prefix-list name`*	Specify the prefix list to filter traffic outbound.
`route-reflector-client| no-route-reflector-client`	Specify if a route reflector client is used.
`override-capability| no-override-capability`	Specify if you want to override capability.

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`soft-reconfig-inbound|no-soft-reconfig-inbound`	Specify if you want a soft reconfiguration of inbound routes.
`max-prefix` *`max-prefix-number`*	Specify the maximum number of prefixes.
`max-prefix-warn-only|no-max-prefix-warn-only`	Specify if you want a warning message when the maximum number of prefixes is exceeded.
`bfd|no-bfd`	Specify if you want BFD protocol support for fault detection.
`bfd-multihop|no-bfd-multihop`	Specify if you want to always use BFD multihop port for fault detection.
`multi-protocol ipv4-unicast|ipv6-unicast|`	Specify a multi-protocol for BGP.
`weight none`	Specify a default weight value between 0 and 65535 for the neighbor routes.
`default-originate|no-default-originate`	Specify if you want to announce default routes to the neighbor or not.
`neighbor-keepalive-interval` *`seconds`*	Specify the BGP keepalive interval in seconds. This is a value between 0 and 65535 seconds.
`neighbor-holdtime` *`seconds`*	Specify the BGP neighbor hold time in seconds. This is a value between 0 and 65535 seconds.
`connect-retry-interval` *`seconds`*	Specify the interval between retrying a connection. The interval can be from 0 to 65535 seconds.
`route-map-in vrouter` *`route-map name`*	Specify the name of the route map for incoming routes.
`route-map-out vrouter` *`route-map name`*	Specify the name of the route map for outgoing routes.
`interface` *`vrouter interface nic`*	Specify the interface to reach the neighbor.
`no-route-map-in`	Specify if you want to remove an ingress route-map from a BGP neighbor
`no-route-map-out`	Specify if you want to remove an egress route-map from a BGP neighbor
`advertisement-interval` *`seconds`*	Specify the minimal time between sending out BGP routing updates. This is a value between 0 and 600 seconds. The default value is zero (0) seconds

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.2	Parameters `next-hop-self` and `password` added.
Version 2.2.2	The parameters, `ebgp-multihop`, and `update-`

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	source vrouter, added.
Version 2.2.3	The parameters, prefix-list-in, and prefix-list-out added. The parameters, override-capability, soft-reconfig-inbound, max-prefix, and max-prefix-warn added.
Version 2.2.6	The parameter, bfd|no-bfd, added.
Version 2.3.1	The parameter, multi-protocol, added.
Version 2.4	The parameters, weight and default-originate added. The parameters, neighbor-keepalive-interval, neighbor-holdtime, route-map-in vrouter, and route-map-out vrouter, added. The options, ipv4-multicast|ipv6-multicast| vpnv4-unicast, are deprecated for multi-protocol.
Version 2.4.1	The options, ipv4-multicast|ipv6-multicast| vpnv4-unicast, are deprecated for multi-protocol.
Version 2.6.2	The parameters, bfd-multihop and interface, added.
Version 3.0.2	The parameter, connection-retry-interval added.
Version 3.1.0	The parameters, advertisement-interval, no-route-map-in and no-route-map-out, added.
Version 5.1.3	The parameter, l3-port, added

Usage Each fabric, cluster, standalone switch, or virtual network (VNET) can provide its tenants with a vRouter service that forwards traffic between networks and implements Layer 4 protocols. Use this command to modify BGP configurations on the vRouter service.

Examples To modify BGP to the vRouter service, BGP-vService, the neighbor IP address of 209.75.183.3, remote AS 45, and network address of 172.26.21.7/32, password, st@rsh1p, use the following command:

```
CLI network-admin@switch > vrouter-bgp-modify vrouter-name BGP-vService
neighbor 209.75.183.3 remote-as 45 password
password:********
```

vrouter-bgp-remove

This command removes Border Gateway Protocol (BGP) from a virtual router (vRouter) service on a fabric, cluster, or standalone switch.

Syntax `vrouter-bgp-remove vrouter-name name-string ip ip-address`

vrouter-name *name-string*	Specify the name of the vRouter service.
Specify the following BGP arguments:	
ip *ip-address*	Specify the IP address of the route to remove from

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	the vRouter. This is either the neighbor IP address or network IP address.
`l3-port` *`l3port-usable-port-name`*	Specify the Layer 3 port to remove from the vrouter.

Defaults None.

Access CLI

History Command introduced in nvOS Version 1.2.1.

Version 1.2.1	Command introduced.
Version 5.1.3	Parameter `l3-port` added.

Usage Each fabric, cluster, standalone switch, or virtual network (VNET) can provide its tenants with a vRouter service that forwards traffic between networks and implements Layer 4 protocols. Use this command to remove BGP to the vRouter service.

Examples To remove the neighbor BGP route from the vRouter service, BGP-vService, use the following command:

```
CLI network-admin@switch > vrouter-bgp-remove vrouter-name BGP-vService
name 209.75.183.3
```

vrouter-bgp-show

This command displays Border Gateway Protocol (BGP) information for a virtual router (vRouter) service on a fabric, cluster, or standalone switch.

Syntax `vrouter-bgp-show`

`vrouter-name` *`name-string`*	Specifies a name for the vRouter service.
Displays the following BGP arguments:	
`neighbor` *`ip-address`*	Specifies a neighbor IP address to use for BGP filtering.
`l3-port` *`l3port-usable-port-name`*	Specify the name of the Layer 3 port.
`remote-as` *`remote-as-number`*	Specifies the remote Autonomous System (AS) number.
`next-hop-self|` `no-next-hop-self`	Specifies if the next-hop is the same router or not.
`password` *`password-string`*	Specifies a password, if desired.
`ebgp-multihop` *`number`*	Specifies a value for external BGP to accept or attempt BGP connections to external peers, not directly connected, on the network. This is a value between 1 and 255.
`update-source vrouter` *`loopback-interface ip`*	Specifies the source IP address of BGP packets sent by the router. This parameter is required if you want BGP to perform peering over a loopback interface.
`prefix-list-in vrouter` *`prefix-list name`*	Specifies the prefix list to filter traffic inbound.

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prefix-list-out vrouter *prefix-list name*	Specifies the prefix list to filter traffic outbound.
route-reflector-client| no-route-reflector-client	Specifies if a route reflector client is used.
override-capability| no-override-capability	Specifies if you want to override capability.
soft-reconfig-inbound| no-soft-reconfig-inbound	Specifies if you want a soft reconfiguration of inbound routes.
max-prefix *max-prefix-number*	Specifies the maximum number of prefixes.
max-prefix-warn-only| no-max-prefix-warn-only	Specifies if you want a warning message when the maximum number of prefixes is exceeded.
bfd|no-bfd	Specifies if BFD is enabled.
bfd-multihop|no-bfd-multihop	Specify if you want to always use BFD multihop port for fault detection.
multi-protocol ipv4-unicast|ipv6-unicast	Specify a multi-protocol for BGP.
weight none	Specify a default weight value between 0 and 65535 for the neighbor routes.
default-originate| no-default-originate	Specify if you want to announce default routes to the neighbor or not.
neighbor-keepalive-interval seconds	Specify the BGP keepalive interval in seconds. This is a value between 0 and 65535 seconds.
neighbor-holdtime *seconds*	Specify the BGP neighbor hold time in seconds. This is a value between 0 and 65535 seconds.
connect-retry-interval *seconds*	Specify the interval between retrying a connection. The interval can be from 0 to 65535 seconds.
route-map-in vrouter *route-map name*	Specify the name of the route map for incoming routes.
route-map-out vrouter *route-map name*	Specify the name of the route map for outgoing routes.
allowas-in|no-allowas-in	Specify if you want to reject routes with local AS in AS_PATH. Normally, when you do not set this option, nodes reject routes containing their own AS which helps prevent routing loops. However, in some cases nodes that belong to the same AS have no direct connectivity; for example when you form clusters and choose not to use the cluster link for iBGP communication. In this case the only way to direct routes through connected eBGP neighbors is to set this option so that routes are not rejected from the cluster peer.
interface *vrouter interface nic*	Specify the interface to reach the neighbor.

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Defaults None.

Access CLI

History .

Version 1.2	Command introduced.
Version 2.2	Parameters `next-hop-self` and `password` added.
Version 2.2.2	The parameters, `ebgp-multihop`, and `update-source vrouter`, added.
Version 2.2.3	The parameters, `prefix-list-in` and `prefix-list-out` added. The parameters, `override-capability`, `soft-reconfig-inbound`, `max-prefix`, and `max-prefix-warn` added.
Version 2.2.6	The parameters, `bfd|no-bfd`, added.
Version 2.3.1	The parameter, `multi-protocol`, added.
Version 2.4	The parameters, `weight` and `default-originate` added. The parameters, `neighbor-keepalive-interval`, `neighbor-holdtime`, `route-map-in vrouter`, and `route-map-out vrouter`, added.
Version 2.4.1	The options, `ipv4-multicast|ipv6-multicast|vpnv4-unicast`, are deprecated for `multi-protocol`.
Version 2.5.2	The parameter, `allowas-in|no-allowas-in`, added.
Version 2.6.2	The parameters, `bfd-multihop` and `interface`, added.
Version 3.0.2	The parameter, `connection-retry-interval` added.
Version 3.1.0	The parameter, `advertisement-interval`, added.
Version 5.1.2	The parameter, `l3-port`, added.

Usage Each fabric, cluster, standalone switch, or virtual network (VNET) can provide its tenants with a vRouter service that forwards traffic between networks and implements Layer 4 protocols. Use this command to display information about BGP on the vRouter service.

Examples To display all BGP vRouter service information, use the following command:

```
CLI network-admin@switch > vrouter-bgp-show layout vertical
```

vrouter-bgp-neighbor-reset

This command is used to reset a BGP neighbor in the configuration.

Syntax `vrouter-bgp-neighbor-reset`

`vrouter-name` *`name-string`*	Specify the name of the vRouter to reset.

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neighbor *ip-address*	Specify the IP address of the BGP neighbor.
l3-port	Specify the Layer 3 port.

Defaults None

Access CLI

History Command introduced in Version 2.2.3.

Version 2.2.2	Command introduced.
Version 5.2.0	The parameter, `l3-port`, added.

Usage Use this command to reset a BGP neighbor on the network.

Examples To reset the BGP neighbor with the IP address, 10.9.31.234, use the following syntax:

```
CLI network-admin@switch > vrouter-bgp-neighbor-reset  neighbor
10.9.31.234
```

vrouter-bgp-neighbor-show

This command displays information about Border Gateway Protocol (BGP) neighbors.

Syntax `vrouter-bgp-neighbor-show`

vrouter-name *name-string*	Specifies the name of the vRouter.
Specifies the following BGP neighbor arguments:	
neighbor *ip-address*	Specifies the IP address of the neighbor.
l3-port l3-port-number	Specifies the Layer 3 port used for BGP.
ver *ver-number*	Specifies the BGP version.
remote-as *remote-as-number*	Specifies the AS number of the remote connection.
msg_rcvd *msg_rcvd-number*	Specifies the number of messages received from the receive socket buffer.
msg_sent *msg_sent-number*	Specifies the number of messages written to the transmit socket buffer.
tblver *tblver-number*	Specifies the version of the routing table.
inQ *inQ-number*	Specifies the number of BGP packets queued for a neighbor.
outQ *outQnumber*	Specifies the number of BGP packets queued for transmission to a neighbor.
up/down *up/down-string*	Specifies if the neighbor is up or down.
state/pfxrcd *state/pfxrcd-string*	Specifies the current state of the BGP session. The state can be any of the following types: • 1 — Idle • 2 — Connect • 3 — Active • 4 — OpenSent

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	• 5 — OpenConfirm • 6 — Established
`remote-router` *`remote-router-string`*	Specifies the neighbor router name.
`multi-protocol ipv4-unicast|ipv6-unicast|`	Specify a multi-protocol for BGP.

Defaults None

Access CLI

History

Version 2.0	Command introduced.
Version 2.4.1	The parameter, `remote-router`, added.
Version 5.1.3	The parameter, `l3-port`, added.

Usage Use this command to display information about BGP neighbors configured on a vRouter.

Examples To display all information about BGP neighbors, use the following command:

```
CLI network-admin@switch > vrouter-bgp-neighbor-show
vrouter-name: vrouter33
neighbor:     10.9.100.200
ver:          4
remote-as:    100
msg_rcvd:     324
msg_sent:     330
tblver:       0
inQ:          0
outQ:         0
up/down:      00:31:25
state/pfxrcd: 1
vrouter-name: vrouter55
neighbor:     10.9.100.100
ver:          4
remote-as:    100
msg_rcvd:     325
msg_sent:     330
tblver:       0
inQ:          0
outQ:         0
up/down:      00:31:26
state/pfxrcd: 1
```

vrouter-bgp-neighbor-detail-show

This command displays detailed information about Border Gateway Protocol (BGP) neighbors.

Syntax `vrouter-bgp-neighbor-detail-show`

`vrouter-name` *`name-string`*	Specifies the name of the vRouter.
Specifies the following BGP neighbor arguments:	

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neighbor vrouter *bgp-neighbor neighbor*	Specifies the IP address of the neighbor.
l3-port *l3-port-number*	Specifies the Layer 3 port number.
remote-as *remote-as-number*	Specifies the AS number of the remote connection.
local-as local-as-number	Specifies the number local AS .
remote-id ip-address	Specifies the neighbor router ID.
state idle|connect|active|open-sent| open-confirm|established|clearing	Specifies the current state of the BGP session. The state can be any of the following types: • 1 — Idle • 2 — Connect • 3 — Active • 4 — OpenSent • 5 — OpenConfirm • 6 — Established
up-for up-for-string	Specifies the time of an active connection.
last-read *last-read-string*	Specifies the time of the last message received.
holdtime *holdtime-number (s)*	Specifies the holdtime in seconds.
keepalive *keepalive-number (s)*	Specifies the keepalive interval in seconds.
min-adv *min-adv-number (s)*	Specifies the minimum advertisement level in seconds.
open-sent *open-sent-number*	Specifies the number of open messages sent.
open-rcvd *open-rcvd-number*	Specifies the number of open messages received.
notif-sent *notif-sent-number*	Specifies the number of notification messages sent.
notif-rcvd *notif-rcvd-number*	Specifies the number of notification messages received.
update-sent *update-sent-number*	Specifies the number of update messages sent.
update-rcvd *update-rcvd-number*	Specifies the number of update messages received.
keepalive-sent *keepalive-sent-number*	Specifies the number of keepalive messages sent.
keepalive-rcvd *keepalive-rcvd-number*	Specifies the number of keepalive messages received.
comm-attr-send-ipv4 both|standard| extended	Specifies the type of community attribute send to this neighbor for IPv4.
prefix-accepted-ipv4 *prefix-accepted-ipv4-number*	Specifies the number of prefixes accepted for IPv4 unicast.
comm-attr-send-ipv6 both|standard| extended	Specifies the type of community attribute send to this neighbor for IPv6 unicast.
prefix-accepted-ipv6 *prefix-accepted-ipv6-number*	Specifies number of prefixes accepted for IPv6 unicast.
conn-established *conn-established-*	Specifies the number of times a session has been successfully established.

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number	
conn-dropped *conn-dropped-number*	Specifies the number of times a session has failed or taken down.
last-reset *last-reset-string*	Specifies the time since the session was last reset.
start-due *start-due-number (s)*	Specifies the next start timer due in seconds.
connect-due *connect-due-number (s)*	Specifies the next connect timer due in seconds.

Defaults None

Access CLI

History Command introduced in Version 3.0.0.

Version 3.0.0	Command introduced.
Version 5.1.3	The parameter, `l3-port`, added.

Usage Use this command to display detailed information about BGP neighbors configured on a vRouter.

Examples To display all information about BGP neighbors, use the following command:

```
CLI network-admin@switch > vrouter-bgp-neighbor-show
```

vrouter-bgp-neighbor-shutdown

This command is used to send BGP an admin-down notification message to a BGP peer.

Syntax `vrouter-bgp-neighbor-shutdown vrouter-name name-string neighbor ip-address`

vrouter-name name-string	Specify the name of the vRouter to reset.
neighbor *ip-address*	Specify the IP address of the BGP neighbor.
l3-port *l3-port-number*	Specify the Layer 3 port.

Defaults None

Access CLI

History

Version 2.6.2	Command introduced.
Version 5.2.0	The parameter, `l3-port`, added.

Usage Use this command to end BGP admin-down notification message to a BGP peer.

Examples To end BGP admin-down notification message to a BGP peer with the IP address, 10.9.31.234, use the following syntax:

```
CLI network-admin@switch > vrouter-bgp-neighbor-shutdown vrouter bgp-2
neighbor 10.9.31.234
```

vrouter-bgp-neighbor-no-shutdown

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This command is used to send BGP an admin-down notification message to a BGP peer.

Syntax `vrouter-bgp-neighbor-shutdown vrouter-name name-string neighbor ip-address`

`vrouter-name name-string`	Specify the name of the vRouter to reset.
`neighbor ip-address`	Specify the IP address of the BGP neighbor.

Defaults None

Access CLI

History

Version 2.6.2	Command introduced.
Version 5.2.0	The parameter, `l3-port`, added.

Usage Use this command to send BGP admin-down notification message to a BGP peer.

Examples To send BGP admin-down notification message to a BGP peer with the IP address, 10.9.31.234, use the following syntax:

```
CLI network-admin@switch > vrouter-bgp-neighborno--shutdown  vrouter
bgp-2 neighbor 10.9.31.234
```

vrouter-bgp-network-add

This command adds a BGP network to a vRouter service.

Syntax `vrouter-bgp-network-add vrouter-name name-string network ip-address netmask netmask`

`vrouter-name name-string`	Specify the name of the vRouter to add the BGP network.
`network ip-address`	Specify the IP address to add to the vRouter.
`netmask netmask`	Specify the netmask for the IP address.

Defaults None

Access CLI

History Command introduced in Version 2.4.

Usage Use this command to add a BGP network to a vRouter service.

Examples To add the IP address 172.16.21.35/32 to vRouter, BGP-net, use the following syntax:

```
CLI network-admin@switch > vrouter-bgp-network-add  vrouter-name  BGP-net
network 172.16.21.35 netmask 32
```

vrouter-bgp-network-remove

This command remove a BGP network for a vRouter service.

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Syntax `vrouter-bgp-network-remove vrouter-name name-string network ip-address netmask netmask`

`vrouter-name` *`name-string`*	Specify the name of the vRouter to add the BGP network.
`network` *`ip-address`*	Specify the IP address to add to the vRouter.
`netmask` *`netmask`*	Specify the netmask for the IP address.

Defaults None

Access CLI

History Command introduced in Version 2.4.

Usage Use this command to remove a BGP network for a vRouter service.

Examples To remove the vRouter, BGP-net, use the following syntax:

```
CLI network-admin@switch > vrouter-bgp-network-remove vrouter-name BGP-net
```

vrouter-bgp-network-show

This command displays a BGP network for a vRouter service.

Syntax `vrouter-bgp-network-add vrouter-name` *`name-string`* `network` *`ip-address`* `netmask` *`netmask`*

`vrouter-name` *`name-string`*	Specify the name of the vRouter to add the BGP network.
`network` *`ip-address`*	Specify the IP address to add to the vRouter.
`netmask` *`netmask`*	Specify the netmask for the IP address.

Defaults None

Access CLI

History Command introduced in Version 2.4.

Usage Use this command to display a BGP network for a vRouter service.

Examples To display the vRouter, BGP-net, use the following syntax:

```
CLI network-admin@switch > vrouter-bgp-network-show vrouter-name BGP-net
```

vrouter-cached-routes-show

This command is used to display the cached routes for a vRouter.

Syntax `vrouter-cached-routes-show`

`vrid` *`vrid-number`*	Specifies the vRouter ID.

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ip *ip-address*	Specifies the IP address.
prelen *prelen-number*	Specifies the prefix length.
vnet *vnet-name*	Specifies the VNET of the router.
vlan *vlan-number*	Specifies the VLAN number.
vxlan *vxlan-number*	Specifies the VXLAN number.
nexthop *ip-address*	Specifies the IP address for the next hop on the route.
age-in-seconds *age-in-seconds-number*	Specifies the age of the cached route.
index *index-number*	Specifies the interface index number in the zone or container.

Defaults None

Access CLI

History

Version 2.1	Command introduced.
Version 2.2.3	The parameter, `ecmp-group`, deprecated.
Version 2.2.5	The parameter, `age-in-seconds`, added.
Version 2.4.1	The parameter, `vnet`, added.
Version 2.6.2	The parameter, `index`, added.

Usage Use this command to display cached routes which can be helpful when troubleshooting a connection.

Examples To display cached routes, use the following command:

```
CLI network-admin@switch > vrouter-cached-routes-show
```

vrouter-community-list-add

A community is a group of prefixes that share some common property and can be configured with the BGP community attribute. The BGP Community attribute is an optional transitive attribute of variable length. The attribute consists of a set of four octet values that specify a community.

This command is used to add BGR community lists.

Syntax `vrouter-community-list-add`

vrouter-name *name-string*	Specify a vRouter to add the community list.
Add the following community list parameters:	
style standard|expanded	Specify the style of the community list.
name *name-string*	Specify a name for the community list.
action permit|deny	Specify the action for the community list.
community-attribute *community-*	Specify the community attribute.

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attribute-string

Defaults None

Access Network Administrator

History Command introduced in Version 3.0.0.

Usage Use this command to add BGP community lists.

Examples To add a community list, use the following syntax:

```
CLI network-admin@switch > vrouter-community-list-add vrouter VR1 style
standard BGP-Comm permit
```

vrouter-community-list-remove

A community is a group of prefixes that share some common property and can be configured with the BGP community attribute. The BGP Community attribute is an optional transitive attribute of variable length. The attribute consists of a set of four octet values that specify a community.

This command is used to remove BGR community lists.

Syntax `vrouter-community-list-remove`

`vrouter-name` *name-string*	Specify a vRouter to add the community list.
Add the following community list parameters:	
`style standard|expanded`	Specify the style of the community list.
`name` *name-string*	Specify a name for the community list.
`action permit|deny`	Specify the action for the community list.
`community-attribute` *community-attribute-string*	Specify the community attribute.

Defaults None

Access Network Administrator

History Command introduced in Version 3.0.0.

Usage Use this command to remove BGP community lists.

Examples To add a community list, use the following syntax:

```
CLI network-admin@switch > vrouter-community-list-remove vrouter VR1
style standard BGP-Comm permit
```

vrouter-community-list-show

A community is a group of prefixes that share some common property and can be configured with the BGP community attribute. The BGP Community attribute is an optional transitive attribute of variable length. The attribute consists of a set of four octet values that specify a community.

This command is used to display BGR community lists.

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Syntax `vrouter-community-list-show`

`vrouter-name` *`name-string`*	Specify a vRouter to add the community list.
Add the following community list parameters:	
`style standard|expanded`	Specify the style of the community list.
`name` *`name-string`*	Specify a name for the community list.
`action permit|deny`	Specify the action for the community list.
`community-attribute` *`community-attribute-string`*	Specify the community attribute.

Defaults None

Access Network Administrator

History Command introduced in Version 3.0.0.

Usage Use this command to display BGP community lists.

Examples To add a community list, use the following syntax:

```
CLI network-admin@switch > vrouter-community-list-show
```

vrouter-create

This command creates a new virtual router (vRouter) service for a fabric, cluster, or standalone switch.

Syntax `vrouter-create`

`name` *`name-string`*	Specify the name of the vRouter.
`vnet` *`vnet-name`*	Specify the name of the VNET.
`router-type hardware|software`	Specify if the vrouter uses hardware or software. Note that if you specify hardware as the router type, you cannot assign IP addresses using DHCP. You must specify a static IP address.
Any of the following options:	
`shared-vnet-mgr` *`vnet-manager name`*	Specifies the VNET manager to share with if this is a shared service
`disable|enable`	Specify to enable or disable the vRouter service.
`location` *`fabric-node name`*	Specify the location of the service.
`storage-pool` *`storage-pool-name`*	Specify the storage pool.
`router-ipstack quagga|frr`	Specify the vRouter IP stack.
`cluster-active-active-routing|no-cluster-active-active-routing`	Specify active-active routing with or without VRRP.
`hw-vrrp-id` *`hw-vrrp-id-number`*	Specifies the VRRP ID for a hardware router.

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bgp-as *bgp-as-number*	Specify the Autonomous System Number (ASN) if the vRouter runs Border Gateway Protocol (BGP).
router-id *ip-address*	Specify the vRouter IP address
proto-multi none|pim-ssm	Specify the optional multicast protocol for the vRouter service. Select none, Vector Multicast Routing Protocol (VMRP), or Protocol Independent Multicast-source specific mode (PIM-SIM).
bgp-redistribute static|connected|rip|ospf	Specify how BGP routes are redistributed.
bgp-redist-static-metric none	Specify a static metric for BGP route redistribution. This is a number between 0 and 4294967295 or specify none to unset.
bgp-redist-connected-metric none	Specify a connected metric for BGP route redistribution. This is a number between 0 and 4294967295 or specify none to unset.
bgp-redist-rip-metric none	Specify a RIP metric for BGP route redistribution. This is a number between 0 and 4294967295 or specify none to unset.
bgp-redist-ospf-metric none	Specify a OSPF metric for BGP route redistribution. This is a number between 0 and 4294967295 or specify none to unset.
bgp-cluster-id *ip-address*	Specify an IP address for a BGP cluster.
bgp-max-paths *bgp-max-paths-number*	Specify the maximum number of paths for BGP. This is a number between 1 and 255 or 0 to unset.
bgp-ibgp-multipath *bgp-ibgp-multipath-number*	Specify the number of multipaths for BGP. This is a number between 1 and 255 or 0 to unset.
bgp-bestpath-as-path none|ignore	Specify a parameter for a best path as path.
bgp-dampening|no-bgp-dampening	Specify a BGP damp
bgp-graceful-shutdown|no-bgp-graceful-shutdown	Specify a graceful shutdown for BGP routing (RFC8326).
bgp-stalepath-time *second*	Specify the length of time befor a BGP path becomes stale. This is a value between 0 and 3600 or 0 to unset.
bgp-scantime *seconds*	Specify a BGP scanner interval in seconds. The default interval is 60 seconds with a range of 5 to 60 seconds.
bgp-delayed-startup *seconds*	Specify a time in seconds to delay forming peer adjacency on bootup.
bgp-keepalive-interval *seconds*	Specify a BGP keepalive interval in seconds. The default is 60 seconds with a range of 0 to 65535 seconds.
bgp-holdtime *seconds*	Specify a BGP holdtime in seconds. The default is 180 seconds with a range of 0 to 65535 seconds.

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bgp-distance-external *integer*	Specify the BGP distance for routes external to the AS.
bgp-distance-internal *integer*	Specify the BGP distance for routes internal to the AS.
bgp-distance-local *integer*	Specify the BGP distance for routes local to the AS.
bgp-ipv4-unicast|no-bgp-ipv4-unicast	Specify a MP-BGP Control default IPv4 Unicast AFI/SAFI.
rip-redistribute static|connected|ospf|bgp	Specify how RIP routes are redistributed.
vrrp-track-port *port-list*	Specify a port to track a VRRP configuration.
ospf-redistribute static|connected|rip|bgp	Specify how OSPF routes are redistributed.
ospf-redist-static-metric-type 1|2	Specify a static metric type for OSPF route redistribution. This is a number between 0 and 16777214 or 'none' to unset.
ospf-redist-connected-metric none	Specify a connected metric for OSPF route redistribution.
ospf-redist-connected-metric-type 1|2	Specify a connected metric type for OSPF route redistribution.
ospf-stub-router-on-startup|no-ospf-stub-router-on-startup	Specify if you want advertise self as stub router temporary on startup.
ospf-stub-router-on-startup-period *integer*	Specify the time period to advertise self as stub router on startup. This s a value between 5 and 86400 seconds.
ospf-redist-rip-metric none	Specify a RIP metric type for OSPF route redistribution. This is a number between 0 and 16777214 or 'none' to unset.
ospf-redist-rip-metric-type 1|2	Specify a RIP metric type for OSPF route redistribution.
ospf-redist-bgp-metric none	Specify a BGP metric type for OSPF route redistribution. This is a number between 0 and 16777214 or 'none' to unset.
ospf-redist-bgp-metric-type 1|2	Specify a BGP metric type for OSPF route redistribution.
ospf6-redistribute static|connected|bgp4	Specify if you want to redistribute OSPF6 routes.
ospf-distance-external *integer*	Specify the OSPF distance for routes external to the AS.
ospf-distance-internal *integer*	Specify the OSPF distance for routes internal to the AS.
ospf-distance-local *integer*	Specify the OSPF distance for routes local to the AS.
ospf-stub-router-on-startup|	Specify if you want the OSPF router to act as a stub router at startup.

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no-ospf-stub-router-on-startup	
ospf-stub-router-on-startup-period *seconds*	Specify the time period for the OSPF stub router in seconds. You can configure from 5 to 86400 seconds.
ospf-bfd-all-if| no-ospf-bfd-all-if	Specify if you want to use BFD protocol for fault detection on all OSPF interfaces.
ospf-default-information none| originate|always	Specify if you want to control origination of default route.
ospf-default-info-originate-metric none	Specify the metric for OSPF origination of default route.
ospf-default-info-originate-metric-type 1|2	Specify the metric type for OSPF origination of default route.
ospf6-redist-static-metric none	Specify a metric for OSPF6 redistribute of static routes.
ospf6-redist-static-metric-type 1|2	Specify a metric type for OSPF6 redistribution of static routes.
ospf6-redist-connected-metric none	Specify a metric for OSPF6 redistribution of connected routes.
ospf6-redist-connected-metric-type 1|2	Specify a metric type for OSPF6 redistribution.
ospf-default-information none| originate|always	Specify how to control the origination of default route.
ospf-default-info-originate-metric none	Specify the metric for OSPF origination of default route.
ospf-default-info-originate-metric-type 1|2	Specify the metric type for OSPF origination of default route.
ospf-default-info-originate-route-map vrouter route-map *name*	Specify the route map for OSPF origination of default route.
vrrp-track-port *port-list*S	Specify the ports for VRRP tracking.
bgp-snmp|no-bgp-snmp	Enable or disable BGP SNMP MIB.
bgp-snmp-notification|no-bgp-snmp-notification	Enable or disable SNMP notifications for BGP MIBs.
ospf-snmp|no-ospf-snmp	Enable or disable OSPF SNMP MIB.
ospf-snmp-notification|no-ospf-snmp-notification	Enable or disable SNMP notifications for OSPF MIBs.
ospf6-snmp|no-ospf6-snmp	Enable or disable OSPFv3 SNMP MIB.
ospf6-snmp-notification|no-bgp-snmp-notification	Enable or disable SNMP notifications for OSPFv3 MIBs.
ip-snmp|no-ip-snmp	Enable or disable ipForward SNMP MIBs.
no-bgp-redist-static-route-map	Remove route map for BGP static redistribution.

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no-bgp-redist-connected-route-map	Remove route map for BGP connected redistribution.
no-bgp-redist-ospf-route-map	Remove route map for BGP OSPF redistribution.
bgp-graceful-shutdown|no-bgp-graceful-shutdown	Specify BGP graceful shutdown according to RFE 8326.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.0	Parameter router-type added.
Version 2.2	The parameter, hw-vrrp-id, added. The parameters, bgp-redistribute, rip-redistribute, and ospf-redistribute, added.
Version 2.2.3	The parameters bgp-redist and ospf-dist added. The parameter vrrp-track-port added. The parameters bgp-cluster, bgp-max-paths, bgp-multipath, bgp-best-path, bgp-dampening, bgp-graceful-restart, and bgp-stalepath-time added.
Version 2.3.1	The parameters, ospf6-, added.
Version 2.4	The parameters, ospf-stub-router-on-startup and vrrp-track-port added. The parameters bgp-scantime, bgp-keepalive-interval, and bgp-holdtime added.
Version 2.4.1	The parameter, bgp-distance-, and ospf-distance, added.
Version 2.5.4	The parameter, shared-vnet-mgr, added.
Version 2.6.0	SNMP MIBs for BGP, OSPF, OSPFv3, and ipForward added.
Version 3.0.0	The parameters, ospf-bfd-all-if, ospf-default-information, ospf-default-info-originate, and ospf-default-info-originate-metric-type added.
Version 3.1.0	The parameters for route maps added.
Version 5.1.1	The parameter bgp-graceful-shutdown|no-bgp-graceful-shutdown is added.
Version 5.1.1	The parameter bgp-graceful-restart|no-bgp-graceful-restart is removed.

Usage Each fabric, cluster, standalone switch, or virtual network (VNET) can provide its tenants with a virtual router (vRouter) service that forwards traffic between networks and implements Layer 3 protocols. This command creates a new vRouter service.

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Examples To create a vRouter, `MyvService`, for the VNET, `net-ops`, as a shared service, with the IP address of `208.74.182.1`, use the following command:

```
CLI network-admin@switch > vrouter-create name MyvService vnet net-ops
shared-vnet-services router-id 208.74.182.1
```

vrouter-delete

This command deletes a virtual router (vRouter) service for a fabric, cluster, or standalone switch.

Syntax `vrouter-delete`

`name` *`name-string`*	Specify the name of the vRouter service.

Defaults None.

Access CLI

History Command introduced in nvOS Version 1.2.1.

Usage Each fabric, cluster, standalone switch, or virtual network (VNET) can provide its tenants with a virtual router (vRouter) service that forwards traffic between networks and implements Layer 3 protocols. This command deletes a vRouter service.

Examples To delete the vRouter service, `MyvService`, use the following command:

```
CLI network-admin@switch > vrouter-delete name MyvService
```

vrouter-migrate

The command migrates a vRouter service.

Syntax `vrouter-migrate name name-string location fabric-node-name storage-pool storage-pool-name`

`name` *`name-string`*	Specify the name of the vRouter.
Between one or two of the following options:	
`location` *`fabric-node-name`*	Specify the location name.
`storage-pool` *`storage-pool-name`*	Specify the storage pool name.

Defaults None.

Access CLI.

History Command introduced in nvOS Version 1.2.1.

Usage Each fabric, cluster, standalone switch, or virtual network (VNET) can provide its tenants with a virtual router (vRouter) service that forwards traffic between networks and implements Layer 3 protocols. This command migrates a vRouter service.

Examples To migrate the vRouter service, `MyvService`, on fabric, `pn-fabric`, to the storage pool, `keep-all`, use the following command:

```
CLI network-admin@switch > vrouter-migrate name MyvService location pn-
fabric storage-pool keep-all
```

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vrouter-modify

This command modifies a virtual router (vRouter) services for a fabric, cluster, or standalone switch.

Syntax `vrouter-modify`

`name` *`name-string`*	Specify the name of the vRouter.
Any of the following options:	
`disable|enable`	Specify to enable or disable the vRouter service.
`gateway` *`ip-address`*	Specify the IP address of the gateway.
`storage-pool` *`storage-pool-name`*	Specify the storage pool.
`cluster-active-active-routing| no-cluster-active-active-routing`	Specify if you want active-active routing with or without VRRP.
`hw-vrrp-id` *`hw-vrrp-id-number`*	Specify the VRRP ID assigned to the hardware vRouter.
`bgp-as` *`bgp-as-number`*	Specify the Autonomous System Number (ASN) if the vRouter runs Border Gateway Protocol (BGP).
`router-id` *`ip-address`*	Specify the vRouter IP address
`proto-multi none|pim-ssm`	Specify the optional multicast protocol for the vRouter service. Select none or Protocol Independent Multicast-source specific mode (PIM-SSM).
`bgp-redistribute static|connected|rip| ospf`	Specify how BGP routes are redistributed.
`bgp-redist-static-metric none`	Specify a static metric for BGP route redistribution.
`bgp-redist-static-route-map vrouter route-map` *`name`*	Specify the route map for BGP redistribution of static routes.
`bgp-redist-connected-metric none`	Specify a connected metric for BGP route redistribution
`bgp-redist-connected-route-map vrouter route-map name`	Specify the route map for BGP redistribution of connected routes.
`bgp-redist-rip-metric none`	Specify a RIP metric for BGP route redistribution.
`bgp-redist-ospf-metric none`	Specify a OSPF metric for BGP route redistribution.
`bgp-redist-ospf-route-map vrouter route-map` *`name`*	Specify the route map for BGP redistribution of OSPF routes.
`bgp-cluster-id` *`ip-address`*	Specify an IP address for a BGP cluster.
`bgp-max-paths` *`bgp-max-paths-number`*	Specify the maximum number of paths for BGP.
`bgp-ibgp-multipath` *`bgp-ibgp-multipath-number`*	Specify the number of multipaths for BGP.
`bgp-bestpath-as-path none|ignore`	Specify a parameter for a best path as path.

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bgp-dampening|no-bgp-dampening	Specify a BGP damp
bgp-graceful-restart| no-bgp-graceful-restart	Specify a graceful restart for BGP routing.
bgp-stalepath-time *second*	Specify the length of time befor a BGP path becomes stale. This is a value between 0 and 3600.
bgp-scantime *seconds*	Specify a BGP scanner interval in seconds. The default interval is 60 seconds with a range of 5 to 60 seconds.
bgp-delayed-startup *seconds*	Specify if you want to delay forming peer adjacency when switch is starting. This is a value between 5 and 36000 seconds.
bgp-keepalive-interval *seconds*	Specify a BGP keepalive interval in seconds. The default is 60 seconds with a range of 0 to 65535 seconds.
bgp-holdtime *seconds*	Specify a BGP holdtime in seconds. The default is 180 seconds with a range of 0 to 65535 seconds.
bgp-distance-external *integer*	Specify the BGP distance for routes external to the AS.
bgp-distance-internal *integer*	Specify the BGP distance for routes internal to the AS.
bgp-distance-local *integer*	Specify the BGP distance for routes local to the AS.
rip-redistribute static|connected|ospf| bgp	Specify how RIP routes are redistributed.
ospf-redistribute static|connected|rip| bgp	Specify how OSPF routes are redistributed.
vrrp-track-port *port-list*	Specify a port to track a VRRP configuration.
ospf-redist-static-metric none	Specify a static route metric type for OSPF route redistribution.
ospf-redist-static-metric-type 1|2	Specify a static route metric type for OSPF route redistribution.
ospf-redist-static-route-map vrouter route-map *name*	Specify the route map for OSPF redistribution of static routes.
ospf-redist-connected-metric none	Specify a connected metric type for OSPF route redistribution.
ospf-redist-connected-metric-type 1|2	Specify a connected metric type for OSPF route redistribution.
ospf-redist-connected-route-map vrouter route-map *name*	Specify the route map for OSPF redistribution of connected routes.
ospf-redist-rip-metric none	Specify a RIP metric type for OSPF route redistribution.
ospf-redist-rip-metric-type 1|2	Specify a RIP metric type for OSPF route redistribution.

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ospf-redist-bgp-metric none	Specify a BGP metric type for OSPF route redistribution.
ospf-redist-bgp-metric-type 1|2	Specify a BGP metric type for OSPF route redistribution.
ospf-redist-bgp-route-map vrouter route-map *name*	Specify the route map for OSPF redistribution of BGP routes.
ospf6-redistribute static|connected| bgp4	Specify if you want to redistribute OSPF6 routes.
ospf6-redist-static-metric none	Specify a metric for OSPF6 redistribute of static routes.
ospf6-redist-static-metric-type 1|2	Specify a metric type for OSPF6 redistribution of static routes.
ospf-distance-external *integer*	Specify the OSPF distance for routes external to the AS.
ospf-distance-internal *integer*	Specify the OSPF distance for routes internal to the AS.
ospf-distance-local *integer*	Specify the OSPF distance for routes local to the AS.
ospf-stub-router-on-startup| no-ospf-stub-router-on-startup	Specify if you want advertise self as stub router temporary on startup.
ospf-stub-router-on-startup-period *integer*	Specify the time period to advertise self as stub router on startup. This s a value between 5 and 86400 seconds.
ospf-bfd-all-if| no-ospf-bfd-all-if	Specify if you want to use BFD protocol for fault detection on all OSPF interfaces.
ospf-default-information none| originate|always	Specify if you want to control origination of default route.
ospf-default-info-originate-metric none	Specify the metric for OSPF origination of default route.
ospf-default-info-originate-metric-type 1|2	Specify the metric type for OSPF origination of default route.
ospf6-redist-connected-metric none	Specify a metric for OSPF6 redistribution of connected routes.
ospf6-redist-connected-metric-type 1|2	Specify a metric type for OSPF6 redistribution.
ospf-bfd-all-if|no-ospf-bfd-all-if	Enables or disables BFD protocol for fault detection on all (global) OSPF interfaces. Default is disabled.
ospf-default-information none| originate|always	Specify how to control the origination of default route.
ospf-default-info-originate-metric none	Specify the metric for OSPF origination of default route.
ospf-default-info-originate-metric-type 1|2	Specify the metric type for OSPF origination of default route.

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`ospf-default-info-originate-route-map vrouter route-map` *`name`*	Specify the route map for OSPF origination of default route.
`vrrp-track-port` *`port-list`*	Specify the ports to track for VRRP.
`bgp-snmp|no-bgp-snmp`	Enable or disable BGP SNMP MIB.
`bgp-snmp-notification|no-bgp-snmp-notification`	Enable or disable SNMP notifications for BGP MIBs.
`ospf-snmp|no-ospf-snmp`	Enable or disable OSPF SNMP MIB.
`ospf-snmp-notification|no-ospf-snmp-notification`	Enable or disable SNMP notifications for OSPF MIBs.
`ospf6-snmp|no-ospf6-snmp`	Enable or disable OSPFv3 SNMP MIB.
`ospf6-snmp-notification|no-bgp-snmp-notification`	Enable or disable SNMP notifications for OSPFv3 MIBs.
`ip-snmp|no-ip-snmp`	Enable or disable ipForward SNMP MIBs.
`no-bgp-redist-static-route-map`	Remove route map for BGP static redistribution.
`no-bgp-redist-connected-route-map`	Remove route map for BGP connected redistribution.
`no-bgp-redist-ospf-route-map`	Remove route map for BGP OSPF redistribution.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.0	Parameter `router-type` added.
Version 2.1	The parameter, `storage-pool`, deprecated. The parameter, `gateway`, added.
Version 2.2	The parameter, `router-type`, is deprecated.
Version 2.2	The parameters, `bgp-redistribute`, `rip-redistribute`, and `ospf-redistribute`, added.
Version 2.2.3	The parameters `bgp-redist` and `ospf-dist` added. The parameter `vrrp-track-port` added. The parameters `bgp-cluster`, `bgp-max-paths`, `bgp-multipath`, `bgp-best-path`, `bgp-dampening`, `bgp-graceful-restart`, and `bgp-stalepath-time` added.
Version 2.3.1	The parameters, `ospf6-`, added.
Version 2.4	The parameters, `ospf-stub-router-on-startup` and `vrrp-track-port` added. The parameters `bgp-scantime`, `bgp-keepalive-interval`, and `bgp-holdtime` added.
Version 2.4.1	The parameter, `bgp-distance-`, and `ospf-distance`, added.
Version 2.5.3	The parameter `ospf-bfd-all-if|no-ospf-bfd-all-if`

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	added.
Version 2.6	SNMP MIBs for BGP, OSPF, OSPFv3, and ipForward added.
Version 2.6.2	The parameter, `cluster-active-active-routing` and `bgp-delayed-startup`, added.
Version 3.0.0	The parameters, `ospf-bfd-all-if`, `ospf-default-information`, `ospf-default-info-originate`, and `ospf-default-info-originate-metric-type` added.
Version 3.1.0	The parameters for route maps added.

Usage Each fabric, cluster, standalone switch, or virtual network (VNET) can provide its tenants with a virtual router (vRouter) service that forwards traffic between networks and implements Layer 3 protocols. This command modifies a vRouter service.

Examples To modify a vRouter, `MyvService`, for the VNET, `net-ops`, as a shared service, and disable it, use the following command:

```
CLI network-admin@switch > vrouter-modify name MyvService vnet net-ops shared-vnet-services
disable
```

vrouter-show

This command displays a virtual router (vRouter) service for a fabric, cluster, or standalone switch.

Syntax `vrouter-show`

`id`	The ID number assigned to the configuration.
`name` *`name-string`*	Specifies the name of the vRouter.
`type vnet-mgr|vrouter|vlb| dhcp|dns|netzone| ofpd|orphaned|netvm| nat|openstack|netvmm`	Specifies the type of vRouter.
`scope local|fabric`	Specifies the scope of the vRouter.
`vnet` *`vnet-name`*	Specifies the name of the VNET.
`location` *`fabric-node-name`*	Specifies the location of the vRouter on the fabric.
`router-type hardware|software`	Specifies the router type as hardware or software.
`hw-router-mac` *`mac-address`*	Specifies the MAC address of the hardware router.
`fabric-comm`	Specifies if Netvisor uses the vRouter as a fabric communication interface.
`router-ipstack quagga|frr`	Specifies the type of vRouter IP stack.
`hw-vrid` *`hw-vrid-number`*	Specifies the virtual router ID of the hardware router.
`hw-vrrp-id` *`hw-vrrp-id-number`*	Specifies the VRRP ID for a hardware router.
`bgp-as` *`bgp-as-number`*	Specifies the Autonomous System Number (ASN) if the vRouter runs Border Gateway Protocol (BGP).

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router-id *ip-address*	Specifies the vRouter IP address
proto-multi none|vmrp|pim-ssm	Specifies the optional multicast protocol for the vRouter service. Select none, Vector Multicast Routing Protocol (VMRP), or Protocol Independent Multicast-source specific mode (PIM-SIM).
bgp-redistribute static|connected|rip|ospf	Specify how BGP routes are redistributed.
bgp-redist-static-metric none	Specify a static metric for BGP route redistribution.
bgp-redist-connected-metric none	Specify a connected metric for BGP route redistribution
bgp-redist-rip-metric none	Specify a RIP metric for BGP route redistribution.
bgp-redist-ospf-metric none	Specify a OSPF metric for BGP route redistribution.
bgp-cluster-id *ip-address*	Specify an IP address for a BGP cluster.
bgp-max-paths *bgp-max-paths-number*	Specify the maximum number of paths for BGP.
bgp-ibgp-multipath *bgp-ibgp-multipath-number*	Specify the number of multipaths for BGP.
bgp-bestpath-as-path none|ignore	Specify a parameter for a best path as path.
bgp-dampening| no-bgp-dampening	Specify a BGP damp
bgp-graceful-restart| no-bgp-graceful-restart	Specify a graceful restart for BGP routing.
bgp-stalepath-time *second*	Specify the length of time befor a BGP path becomes stale. This is a value between 0 and 3600.
bgp-scantime *seconds*	Specify a BGP scanner interval in seconds. The default interval is 60 seconds with a range of 5 to 60 seconds.
bgp-keepalive-interval *seconds*	Specify a BGP keepalive interval in seconds. The default is 60 seconds with a range of 0 to 65535 seconds.
bgp-holdtime *seconds*	Specify a BGP holdtime in seconds. The default is 180 seconds with a range of 0 to 65535 seconds.
bgp-distance-external *integer*	Specify the BGP distance for routes external to the AS.
bgp-distance-internal *integer*	Specify the BGP distance for routes internal to the AS.
bgp-distance-local *integer*	Specify the BGP distance for routes local to the AS.
bgp-ipv4-unicast| no-bgp-ipv4-unicast	Specify a MP-BGP Control default IPv4 Unicast AFI/SAFI.
rip-redistribute static|connected|ospf| bgp	Specify how RIP routes are redistributed.

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ospf-redistribute static|connected|rip|bgp	Specify how OSPF routes are redistributed.
vrrp-track-port *port-list*	Specify a port to track a VRRP configuration.
ospf-redist-static-metric-type 1|2	Specify a static metric type for OSPF route redistribution.
ospf-distance-external *integer*	Specify the OSPF distance for routes external to the AS.
ospf-distance-internal *integer*	Specify the OSPF distance for routes internal to the AS.
ospf-distance-local *integer*	Specify the OSPF distance for routes local to the AS.
ospf-stub-router-on-startup|no-ospf-stub-router-on-startup	Specify if you want advertise self as stub router temporarily on startup.
ospf-stub-router-on-startup-period *integer*	Specify the time period to advertise self as stub router on startup. This s a value between 5 and 86400 seconds.
ospf-bfd-all-if|no-ospf-bfd-all-if	Specify if you want to use BFD protocol for fault detection on all OSPF interfaces.
ospf-default-information none|originate|always	Specify if you want to control origination of default route.
ospf-default-info-originate-metric none	Specify the metric for OSPF origination of default route.
ospf-default-info-originate-metric-type 1|2	Specify the metric type for OSPF origination of default route.
ospf-redist-connected-metric none	Specify a connected metric type for OSPF route redistribution.
ospf-redist-connected-metric-type 1|2	Specify a connected metric type for OSPF route redistribution.
ospf-redist-rip-metric none	Specify a RIP metric type for OSPF route redistribution.
ospf-redist-rip-metric-type 1|2	Specify a RIP metric type for OSPF route redistribution.
ospf-redist-bgp-metric none	Specify a BGP metric type for OSPF route redistribution.
ospf-redist-bgp-metric-type 1|2	Specify a BGP metric type for OSPF route redistribution.
ospf6-redistribute static|connected|bgp4	Specify if you want to redistribute OSPF6 routes.
ospf6-redist-static-metric none	Specify a metric for OSPF6 redistribute of static routes.
ospf6-redist-static-metric-type 1|2	Specify a metric type for OSPF6 redistribution of static routes.

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`ospf6-redist-connected-metric none`	Specify a metric for OSPF6 redistribution of connected routes.
`ospf6-redist-connected-metric-type 1|2`	Specify a metric type for OSPF6 redistribution.
`ospf-default-information none| originate|always`	Specify how to control the origination of default route.
`ospf-default-info-originate-metric none`	Specify the metric for OSPF origination of default route.
`ospf-default-info-originate-metric-type 1|2`	Specify the metric type for OSPF origination of default route.
`ospf-default-info-originate-route-map vrouter route-map` *`name`*	Specify the route map for OSPF origination of default route.
`bgp-snmp|no-bgp-snmp`	Enable or disable BGP SNMP MIB.
`bgp-snmp-notification|no-bgp-snmp-notification`	Enable or disable SNMP notifications for BGP MIBs.
`ospf-snmp|no-ospf-snmp`	Enable or disable OSPF SNMP MIB.
`ospf-snmp-notification|no-ospf-snmp-notification`	Enable or disable SNMP notifications for OSPF MIBs.
`ospf6-snmp|no-ospf6-snmp`	Enable or disable OSPFv3 SNMP MIB.
`ospf6-snmp-notification|no-bgp-snmp-notification`	Enable or disable SNMP notifications for OSPFv3 MIBs.
`ip-snmp|no-ip-snmp`	Enable or disable ipForward SNMP MIBs.
`no-bgp-redist-static-route-map`	Remove route map for BGP static redistribution.
`no-bgp-redist-connected-route-map`	Remove route map for BGP connected redistribution.
`no-bgp-redist-ospf-route-map`	Remove route map for BGP OSPF redistribution.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.0	Parameter `type` added.
Version 2.2	The parameter, `location`, `hw-router-mac`, and `hw-vrrp-id`, added. The parameters, `bgp-redistribute`, `rip-redistribute`, and `ospf-redistribute`, added.
Version 2.2.3	The parameters `bgp-redist` and `ospf-dist` added. The parameter `vrrp-track-port` added. The parameters `bgp-cluster`, `bgp-max-paths`, `bgp-multipath`, `bgp-best-path`, `bgp-dampening`, `bgp-graceful-restart`, and `bgp-stalepath-time` added

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Version 2.3.1	The parameters, `ospf6-`, added.
Version 2.4	The parameters, `ospf-stub-router-on-startup` and `vrrp-track-port` added. The parameters `bgp-scantime`, `bgp-keepalive-interval`, and `bgp-holdtime` added.
Version 2.4.1	The parameter, `bgp-distance-`, and `ospf-distance-`, added.
Version 2.5.4	The parameter, `shared-vnet-mgr`, added.
Version 2.6	SNMP MIBs for BGP, OSPF, OSPFv3, and ipForward added.
Version 3.0.0	The parameters, `ospf-bfd-all-if`, `ospf-default-information`, `ospf-default-info-originate`, and `ospf-default-info-originate-metric-type` added.
Version 3.1.0	The parameters for route maps added.

Usage Each fabric, cluster, standalone switch, or virtual network (VNET) can provide its tenants with a virtual router (vRouter) service that forwards traffic between networks and implements Layer 3 protocols. This command displays vRouter service.

Examples To display all vRouter services, use the following command:

```
CLI (network-admin@techpubs-aquila1) > vrouter-show format all layout vertical
```

```
id:                 a0000dd:7
name:               vrrp-rtr1
type:               vrouter
scope:              fabric
vnet:               vrrp-router
vnet-service:       shared
state:              enabled
location:           techpubs-aquila1
storage-pool:       rpool
template:           no
router-type:        software
proto-multi:        none
id:                 6000021:c
name:               vrrp-rfr2
type:               vrouter
scope:              fabric
vnet:               vrrp-router
vnet-service:       dedicated
state:              enabled
location:           techpubs-aquila2
storage-pool:       rpool
template:           no
router-type:        software
proto-multi:        none
```

vrouter-ecmp-group-show

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This command is used to display the Equal Cost Multipath (ECMP) routing group for a vRouter.

Syntax `vrouter-ecmp-group-show`

`vrid` *`vrid-number`*	Specifies the vRouter ID.
`ecmp-group ecmp-group-number`	Specifies the ECMP group.
`nexthop_ip` *`ip-address`*	Specifies the IP address.
`nexthop_count` *`nexthop_count-number`*	Specifies the nexthop count.
`ecmp-ref-count` *`ecmp-ref-count-number`*	Specifies the ECMP group reference count.

Defaults None

Access CLI

History Command introduced in Version 2.4.

Usage Use this command to display ECMP routes which can be helpful when troubleshooting a connection.

Examples To display an ECMP group, use the following command:

CLI network-admin@switch > `vrouter-ecmp-group-show`

```
vrid ecmp-group nexthop_ip   nexthop_count ecmp-ref-count
---- ---------- ------------ ------------- --------------
4    200261     10.60.26.34  2             155
```

vrouter-ecmp-cached-routes-show

This command is used to display the ECMP cached routes for a vRouter.

Syntax `vrouter-cached-routes-show`

`vrid` *`vrid-number`*	Specifies the vRouter ID.
`ip` *`ip-address`*	Specifies the IP address.
`prelen` *`prelen-number`*	Specifies the prefix length.
`vlan` *`vlan-number`*	Specifies the VLAN number.
`nexthop` *`ip-address`*	Specifies the IP address for the next hop on the route.
`age-in-seconds` *`age-in-seconds-number`*	Specifies the age of the cached route.

Defaults None

Access CLI

History

Version 2.3.3	Command introduced.
Version 2.4.1	The parameter, `vnet`, added.

Usage Use this command to display cached routes which can be helpful when troubleshooting a connection.

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Examples To display cached routes, use the following command:

```
CLI network-admin@switch > vrouter-ecmp-cached-routes-show
```

vrouter-fib-arps-show

This command is used to display information about Address Resolution Protocol (ARP) in the forwarding information database. Before using this command, the switch must be part of a fabric.

Syntax `vrouter-fib-arps-show vrid vrid-number ip ip-address if-id if-id-number port port-number vnet vnet-name vlan vlan-id mac mac-address egress-id egress-id-number flags ECMP|Trunk`

`vrid` *`vrid-number`*	Displays the virtual router identifier.
`ip` *`ip-address`*	Displays the IP address.
`if-id` *`if-id-number`*	Displays the interface identifier.
`port` *`port-number`*	Displays the port number.
`vnet` *`vnet-name`*	Displays the VNET of the router.
`bd` *`bridge-domain name`*	Displays the bridge domain name.
`vlan` *`vlan-id`*	Displays the VLAN identifier.
`mac` *`mac-address`*	Displays the MAC address.
`egress-id` *`egress-id-number`*	Displays the egress identifier.
`flags ECMP|Trunk|route-to-if|local-subnet|hit| KEEP-SMAC|KEEP-TTL|drop`	Displays hardware flags.

Defaults None

Access CLI

History

Version 2.2.5	Command introduced.
Version 2.4.1	The parameter, `vnet`, added.
Version 2.6.2	Additional options added to flags, `KEEP-SMAC` and `KEEP-TTL`.
Version 3.1.0	The parameter, `drop`, added.

Usage Use this command to display ARP information in the forwarding information database.

Examples To display ARP information, use the following syntax:

```
CLI network-admin@switch > vrouter-fib-arps-show format all layout
vertical
```

```
switch:    aquila22-m
ip:        10.16.113.1
if-id:     0
```

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```
vlan:      113
mac:       66:0e:94:9f:30:aa
flags:
switch:    aquila22-m
ip:        10.16.113.2
if-id:     0
vlan:      113
mac:       66:0e:94:f8:74:66
flags:
switch:    aquila22-m
ip:        10.16.115.1
if-id:     1
vlan:      115
mac:       66:0e:94:f8:74:66
flags:
```

vrouter-fib-routes-show

This command displays information about routes in the forwarding information database.

Syntax `vrouter-fib-routes-show`

vrid *vrid-number*	Display the virtual router identifier.
ip *ip-address*	Display the IP address of the route.
prelen *prelen-number*	Display the prefix length.
nexthop *ip-address*	Display the IP address for the next hop in the network.
if-ip *ip-address*	Displays the IP address of the interface.
intf-id *intf-id-number*	Displays the interface identifier.
vnet *vnet-name*	Specifies the VNET of the router.
vlan *vlan-id*	Displays the VLAN identifier.
port *port-number*	Displays the port number.
nexthop-mac *mac-address*	Displays the MAC address of the next hop on the network.
flags ECMP|Trunk|route-to-if|local-subnet|hit| KEEP-SMAC|KEEP-TTL| KEEP-VLAN|drop	Displays hardware router flags.
egress-id *egress-id-number*	Displays the egress identifier.
ecmp-group *ecmp-group-number*	Displays the ECMP group.
state up|admin-down| if-admin-down| if-vlan-down| nexthop-up| nexthop-down	Displays the route state.

Defaults None

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Access CLI

History

Version 2.2.5	Command introduced.
Version 2.4.1	The parameter, `vnet`, added.
Version 2.6.2	Additional options added to flags, `KEEP-SMAC` and `KEEP-TTL`.

Usage Use this command to display routes in the forwarding information database.

Examples To display routes in the forwarding information database, use the following syntax:

```
CLI network-admin@switch > vrouter-fib-routes-show format all layout
vertical
```

```
switch:      pleiades-24
vrid:        0
ip:          10.17.123.1
prelen:      32
nexthop:     10.17.123.1
if-ip:       10.17.123.2
vlan:        123
port:        0
flags:
ecmp-group:  -1
state:       up
switch:      pleiades-24
vrid:        0
ip:          10.17.125.1
prelen:      32
nexthop:     10.17.125.1
if-ip:       10.17.125.1
vlan:        125
port:        0
flags:
ecmp-group:  -1
state:       up
```

vrouter-igmp-static-join-add

This command adds Internet Group Management Protocol (IGMP) to a virtual router (vRouter) service on a fabric, cluster, or standalone switch.

Informational Note: IGMPv1 is not supported by Netvisor or ONVL. If you are using IGMPv1, you must disable IGMP snooping on the switch.

Syntax `vrouter-igmp-static-join-add`

`vrouter-name` *`name-string`*	Specify the name of the vRouter service.
Specify the following IGMP static join arguments:	
`name` *`name-string`*	Specify the name of the IGMP configuration.

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group-ip *ip-address*	Specify the group IP address used to statically bind to the interface.
source-ip *ip-address*	Specify the source IP address for the IGMP query.
interface *nic*	Specify the interface for IGMP.

Defaults None.

Access CLI.

History Command introduced in nvOS Version 1.2.1.

Usage Each fabric, cluster, standalone switch, or virtual network (VNET) can provide its tenants with a vRouter service that forwards traffic between networks and implements IPv4 protocols.

Examples To add this parameter to a vRouter service, `MyvService`, with group IP address `232.0.0.1` and source IP address `192.0.2.3`, on a `vrouter` interface, use the following command:

```
CLI network-admin@switch > vrouter-igmp-static-join-add vrouter-name
MyvService name IGMP-vrouter group-ip 232.0.0.1 source-ip 192.0.2.3
interface vrouter
```

vrouter-igmp-static-join-remove

This command adds Internet Group Management Protocol (IGMP) to a virtual router (vRouter) service on a fabric, cluster, or standalone switch..

Syntax `vrouter-igmp-static-join-remove`

vrouter-name *name-string*	Specify the name of the vRouter service.
Specify the following IBMP static join arguments:	
name *name-string*	Specify the name of the IGMP configuration.

Defaults None.

Access CLI

History Command introduced in nvOS Version 1.2.1.

Usage Each fabric, cluster, standalone switch, or virtual network (VNET) can provide its tenants with a vRouter service that forwards traffic between networks and implements IPv4 protocols.

Examples To remove the IGMP-vRouter configuration from the vRouter service, MyvService, use the following command:

```
CLI network-admin@switch > vrouter-igmp-static-join-remove vrouter-name
MyvService name IGMP-vRouter
```

vrouter-igmp-static-join-show

This command displays the Internet Group Management Protocol (IGMP) on a virtual router (vRouter) service on a fabric, cluster, or standalone switch.

Syntax `vrouter-igmp-static-join-show`

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`vrouter-name` *`name-string`*	Specify the name of the vRouter service.
Specify the following IGMP static join arguments:	
`name` *`name-string`*	Specify the name of the IGMP configuration.
`group-ip` *`ip-address`*	Specify the group IP address used to statically bind to the interface.
`source-ip` *`ip-address`*	Specify the source IP address for the IGMP query.
`interface` *`nic`*	Specify the interface for IGMP.

Defaults None.

Access CLI.

History Command introduced in nvOS Version 1.2.1.

Usage Each fabric, cluster, standalone switch, or virtual network (VNET) can provide its tenants with a vRouter service that forwards traffic between networks and implements IPv4 protocols. This command displays information about IGMP on a vRouter.

Examples To display all IGMP information on all vRouter services, use the following command:

```
CLI network-admin@switch > vrouter-igmp-static-join-show  layout
vertical
```

vrouter-interface-add

This command is used to add interfaces to virtual router (vRouter) services on a fabric, cluster, standalone switch, or virtual network (VNET).

Syntax `vrouter-interface-add`

`vrouter-name` *`name-string`*	Specify the name for the vRouter interface.
Specify any of the following options:	
`vlan` *`vlan-id`*	Specify the VLAN identifier. This is a value between 1 and 4094.
`ip` *`ip-address`*	Specify the IP address of the interface.
`netmask` *`netmask`*	Specify the netmask.
`assignment none|dhcp|dhcpv6`	Specify the DHCP method for IP address assignment. Note that if you specify hardware as the router type, you cannot assign IP addresses using DHCP. You must specify a static IP address.
`ip2` *`ip-address`*	Specify the IP address of the interface.
`netmask2` *`netmask`*	Specify the netmask.
`assignment2 none|dhcp|dhcpv6`	Specify the DHCP method for IP address assignment. Note that if you specify hardware as the router type, you cannot assign IP addresses using DHCP. You must specify a static IP address.

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linklocal *ip-address*	Specify an IPv6 linklocal address.
ipv6-unnumbered|no-ipv6-unnumbered	Specify either of the options to enable or disable IPv6 unnumbered on the interface.
vnet *vnet-name*	Specify the VNET assigned to the vRouter.
vlan-type public|private	Specify the type of VLAN for the interface.
if mgmt|data|span	Specify if the interface is a management, data or span interface.
alias-on *alias-on-string*	Specify an alias for the interface.
exclusive|no-exclusive	Specify if the interface is exclusive to the configuration. Exclusive means that other configurations cannot use the interface. Exclusive is specified when you configure the interface as a span interface and allows higher throughput through the interface.
nic-enable|nic-disable	Specify if the NIC is enabled or disabled.
pim|no-pim	Specify if the vRouter interface is a PIM interface.
pim-dr-priority *integer*	Specify the direct router (DR) priority as an integer between 1 and 4294967295. Netvisor selects the vRouter interface with higher DR priority as the designated router. By default, all interfaces are priority 1. In case of same priority, Netvisor selects the vRouter interface with highest network address as DR.
pim-cluster|no-pim-cluster	Specify if you want to provide alternative routing for Layer 3 attached sources for leaf cluster routing configuration. It allows traffic to failover not black-hole when the unicast path to the Spine fails.
fabric-nic|no-fabric-nic	Specify if VNIC is on a VLAN used for fabric setup.
vrrp-id *id-number*	Specify the ID for the VRRP interface. The IDs on both vRouters must be the same ID number.
vrrp-primary *string*	Specifies the primary interface for VRRP failover.
vrrp-priority *number*	Speicfies the priority for the VRRP interface. This is a value between 1 (lowest) and 255 (highest).
vrrp-adv-int *mseconds*	Specify a VRRP advertisement interval in milliseconds. The range is from 30 to 40950 with a default value of 1000.
l3-port *l3port-usable-port name*	Specify a Layer 3 port for the interface.
secondary-macs *secondary-macs-string*	Specify a secondary MAC address for the interface.
mtu *bytes*	Specify a MTU value in bytes between 68 and 9216.
if-nat-realm internal|external	Specify a NAT realm for the interface.
priority-tag| no-priority-tag	Specify if you want to add a VLAN 0 priority tag on forwarded traffic.

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Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The parameters, **exclusive** and **nic**, added.
Version 2.2	The parameters `vrrp-id`, `vrrp-priority`, and `vrrp-primary` added.
Version 2.2.5	The parameters, `l3-port`, and `secondary-macs`, added.
Version 2.3	The parameter, `vrrp-adv-int`, added.
Version 2.4.1	The parameter, `vlan-type`, added.
Version 2.5	The parameter, `mtu`, added.
Version 2.6.0	The parameter, `if-nat-realm internal|external`, and `vnet`, added.
Version 2.6.2	The parameter, `vxlan`, deprecated.
Version 3.0.0	The parameter, `ip2` and `netmask2` added. The parameters, `pim`, `pim-dr-priority`, and `pim-cluster`, added. The parameter, `linklocal`, added. The option, `autov6`, deprecated for the parameter, `assignment`.
Version 3.1.0	The parameter, `fabric-nic` and `priority-tag`, added.
Version 5.1.3	The parameter, `ipv6-unnumbered|no-ipv6-unnumbered`, added

Usage You can add interfaces to the vRouter services on a fabric, cluster, standalone switch, or virtual network (VNET). This command adds an interface to a vRouter service.

Examples To add an interface with the IP address, 192.168.10.11/32, VLAN 25, and data to vRouter service, MyvService, use the following command:

```
CLI network-admin@switch > vrouter-interface-add  vrouter-name
MyvService ip 192.168.10.11/32 assigment none vlan 25 if data
```

vrouter-interface-modify

This command is used to modify interfaces on the virtual router (vRouter) service on a fabric, cluster, standalone switch, or virtual network (VNET).

Syntax `vrouter-interface-modify`

`vrouter-name` *`name-string`*	Specify the name for the vRouter interface.
Specify any of the following options:	
`vlan` *`vlan-id`*	Specify the VLAN identifier. This is a value between

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	1 and 4094.
ip *ip-address*	Specify the IP address of the interface.
netmask *netmask*	Specify the netmask.
assignment none|dhcp|dhcpv6	Specify the DHCP method for IP address assignment. Note that if you specify hardware as the router type, you cannot assign IP addresses using DHCP. You must specify a static IP address.
ip2 *ip-address*	Specify the IP address of the interface.
netmask2 *netmask*	Specify the netmask.
assignment2 none|dhcp|dhcpv6	Specify the DHCP method for IP address assignment. Note that if you specify hardware as the router type, you cannot assign IP addresses using DHCP. You must specify a static IP address.
linklocal *ip-address*	Specify an IPv6 linklocal address.
ipv6-unnumbered|no-ipv6-unnumbered	Specify either of the options to enable or disable IPv6 unnumbered on the interface.
vnet *vnet-name*	Specify the VNET assigned to the vRouter.
vlan-type public|private	Specify the type of VLAN for the interface.
if mgmt|data|span	Specify if the interface is a management, data or span interface.
alias-on *alias-on-string*	Specify an alias for the interface.
exclusive|no-exclusive	Specify if the interface is exclusive to the configuration. Exclusive means that other configurations cannot use the interface. Exclusive is specified when you configure the interface as a span interface and allows higher throughput through the interface.
nic-enable|nic-disable	Specify if the NIC is enabled or disabled.
pim|no-pim	Specify if the vRouter interface is a PIM interface.
pim-dr-priority *integer*	Specify the direct router (DR) priority as an integer between 1 and 4294967295. Netvisor selects the vRouter interface with higher DR priority as the designated router. By default, all interfaces are priority 1. In case of same priority, Netvisor selects the vRouter interface with highest network address as DR.
pim-cluster|no-pim-cluster	Specify if you want to provide alternative routing for Layer 3 attached sources for leaf cluster routing configuration. It allows traffic to failover not black-hole when the unicast path to the Spine fails.
fabric-nic|no-fabric-nic	Specify if VNIC is on a VLAN used for fabric setup.
vrrp-id *id-number*	Specify the ID for the VRRP interface. The IDs on both vRouters must be the same ID number.

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`vrrp-primary` *`string`*	Specifies the primary interface for VRRP failover.
`vrrp-priority` *`number`*	Speicfies the priority for the VRRP interface. This is a value between 1 (lowest) and 255 (highest).
`vrrp-adv-int` *`mseconds`*	Specify a VRRP advertisement interval in milliseconds. The range is from 30 to 40950 with a default value of 1000.
`l3-port` *`l3port-usable-port name`*	Specify a Layer 3 port for the interface.
`secondary-macs` *`secondary-macs-string`*	Specify a secondary MAC address for the interface.
`mtu` *`bytes`*	Specify a MTU value in bytes between 68 and 9216.
`if-nat-realm internal|external`	Specify a NAT realm for the interface.
`priority-tag| no-priority-tag`	Specify if you want to add a VLAN 0 priority tag on forwarded traffic.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The parameters, **exclusive** and **nic**, added.
Version 2.2	The parameters `vrrp-id`, `vrrp-priority`, and `vrrp-primary` added.
Version 2.2.5	The parameters, `l3-port`, and `secondary-macs`, added.
Version 2.3	The parameter, `vrrp-adv-int`, added.
Version 2.4.1	The parameter, `vlan-type`, added.
Version 2.5.0	The parameter, `mtu`, added.
Version 2.6.0	The parameter, `if-nat-realm internal|external`, added.
Version 2.6.2	The parameter, `vxlan`, deprecated.
Version 3.0.0	The parameter, `ip2` and `netmask2` added. The parameters, `pim`, `pim-dr-priority`, and `pim-cluster`, added. The parameter, `linklocal`, added. The option, `autov6`, deprecated for the parameter, `assignment`.
Version 3.1.0	The parameter, `fabric-nic` and `priority-tag`, added.
Version 5.1.3	The parameter, `ipv6-unnumbered|no-ipv6-unnumbered`, added

Usage You can modify the interfaces on the vRouter service on a fabric, cluster, standalone switch, or virtual network (VNET). This command modifies an interface to a vRouter service.

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Examples To modify an interface with the IP address, 192.168.10.11/32, VLAN 25, and data to vRouter service, MyvService and change the VLAN to 21, use the following command:

```
CLI network-admin@switch > vrouter-interface-add  vrouter-name
MyvService ip 192.168.10.11/32 assigment none vlan 21 if data
```

vrouter-interface-remove

This command is used to remove interfaces on the virtual router (vRouter) service in a fabric, cluster, standalone switch, or virtual network (VNET).

Syntax `vrouter-interface-remove vrouter-name` *`name-string`* `[nic` *`nic-string`*`]`

`vrouter-name` *`name-string`*	Specify the name for the vRouter interface.
Specify one of the following interface arguments:	
`nic` *`nic-string`*	Specify the name of the NIC.
`l3-port` *`l3port-usable-port name`*	Specify the name of the Layer 3 port.

Defaults None.

Access CLI

History

Version 1.2.1	Command introduced.
Version 5.1.3	The argument `l3-port` introduced.

Usage You can remove the interfaces on the vRouter service from a fabric, cluster, standalone switch, or virtual network (VNET). This command removes an interface to a vRouter service.

Examples To remove eth1 NIC from the vRouter service, MyvService, use the following command:

```
CLI network-admin@switch > vrouter-interface-remove  vrouter-name
MyvService nic eth1
```

vrouter-interface-show

This command is used to display the interfaces on the virtual router (vRouter) service on a fabric, cluster, standalone switch, or virtual network (VNET).

Syntax `vrouter-interface-show`

`vrouter-name` *`name-string`*	Specify the name for the vRouter interface.
Specify any of the following options:	
`vlan` *`vlan-id`*	Specify the VLAN identifier. This is a value between 1 and 4094.
`ip` *`ip-address`*	Specify the IP address of the interface.
`netmask` *`netmask`*	Specify the netmask.

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assignment none|dhcp|dhcpv6	Specify the DHCP method for IP address assignment. Note that if you specify hardware as the router type, you cannot assign IP addresses using DHCP. You must specify a static IP address.
ip2 *ip-address*	Specify the IP address of the interface.
netmask2 *netmask*	Specify the netmask.
assignment2 none|dhcp|dhcpv6	Specify the DHCP method for IP address assignment. Note that if you specify hardware as the router type, you cannot assign IP addresses using DHCP. You must specify a static IP address.
linklocal *ip-address*	Specify an IPv6 linklocal address.
ipv6-unnumbered|no-ipv6-unnumbered	Specify if IPv6 unnumbered has been enabled or not.
vnet *vnet-name*	Specify the VNET assigned to the vRouter.
vlan-type public|private	Specify the type of VLAN for the interface.
if mgmt|data|span	Specify if the interface is a management, data or span interface.
alias-on *alias-on-string*	Specify an alias for the interface.
exclusive|no-exclusive	Specify if the interface is exclusive to the configuration. Exclusive means that other configurations cannot use the interface. Exclusive is specified when you configure the interface as a span interface and allows higher throughput through the interface.
nic-enable|nic-disable	Specify if the NIC is enabled or disabled.
pim|no-pim	Specify if the vRouter interface is a PIM interface.
pim-dr-priority *integer*	Specify the direct router (DR) priority as an integer between 1 and 4294967295. Netvisor selects the vRouter interface with higher DR priority as the designated router. By default, all interfaces are priority 1. In case of same priority, Netvisor selects the vRouter interface with highest network address as DR.
pim-cluster|no-pim-cluster	Specify if you want to provide alternative routing for Layer 3 attached sources for leaf cluster routing configuration. It allows traffic to failover not black-hole when the unicast path to the Spine fails.
fabric-nic|no-fabric-nic	Specify if VNIC is on a VLAN used for fabric setup.
vrrp-id *id-number*	Specify the ID for the VRRP interface. The IDs on both vRouters must be the same ID number.
vrrp-primary *string*	Specifies the primary interface for VRRP failover.
vrrp-priority *number*	Speicfies the priority for the VRRP interface. This is a value between 1 (lowest) and 255 (highest).
vrrp-adv-int *mseconds*	Specify a VRRP advertisement interval in milliseconds.

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	The range is from 30 to 40950 with a default value of 1000.
`l3-port` *`l3port-usable-port name`*	Specify a Layer 3 port for the interface.
`secondary-macs` *`secondary-macs-string`*	Specify a secondary MAC address for the interface.
`mtu` *`bytes`*	Specify a MTU value in bytes between 68 and 9216.
`if-nat-realm internal|external`	Specify a NAT realm for the interface.
`priority-tag|no-priority-tag`	Specify if you want to add a VLAN 0 priority tag on forwarded traffic.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The parameters, **exclusive** and **nic**, added.
Version 2.2	The parameters `vrrp-id`, `vrrp-priority`, and `vrrp-primary` added.
Version 2.2.5	The parameters, `l3-port`, and `secondary-macs`, added.
Version 2.3	The parameter, `vrrp-adv-int`, added.
Version 2.4.1	The parameter, `vlan-type`, added.
Version 2.5.0	The parameter, `mtu`, added.
Version 2.6.0	The parameter, `if-nat-realm internal|external`, added.
Version 2.6.2	The parameter, `vxlan`, deprecated.
Version 3.0.0	The parameter, `ip2` and `netmask2` added. The parameters, `pim`, `pim-dr-priority`, and `pim-cluster`, added. The parameter, `linklocal`, added. The option, `autov6`, deprecated for the parameter, `assignment`.
Version 3.1.0	The parameter, `fabric-nic` and `priority-tag`, added.
Version 5.1.3	The parameter, `ipv6-unnumbered|no-ipv6-unnumbered`, added

Usage You can display information about the interfaces on the vRouter service on a fabric, cluster, standalone switch, or virtual network (VNET).

Examples To display information about all interfaces on vRouter services, use the following command:

```
CLI network-admin@switch > vrouter-interface-show interface layout
```

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vrouter-interface-ip-add

This command is used to migrate a vRouter interface from a single stack (IPv4) to dual stack (IPv4 and IPv6) back to a single stack (IPv4).

Syntax `vrouter-interface-ip-add`

`vrouter-name` *`name-string`*	Specify the name of the vRouter.
`nic` *`nic-string`*	Specify the virtual NIC assigned to the interface.
`ip` *`ip-address`*	Specify the IP address assigned to the interface.
`netmask` *`netmask`*	Specify the netmask of the IP address.
Specify any of the following options	
`vnet` *`vnet-name`*	Specify the VNET assigned to the vRouter.
`l2-net` *`l2-net name`*	Specify the Layer 2 interface.
`type primary|secondary`	Specify the IP address as primary or secondary.

Defaults None

Access Network administrator

History

Version 3.0.0	Command introduced.
Version 3.0.4	The parameter, `type`, added.

Usage Use this command to migrate a vRouter interface from a single stack (IPv4) to dual stack (IPv4 and IPv6) back to a single stack (IPv4).

Examples To migrate an interface to dual stack with the IPv6 address, **1000::4/92**, use the following syntax:

```
CLI network-admin@switch > vrouter-interface-ip-add  vrouter-name  vr1
nic eth0.10 ip 1000::4/92 vnet 0:0 l2-net 10
```

vrouter-interface-ip-remove

This command is used to migrate a vRouter interface from a single stack (IPv4) to dual stack (IPv4 and IPv6) back to a single stack (IPv4).

Syntax `vrouter-interface-ip-remove`

`vrouter-name` *`name-string`*	Specify the name of the vRouter.
`nic` *`nic-string`*	Specify the virtual NIC assigned to the interface.
`ip` *`ip-address`*	Specify the IP address assigned to the interface.

Defaults None

Access Network administrator

History Command introduced in Version 3.0.0.

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Usage Use this command to migrate a vRouter interface from a dual stack (IPv4 and IPv6) to single stack (IPv4 and IPv6) back to a single stack (IPv4).

Examples To migrate an interface to single stack and remove the IPv6 address, **1000::4/92**, use the following syntax:

```
CLI network-admin@switch > vrouter-interface-ip-remove vrouter-name vr1
nic eth0.10 ip 1000::4/92
```

vrouter-interface-ip-show

This command is used to migrate a vRouter interface from a single stack (IPv4) to dual stack (IPv4 and IPv6) back to a single stack (IPv4).

Syntax `vrouter-interface-ip-remove`

`vrouter-name` *`name-string`*	Specify the name of the vRouter.
`nic` *`nic-string`*	Specify the virtual NIC assigned to the interface.
`ip` *`ip-address`*	Specify the IP address assigned to the interface.
`netmask` *`netmask`*	Specify the netmask of the IP address.
Specify any of the following options	
`vnet` *`vnet-name`*	Specify the VNET assigned to the vRouter.
`l2-net` *`l2-net name`*	Specify the Layer 2 interface.
`type primary|secondary`	Specify the IP address as primary or secondary.

Defaults None

Access Network administrator

History

Version 3.0.0	Command introduced.
Version 3.0.4	The parameter, `type`, added.

Usage Use this command to display a vRouter interface with dual stack (IPv4 and IPv6) IP addresses.

Examples To display an interface to dual stack with the IPv6 address, **1000::4/92**, use the following syntax:

```
CLI network-admin@switch > vrouter-interface-ip-show
vrouter-name      nic   vnet   vlan vlan-type ip
assignment nic-state
------------     -----  -----  ---- --------- ------------------------------
--------------------
vr1              eth0.10 0:0    10   public    10.2.3.4/24
static     up
vr1              eth0.10 0:0    10   public    1000::4/92
static     up
vr1              eth0.10 0:0    10   public    fe80::640e:94ff:fe17:4f99/64
static     up
```

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vrouter-interface-config-add

This command is used to add additional routing protocol configuration to a vRouter.

Syntax `vrouter-interface-config-add`

`vrouter-name` *`name-string`*	Specify the vRouter name to add the interface.
Specify the following interface configuration arguments:	
`nic` *`vrouter-interface-nic`*	Specify the NIC to add to the interface.
`l3-port` *`l3port-usable-port name`*	Specify a Layer 3 port to add to the interface.
`ospf-hello-interval` *`seconds`*	Specify the OSPF hello interval with a number between 1 and 65535. This configures the interval between sending OSPF hello messages on an interface. The default value is 10.
`ospf-dead-interval` *`seconds`*	Specify the OSPF dead interval with a number between 2 and 65535. This configures the interval in which the vRouter must receive an OSPF hello message before the state of the neighbor changes to down. The default interval is 5.
`ospf-retransmit-interval` *`seconds`*	Specify the OSPF retransmit interval from 3 to 65535 seconds. The default is 5 seconds. (IPv4 orIPv6)
`ospf-priority` *`number`*	Specify the OSPF priority with a number between 0 and 255. A vRouter with a priority of 0 does not participate in the designated router decision. The default value is 1.
`ospf-auth-key` *`ospf-auth-key-string`*	Specify an authorization key string for the vRouter interface.
`ospf-cost` *`number`*	Specify the OSPF cost with a value between 0 and 655365.
`ospf-msg-digest-id` *`id`*	Specify a value between 0and 255. If you specify 0, then OSPF MD5 authentication is not set.
`ospf-msg-digest-key` *`ospf-msg-digest-key-string`*	Specify a string for the OSPF message digest key.
`ospf-passive-if|no-ospf-passive-if`	Specify if the OSPF interface is passive or not.
`ospf-network-type default|point-to-point`	Specify the type of OSPF network.
`ospf-bfd default|enable|disable`	Specify if BFD protocol support for OSPF fault detection is enabled. The default is Disable.
`bfd-interval` *`interval`*	Specify the desired Bidirectional Forwarding Detection (BFD) transmit interval from 200 ms to 3000 ms. The default value is 750 ms. 200 ms to 3000 ms. The default value is 500 ms

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`bfd-min-rx` *`interval`*	Specify the required BFD receive interval from 200 milliseconds to 3000 milliseconds. The default value is 750 milliseconds.
`bfd-multiplier` *`integer`*	Specify the BFD detection multiplier from 1 to 20. The default value is 3.
`nd-suppress-ra|no-nd-suppress-ra`	Specify if you want to suppress the transmit of IPv6 router advertisements.
`v6-ra-prefix` *`ip-address`*	Specify the IPv6 prefix to include in router advertisements.
`prefix-netmask` *`netmask`*	Specify the IPv6 prefix netmask.
`autoconf|no-autoconf`	Specify if you want the prefix used for IPv6 autoconfiguration.
`ra-interval` *`seconds`*	Specify the interval between router advertisements in seconds with a range of 1 to 1800 seconds.
`ra-lifetime` *`seconds`*	Specify the time that the vRouter is considered as the default router in seconds with a range of 0 to 9000.

Defaults None

Access CLI

History

Version 2.1	Command introduced.
Version 2.2	The parameter, `ospf-cost`, added.
Version 2.2.2	The parameters, `ospf-msg-digest-key`, and `ospf-msg-digest-id`, added.
Version 2.2.3	The parameters `ospf-passive-if` and `no-ospf-passive-if` added.
Version 2.2.6	The parameters, `bfd-interval`, `bfd-min-rx`, and `bfd-multiplier`, added.
Version 2.4.1	The parameter, `ospf-network-type`, added.
Version 2.5	The parameters, `nd-suppress-ra`, `v6-ra-prefix`, `prefix-netmask`, `autoconf|no-autoconf`, `ra-interval`, and `ra-lifetime` added.
Version 2.5.3	The parameter, `ospf-bfd default|enable|disable` added.
Version 3.0.0	The parameters, `ospf-retransmit-interval`,`ra-prefix`, `ra-interval` added.
Version 5.1.3	The parameter, l3-port, added.

Usage This command is used to add additional routing protocol configuration to a vRouter.

Examples To add an interface to vRouter, vroute-int, interface eth0.11, hello interval 10, dead interval 20, with priority 5, use the following command:

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```
CLI network-admin@switch > vrouter-interface-config-add  vrouter-name
vroute-int nic eth0.11 ospf-hello-interval 10 ospf-dead-interval 20
ospf-priority 5
```

vrouter-interface-config-remove

This command is used to remove additional routing protocol information in a vRouter configuration.

Syntax `vrouter-interface-config-remove vrouter-name` *`name-string`* `nic` *`vrouter-interface-nic`*

`vrouter-name` *`name-string`*	Specifies the vRouter name on the interface.
Specify the following interface configuration arguments:	
`nic` *`vrouter-interface-nic`*	Specifies the NIC to add to the interface.
`l3-port` *`l3port-usable-port name`*	Specifies the Layer 3 port to remove.

Defaults None

Access CLI

History Command introduced in Version 2.1.

Version 2.1	Command introduced.
Version 5.1.3	The parameter, `l3-port`, added.

Usage You can use vRouter interfaces to separate traffic on the vRouter.

Examples To remove an interface on vRouter, vroute-int, with interface eth0.11, use the following command:

```
CLI network-admin@switch > vrouter-interface-config-remove  vrouter-name
vroute-int nic eth0.11
```

vrouter-interface-config-modify

This command is used to modify routing protocol configuration to a vRouter.

Syntax `vrouter-interface-config-modify`

`vrouter-name` *`name-string`*	Specify the vRouter name to add the interface.
Specify the following interface configuration arguments:	
`nic` *`vrouter-interface-nic`*	Specify the NIC to modify.
`l3-port` *`l3port-usable-port name`*	Specify the Layer 3 port to modify.
`ospf-hello-interval` *`seconds`*	Specify the OSPF hello interval with a number between 1 and 65535. This configures the interval between sending OSPF hello messages on an interface. The default value is 10.
`ospf-dead-interval` *`seconds`*	Specify the OSPF dead interval with a number between 2 and 65535. This configures the interval in which the vRouter must receive an OSPF hello message before the state of the neighbor changes to down. The default interval is 5.

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ospf-retransmit-interval *seconds*	Specify the OSPF retransmit interval from 3 to 65535 seconds. The default is 5 seconds. (IPv4 orIPv6)
ospf-priority *number*	Specify the OSPF priority with a number between 0 and 255. A vRouter with a priority of 0 does not participate in the designated router decision. The default value is 1.
ospf-auth-key *ospf-auth-key-string*	Specify an authorization key string for the vRouter interface.
ospf-cost *number*	Specify the OSPF cost with a value between 0 and 655365.
ospf-msg-digest-id *id*	Specify a value between 0and 255. If you specify 0, then OSPF MD5 authentication is not set.
ospf-msg-digest-key *ospf-msg-digest-key-string*	Specify a string for the OSPF message digest key.
ospf-passive-if|no-ospf-passive-if	Specify if the OSPF interface is passive or not.
ospf-network-type default|point-to-point	Specify the type of OSPF network.
ospf-bfd default|enable|disable	Specify if BFD protocol support for OSPF fault detection is enabled. The default is Disable.
bfd-interval *interval*	Specify the desired Bidirectional Forwarding Detection (BFD) transmit interval from 200 ms to 3000 ms. The default value is 750 ms. 200 ms to 3000 ms. The default value is 500 ms
bfd-min-rx *interval*	Specify the required BFD receive interval from 200 milliseconds to 3000 milliseconds. The default value is 750 milliseconds.
bfd-multiplier *integer*	Specify the BFD detection multiplier from 1 to 20. The default value is 3.
nd-suppress-ra|no-nd-suppress-ra	Specify if you want to suppress the transmit of IPv6 router advertisements.
v6-ra-prefix *ip-address*	Specify the IPv6 prefix to include in router advertisements.
prefix-netmask *netmask*	Specify the IPv6 prefix netmask.
autoconf|no-autoconf	Specify if you want the prefix used for IPv6 autoconfiguration.
ra-interval *seconds*	Specify the interval between router advertisements in seconds with a range of 1 to 1800 seconds.
ra-lifetime *seconds*	Specify the time that the vRouter is considered as the default router in seconds with a range of 0 to 9000.

Defaults None

Access CLI

History

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Version 2.1	Command introduced.
Version 2.2	The parameter, `ospf-cost`, added.
Version 2.2.2	The parameters, `ospf-msg-digest-key`, and `ospf-msg-digest-id`, added.
Version 2.2.3	The parameters `ospf-passive-if` and `no-ospf-passive-if` added.
Version 2.2.6	The parameters, `bfd-interval`, `bfd-min-rx`, and `bfd-multiplier`, added.
Version 2.4.1	The parameter, `ospf-network-type`, added.
Version 2.5	The parameters, `nd-suppress-ra`, `v6-ra-prefix`, `prefix-netmask`, `autoconf|no-autoconf`, `ra-interval`, and `ra-lifetime` added.
Version 2.5.3	The parameter, `ospf-bfd default|enable|disable` added.
Version 3.0.0	The parameters, `ospf-retransmit-interval`,`ra-prefix`, `ra-interval` added.
Version 5.1.3	The parameter, `l3-port`, added.

Usage This command is used to modify a routing protocol configuration to a vRouter.

Examples To modify an interface to vRouter, vroute-int, interface eth0.11, hello interval 10, dead interval 20, with priority 5, use the following command:

```
CLI network-admin@switch > vrouter-interface-config-modify vrouter-name vroute-int nic eth0.11
ospf-hello-interval 10 ospf-dead-interval 20 ospf-priority 5
```

vrouter-interface-config-show

This command is used to display routing protocol information on a vRouter.

Syntax `vrouter-interface-config-show`

`vrouter-name` *`name-string`*	Specify the vRouter name to add the interface.
Specify the following interface configuration arguments:	
`nic` *`vrouter-interface-nic`*	Specify the NIC.
`l3-port` *`l3port-usable-port name`*	Specify the Layer 3 port.
`ospf-hello-interval` *`seconds`*	Specify the OSPF hello interval with a number between 1 and 65535. This configures the interval between sending OSPF hello messages on an interface. The default value is 10.
`ospf-dead-interval` *`seconds`*	Specify the OSPF dead interval with a number between 2 and 65535. This configures the interval in which the vRouter must receive an OSPF hello message before the state of the neighbor changes to down. The default interval is 5.

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ospf-retransmit-interval *seconds*	Specify the OSPF retransmit interval from 3 to 65535 seconds. The default is 5 seconds. (IPv4 orIPv6)
ospf-priority *number*	Specify the OSPF priority with a number between 0 and 255. A vRouter with a priority of 0 does not participate in the designated router decision. The default value is 1.
ospf-auth-key *ospf-auth-key-string*	Specify an authorization key string for the vRouter interface.
ospf-cost *number*	Specify the OSPF cost with a value between 0 and 655365.
ospf-msg-digest-id *id*	Specify a value between 0and 255. If you specify 0, then OSPF MD5 authentication is not set.
ospf-msg-digest-key *ospf-msg-digest-key-string*	Specify a string for the OSPF message digest key.
ospf-passive-if|no-ospf-passive-if	Specify if the OSPF interface is passive or not.
ospf-network-type default|point-to-point	Specify the type of OSPF network.
ospf-bfd default|enable|disable	Specify if BFD protocol support for OSPF fault detection is enabled. The default is Disable.
bfd-interval *interval*	Specify the desired Bidirectional Forwarding Detection (BFD) transmit interval from 200 ms to 3000 ms. The default value is 750 ms. 200 ms to 3000 ms. The default value is 500 ms
bfd-min-rx *interval*	Specify the required BFD receive interval from 200 milliseconds to 3000 milliseconds. The default value is 750 milliseconds.
bfd-multiplier *integer*	Specify the BFD detection multiplier from 1 to 20. The default value is 3.
nd-suppress-ra|no-nd-suppress-ra	Specify if you want to suppress the transmit of IPv6 router advertisements.
v6-ra-prefix *ip-address*	Specify the IPv6 prefix to include in router advertisements.
prefix-netmask *netmask*	Specify the IPv6 prefix netmask.
autoconf|no-autoconf	Specify if you want the prefix used for IPv6 autoconfiguration.
ra-interval *seconds*	Specify the interval between router advertisements in seconds with a range of 1 to 1800 seconds.
ra-lifetime *seconds*	Specify the time that the vRouter is considered as the default router in seconds with a range of 0 to 9000.

Defaults None

Access CLI

History

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Version 2.1	Command introduced.
Version 2.2	The parameter, `ospf-cost`, added.
Version 2.2.2	The parameters, `ospf-msg-digest-key`, and `ospf-msg-digest-id`, added.
Version 2.2.3	The parameters `ospf-passive-if` and `no-ospf-passive-if` added.
Version 2.2.6	The parameters, `bfd-interval`, `bfd-min-rx`, and `bfd-multiplier`, added.
Version 2.4.1	The parameter, `ospf-network-type`, added.
Version 2.5	The parameters, `nd-suppress-ra`, `v6-ra-prefix`, `prefix-netmask`, `autoconf|no-autoconf`, `ra-interval`, and `ra-lifetime` added.
Version 2.5.3	The parameter, `ospf-bfd default|enable|disable` added.
Version 3.0.0	The parameters, `ospf-retransmit-interval`,`ra-prefix`, `ra-interval` added.
Version 5.1.3	The parameter, `l3-port`, added

Usage You can display additional routing information for a vRouter configuration.

Examples To display the interface, use the following command:

```
CLI network-admin@switch > vrouter-interface-config-show
```

vrouter-interface-config-raprefix-add

This command is used to add Router Advertisement (RA) prefixes to a vRouter interface.

Syntax `vrouter-interface-config-raprefix-add`

`vrouter-name` *`name-string`*	Specify the vRouter name.
`nic` *`vrouter interface nic`*	Specify the vRouter interface NIC.
`v6-ra-prefix` *`ip-address`*	Specify the IPv6 RA prefix address to include in the Router Advertisement.
`prefix-netmask` *`netmask`*	Specify the netmask for the prefix.
`autoconf|no-autoconf`	Specify if the RA prefix can be used for IPv6 autoconfiguration.

Defaults None

Access Network Administrator

History Command introduced in Version 3.0.0.

Usage Use this command to add a RA prefix to a vRouter interface.

Examples To add a RA prefix, use the following syntax:

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```
CLI network-admin@switch > vrouter-interface-config-raprefix-add
```

vrouter-interface-config-raprefix-remove

This command is used to remove Router Advertisement (RA) prefixes from a vRouter interface.

Syntax `vrouter-interface-config-raprefix-remove`

`vrouter-name` *`name-string`*	Specify the vRouter name.
`nic` *`vrouter interface nic`*	Specify the vRouter interface NIC.
`v6-ra-prefix` *`ip-address`*	Specify the IPv6 RA prefix address to include in the Router Advertisement.

Defaults None

Access Network Administrator

History Command introduced in Version 3.0.0.

Usage Use this command to remove a RA prefix to a vRouter interface.

Examples To remove a RA prefix, use the following syntax:

```
CLI network-admin@switch > vrouter-interface-config-raprefix-remove
```

vrouter-interface-config-raprefix-show

This command is used to add Router Advertisement (RA) prefixes to a vRouter interface.

Syntax `vrouter-interface-config-raprefix-show`

`vrouter-name` *`name-string`*	Specify the vRouter name.
`nic` *`vrouter interface nic`*	Specify the vRouter interface NIC.
`v6-ra-prefix` *`ip-address`*	Specify the IPv6 RA prefix address to include in the Router Advertisement.
`prefix-netmask` *`netmask`*	Specify the netmask for the prefix.
`autoconf|no-autoconf`	Specify if the RA prefix can be used for IPv6 autoconfiguration.

Defaults None

Access Network Administrator

History Command introduced in Version 3.0.0.

Usage Use this command to display information about a RA prefix configuration.

Examples To display RA information, use the following syntax:

```
CLI network-admin@switch > vrouter-interface-config-raprefix-show
```

vrouter-log-clear

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This command clears vRouter protocol logs such as Quagga log files.

Syntax `vrouter-log-clear vrouter-name vrouter name protocol zebra|ospf|ospf6|bgp|bfd|rip`

`vrouter-log-clear`	Clears vRouter log protocols from a protocol log file
Specify the following interface arguments:	
`vrouter-name vrouter name`	Specify the name of the vRouter service.
`protocol zebra|ospf|ospf6|bgp|bfd|rip`	Specify the protocol of the log file to clear from the switch.

Defaults None.

Access CLI

History Command introduced in Version 2.5.3

Usage Use this command to clear Quagga files from a specific protocol log file. Because Quagga log files accumulate on the switch, you may want to clear a particular log file so they do not create space issues.

Examples To clear OSPF protocol log files, use the following command:

```
CLI network-admin@switch > vrouter-log-clear protocol ospf
```

vrouter-log-show

This command displays Quagga logs files, such as Zebra, OSPF, OSPF6, BGP, BFD and RIP can be viewed directly from the console using the Netvisor CLI.

Syntax `vrouter-log-show vrouter-name vrouter-name protocol zebra|ospf|ospf6|bgp|bfd|rip`

`vrouter-log-clear`	Clears vRouter log protocols from a protocol log file
Specify the following interface arguments:	
`vrouter-name vrouter name`	Specify the name of the vRouter service.
`protocol zebra|ospf|ospf6|bgp|bfd|rip`	Specify the protocol of the log file to clear from the switch.

Defaults None.

Access CLI

History Command introduced in Version 2.5.3.

Usage Quagga logs files, such as Zebra, OSPF, OSPF6, BGP, BFD and RIP can be viewed directly from the console using the Netvisor

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Examples To display OSPF protocol logs from the vRouter named **myrouter**, use this command:

```
CLI network-admin@switch > vrouter-log-show vrouter-name myrouter
protocol ospf
```

vrouter-loopback-interface-add

This command adds a loopback address to a virtual router (vRouter) service for a fabric, cluster, virtual network (VNET), or standalone switch. The maximum number of loopback interfaces is 255. Netvisor supports IPv4 and IPv6 addresses.

Syntax `vrouter-loopback-interface-add`

`vrouter-name` *name-string*	Specify the name of the vRouter.
Specify the following loopback interface arguments:	
`index` *number*	Specify the interface index from 1 to 255.
ip-address	Specify the network IP address.

Defaults None.

Access CLI

History Command introduced in Version 2.2.

Usage Each fabric, cluster, standalone switch, or virtual network (VNET) can provide its tenants with a virtual router (vRouter) service that forwards traffic between networks and implements Layer 3 protocols. This command adds a loopback address for an existing vRouter service.

Examples To add the loopback interface of 192.168.11.13 to vRouter, MyvService, , use the following command:

```
CLI network-admin@switch > vrouter-loopback-interface-add vrouter-name
MyvService index 1 ip-address 192.168.11.13
```

vrouter-loopback-interface-remove

This command removes a loopback address to a virtual router (vRouter) service for a fabric, cluster, virtual network (VNET), or standalone switch.

Syntax `vrouter-loopback-interface-add vrouter-name name-string index number`

`vrouter-name` *name-string*	Specify the name of the vRouter.
Specify the following loopback interface arguments:	
`index` *number*	Specify the interface index from 1 to 255.

Defaults None.

Access CLI.

History Command introduced in Version 2.2.

Usage Each fabric, cluster, standalone switch, or virtual network (VNET) can provide its tenants with a virtual router (vRouter) service that forwards traffic between networks and implements Layer 3 protocols. This command removes a loopback interface from an existing Router service.

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Examples To remove the loopback interface of 192.168.11.13 to vRouter, MyvService, , use the following command:

```
CLI network-admin@switch > vrouter-loopback-interface-remove vrouter-name MyvService index 1
```

vrouter-loopback-interface-show

This command displays information about a loopback address added to a virtual router (vRouter) service for a fabric, cluster, virtual network (VNET), or standalone switch.

Syntax `vrouter-loopback-interface-show vrouter-name name-string index number ip-address`

`vrouter-name` *`name-string`*	Specify the name of the vRouter.
Specify the following loopback interface arguments:	
`index` *`number`*	Specify the interface index from 1 to 255.
`ip-address`	Specify the network IP address.

Defaults None.

Access CLI.

History Command introduced in Version 2.2.

Usage Each fabric, cluster, standalone switch, or virtual network (VNET) can provide its tenants with a virtual router (vRouter) service that forwards traffic between networks and implements Layer 3 protocols. This command adds a loopback address for an existing vRouter service.

Examples To add the loopback interface of 192.168.11.13 to vRouter, MyvService, , use the following command:

```
CLI network-admin@switch > vrouter-loopback-interface-show
vrouter-name           index       ip-address
------------           -----       --------------
MyvService             1           192.168.11.13
```

vrouter-mfib-routes-show

This command is used to display multicast routes in forwarding information database.

Syntax `vrouter-mfib-routes-show`

`type <*,G>|<*,G,V>`	Displays the type of hardware router.
`srcip` *`ip-address`*	Displays the source IP address.
`srcip-mask` *`netmask`*	Displays the source netmask.
`group` *`ip-address`*	Displays the group IP address.
`group-mask` *`netmask`*	Displays the group netmask.
`vnet` *`vnet-name`*	Displays the VNET for the VLAN.

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vlan *vlan-id*	Displays the VLAN identifier.
vrid *vrouter-id*	Displays the virtual router identifier.
hw-group-id *hw-group-id*	Displays the hardware group identifier.
send-vnet *vnet-name*	Displays the VNET of the sending VLAN.
send-vlan *vlan-id*	Displays the sending VLAN identifier.
ports *port-list*	Displays the port list.
encap-id *encap-id-number*	Displays the encapsulation identifier.
flags Trunk|Active	Displays the hardware flags for the route.

Defaults None

Access CLI

History .

Version 2.2.5	Command introduced.
Version 2.4.1	The parameter, vnet, added.
Version 2.6.2	The parameter, send-vnet, added.

Usage Use this command to display information about multicast routes in the forwarding information database (FIB).

Examples To display multicast routes in the FIB, use the following syntax:

```
CLI network-admin@switch > vrouter-mfib-routes-show
switch:                      pleiades23
type:                        <S,G,V>
srcip                       10.16.110.100
group:                       239.2.2.2
vlan:                        113
vrid:                        0
hw-group-id:                 2000006
send-vlan ports:             none
encap-id flags:              -1
flags:                       Active
switch:                      pleiades23
type:                        <S,G,V>
srcip                       10.16.110.100
group:                       239.1.1.1
vlan:                        113
vrid:                        0
hw-group-id:                 2000007
send-vlan ports:             none
encap-id flags:              0
flags:                       Active
switch:                      pleiades23
type:                        <*,G,V>
srcip                        0.0.0.0
group:                       239.2.2.2
vlan:                        115
```

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```
vrid:                           0
hw-group-id:                    2000005
send-vlan ports:                none
encap-id flags:                 1
flags:                          Active
```

vrouter-multicast-igmp-group-show

This command displays the Internet Group Management Protocol (IGMP) group state for each multicast router.

Syntax `vrouter-multicast-igmp-group-show`

`vrouter-name` *`name-string`*	Displays the vRouter name.
`if-name` *`if-name-string`*	Displays the physical name of the virtual interface.
`address` *`ip-address`*	Displays the local IP address.
`vif` *`vif-number`*	Displays the virtual interface identifier.
`reporter` *`ip-address`*	Displays the reporter IP address.
`timer` *`timer-number`*	Displays the timer number.

Defaults None

Access CLI

History Command introduced in Version 2.2.5.

Usage Use this command to display information about IGMP group state for each multicast router.

Examples To display information about IGMP group state, use the following syntax:

```
CLI network-admin@switch > vrouter-multicast-igmp-group-show
  vrouter-name if-name  address    reporter
  ------------ -------- ---------- -------------
  vr0          eth0.110 224.0.0.13 10.16.110.1
  vr0          eth0.110 224.0.0.2  10.16.110.1
  vr0          eth0.110 224.0.0.22 10.16.110.1
  vr0          eth0.111 224.0.0.13 10.16.111.1
  vr0          eth0.111 224.0.0.2  10.16.111.1
  vr0          eth0.111 224.0.0.22 10.16.111.1
  vr0          eth0.112 224.0.0.2  10.16.112.1
  vr0          eth0.112 224.0.0.22 10.16.112.1
  vr0          eth0.110 224.0.0.5  10.16.110.1
  vr0          eth0.111 224.0.0.5  10.16.111.1
  vr0          eth0.112 224.0.0.5  10.16.112.1
  vr0          eth0.112 224.0.0.13 10.16.112.2
  vr0          eth0.110 224.0.0.6  10.16.110.1
  vr0          eth0.111 224.0.0.6  10.16.111.1
  vr0          eth0.112 224.0.0.6  10.16.112.2
  vr0          eth0.113 224.0.0.5  10.16.113.1
  vr0          eth0.113 224.0.0.13 10.16.113.2
  vr0          eth0.113 224.0.0.2  10.16.113.2
  vr0          eth0.113 224.0.0.22 10.16.113.1
  vr0          eth0.113 224.0.0.6  10.16.113.2
  vr1          eth1.112 224.0.0.13 10.16.112.2
```

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```
vr1          eth1.112 224.0.0.2  10.16.112.2
 vr1          eth1.112 224.0.0.22 10.16.112.2
 vr1          eth0.114 224.0.0.13 10.16.114.1
 vr1          eth0.114 224.0.0.2  10.16.114.1
 vr1          eth0.114 224.0.0.22 10.16.114.1
 vr1          eth1.112 224.0.0.5  10.16.112.1
 vr1          eth0.114 224.0.0.5  10.16.114.1
 vr1          eth0.114 224.0.0.6  10.16.114.1
 vr1          eth1.112 224.0.0.6  10.16.112.2
 vr2          eth1.114 224.0.0.13 10.16.114.2
 vr2          eth1.114 224.0.0.2  10.16.114.2
 vr2          eth1.114 224.0.0.22 10.16.114.2
 vr2          eth0.115 224.0.0.13 10.16.115.1
 vr2          eth0.115 224.0.0.2  10.16.115.1
 vr2          eth0.115 224.0.0.22 10.16.115.1
 vr2          eth1.114 224.0.0.5  10.16.114.2
 vr2          eth0.115 224.0.0.5  10.16.115.1
 vr2          eth1.114 224.0.0.6  10.16.114.1
 vr2          eth0.115 224.0.0.6  10.16.115.1
 vr2          eth0.115 224.1.1.1  10.16.115.100
 vr2          eth1.113 224.0.0.5  10.16.113.1
 vr2          eth1.113 224.0.0.13 10.16.113.2
vr2          eth1.113 224.0.0.2  10.16.113.2
```

vrouter-multicast-route-show

This command displays the multicast forwarding state for one more multicast routers or one or more multicast groups.

Syntax `vrouter-multicast-route-show`

`vrouter-name` *`name-string`*	Displays the vRouter name.
`source` *`ip-address`*	Displays the source IP address.
`group` *`ip-address`*	Displays the group IP address.
`parent` *`parent-number`*	Displays the parent number.
`oif_bitmap` *`oif_bitmap-number`*	Displays the bitmap of virtual interfaces to forward packets.
`incoming-if` *`if-string`*	Displays the name of the incoming interface.
`outgoing-if` *`if-string`*	Displays the name of the outgoing interface.

Defaults None

Access CLI

History Command introduced in Version 2.2.5.

Usage Use this command to display information about muticast routes.

Examples To display multicast route information use the following syntax:

```
CLI network-admin@switch > vrouter-multicast-route-show
  vrouter-name source        group     incoming-if outgoing-ifs
  ------------ ------------- --------- ----------- ------------
```

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```
vr0          10.16.110.100 224.1.1.1 eth0.110    eth0.112
vr1          10.16.110.100 224.1.1.1 eth1.112    eth0.114
vr2          10.16.110.100 224.1.1.1 eth1.114    eth0.115
```

vrouter-ospf6-add

This command adds Open Shortest Path First (OSPF6) routing protocol to a virtual router (vRouter) service for a fabric, cluster, virtual network (VNET), or standalone switch.

Syntax `vrouter-ospf6-add`

`vrouter-name` *`name-string`*	Specify the name of the vRouter.
Specify the following OSPF arguments:	
`nic` *`vrouter- interface-nic`*	Specify the OSPF6 control for this interface.
`ospf6-area` *`ospf-area-number`*	Specify the OSPF6 area number in dotted decimal format.

Defaults None.

Access CLI.

History Command introduced in Version 2.3.1.

Usage Each fabric, cluster, standalone switch, or virtual network (VNET) can provide its tenants with a virtual router (vRouter) service that forwards traffic between networks and implements Layer 3 protocols. This command adds OSPF for an existing Router service.

Examples To add OSPF6 to vRouter, MyvService, with the NIC eth1.0, and OSPF6 area 1.0.0.0, use the following command:

```
CLI network-admin@switch > vrouter-ospf-add vrouter-name MyvService nic
eth1.0 ospf6-area 1.0.0.0
```

vrouter-ospf6-remove

This command removes an Open Shortest Path First (OSPF6) routing protocol from a virtual router (vRouter) service for a fabric, cluster, virtual network (VNET), or standalone switch.

Syntax `vrouter-ospf6-remove`

`vrouter-name` *`name-string`*	Specify the name of the vRouter.
Specify the following OSPF arguments:	
`nic` *`vrouter- interface-nic`*	Specify the OSPF6 control for this interface.

Defaults None.

Access CLI.

History Command introduced in Version 2.3.1.

Usage Each fabric, cluster, standalone switch, or virtual network (VNET) can provide its tenants with a virtual router (vRouter) service that forwards traffic between networks and implements Layer 3 protocols. This command adds OSPF for an existing Router service.

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Examples To remove OSPF6 from vRouter, MyvService, with the NIC eth1.0, use the following command:

```
CLI network-admin@switch > vrouter-ospf-remove vrouter-name MyvService
nic eth1.0
```

vrouter-ospf6-show

This command displays information about OSPF6 on a virtual router (vRouter) service for a fabric, cluster, virtual network (VNET), or standalone switch.

Syntax `vrouter-ospf6-show`

`vrouter-name` *`name-string`*	Specify the name of the vRouter.
Specify the following OSPF arguments:	
`nic` *`vrouter- interface-nic`*	Specify the OSPF6 control for this interface.
`ospf6-area` *`ospf-area-number`*	Specify the OSPF6 area number in dotted decimal format.

Defaults None.

Access CLI

History Command introduced in Version 2.3.1.

Usage Each fabric, cluster, standalone switch, or virtual network (VNET) can provide its tenants with a virtual router (vRouter) service that forwards traffic between networks and implements Layer 3 protocols. This command displays OSPF6 for an existing Router service.

Examples To display information about all OSPF6 instances configured on vRouters, use the following command:

```
CLI network-admin@switch > vrouter-ospf6-show layout vertical
```

vrouter-ospf6-area-show

This command is used to display information about areas and stubs as well as prefixes in an OSPF6 configuration.

Syntax `vrouter-ospf6-area-show`

`vrouter-name` *`name-string`*	Specify the name of the vRouter.
Specify the following OSPF area arguments:	
`area` *`area-number`*	Specify the area number.
`stub-type none|stub|stub-no-summary| nssa|nssa-no-summary`	Specify the OSPF stub type.
`prefix-list-in vrouter` *`prefix-list name`*	Specify an inbound prefix list name.
`prefix-list-out vrouter` *`prefix-list name`*	Specify an outbound prefix list name.

Defaults None

Access CLI

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History Command introduced in Version 2.3.1.

Usage An OSPF6 network can be divided into sub-domains called areas. An area is a logical collection of OSPF6 networks, routers, and links that have the same area identification.. A router within an area must maintain a topological database for the area to which it belongs. The router doesn't have detailed information about network topology outside of its area, thereby reducing the size of its database.

Areas limit the scope of route information distribution. It is not possible to do route update filtering within an area. The link-state database (LSDB) of routers within the same area must be synchronized and be exactly the same. However, route summarization and filtering is possible between different areas. The main benefit of creating areas is a reduction in the number of routes to propagate through the filtering and the summarization of routes.

Examples To display information about an OSPF area, use the following syntax:

```
CLI network-admin@switch > vrouter-ospf6-area-show  vrouter-name
vrouter-ospf area 0 stub-type stub
```

vrouter-ospf6-interface-show

This command is used to display specific OSPFv6 configuration information

Syntax `vrouter-ospf6-interface-show`

`vrouter-name` *`name-string`*	Displays the name of the vRouter.
Specify any of the following optional OSPF parameters:	
`nic vrouter interface` *`nic`*	Displays the name of the vNIC.
`nic-state down|up`	Displays the vNIC state.
`l3-port` *`l3-port-number`*	Displays the Layer 3 port numbers.
`link-local-ip` *`ip-address`*	Displays the IPv6 link-local IP address.
`ip6` *`ip-address`*	Displays the IP address of the interface.
`netmask-ip6` *`netmask`*	Displays the netmask of the IP address.
`area ip-address`	Displays the area ID for the interface in IPv4 format.
`mtu` *`mtu-number`*	Displays MTU for the interface.
`mtu-mismatch-detection| no-mtu-mismatch-detection`	Displays if MTU mismatch detection is configured.
`network-type point-to-point|broadcast| loopback`	Displays the OSPF network type.
`state down|loopback|waiting|point-to-point|dr-other|backup|dr`	Displays OSPF interface state.
`dr-id` *`ip-address`*	Displays the designated router ID.
`dr-ip` *`ip-address`*	Displays the designated router IP address.
`bdr-id` *`ip-address`*	Displays the backup designated router ID.
`bdr-ip ip-address`	Displays the designated router IP address.

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priority *priority-number*	Displays the priority.
cost *cost-number*	Displays the cost.
hello *hello-number(s)*	Displays the hello-interval in seconds.
dead *dead-number(s)*	Displays the dead time in seconds.
retransmit *retransmit-number(s)*	Displays the retransmit interval time in seconds.
if-scoped-lsa *if-scoped-lsa-number*	Displays the number of interface LSAs scoped for the area.
ls-update *ls-update-number*	Displays the number of pending LSAs for LSUpdate.
ls-ack *ls-ack-number*	Displays the number of pending LSAs for LSAck.

Defaults None

Access Network Administrator

History Command introduced in Version 3.0.0.

Usage Use this command to display information about an OSPFv6 interface.

Examples To display information about an OSPF interface, use the following syntax:

```
CLI network-admin@switch > vrouter-ospf6-interface-show
```

vrouter-ospf6-neighbor-show

This command is used to display OSPF6 neighbors for a vRouter configured for OSPF6.

Syntax `vrouter-ospf6-neighbor-show`

vrouter-name *name-string*	Specifies the name of the vRouter.
neighbor-rid *ip-address*	Specifies the IP address of the OSPF neighbor
pri *pri-number*	Specifies the priority.
state *state-string*	Specifies the current state of the OSPF neighbor.
dead-time *dead-time*	Specifies the dead-time. Dead-time is the interval of time that the vRouter waits before declaring a neighbor is down.
duration *duration-string*	Specifies the duration in hh:mm:ss.
interface *interface-string*	Specifies the interface on the vRouter.

Defaults None.

Access CLI

History Command introduced in Version 2.3.1.

Usage Each fabric, cluster, standalone switch, or virtual network (VNET) can provide its tenants with a virtual router (vRouter) service that forwards traffic between networks and implements Layer 3 protocols. This command displays OSPF6 information for an existing Router service.

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Examples To display information about all OSPF6 neighbors on the network, use the following command:

```
CLI network-admin@switch > vrouter-ospf6-neighbor-show  layout  vertical
```

vrouter-ospf-area-add

This command is used to add areas and stubs as well as prefixes to an OSPF configuration.

Syntax `vrouter-ospf-area-add`

`vrouter-name` *`name-string`*	Specify the name of the vRouter.
Specify the following OSPF area arguments:	
`area` *`area-number`*	Specify the stub area number for the configuration. Stub areas are shielded from external routes but receive information about networks that belong to other areas of the same OSPF domain
`stub-type none|stub|stub-no-summary|nssa|nssa-no-summary`	Specify the stub type as stubby or not-so-stubby areas (NSSA). You can define totally stubby areas. Routers in totally stubby areas keep their Link State Database (LSDB)-only information about routing within their area, plus the default route. Not-so-stubby areas (NSSAs) are an extension of OSPF stub areas. Like stub areas, they prevent the flooding of AS-external link-state advertisements (LSAs) into NSSAs, relying instead on default routing to external destinations. As a result, NSSAs (like stub areas) must be placed at the edge of an OSPF routing domain. NSSAs are more flexible than stub areas in that an NSSA can import external routes into the OSPF routing domain, thereby providing transit service to small routing domains that are not part of the OSPF routing domain
`prefix-list-in vrouter` *`prefix-list name`*	Specify an inbound prefix list name to filter incoming packets.
`prefix-list-out vrouter` *`prefix-list name`*	Specify an outbound prefix list name to filter outgoing packets.

Defaults None

Access CLI

History Command introduced in Version 2.2.3.

Usage An OSPF network can be divided into sub-domains called areas. An area is a logical collection of OSPF networks, routers, and links that have the same area identification.. A router within an area must maintain a topological database for the area to which it belongs. The router doesn't have detailed information about network topology outside of its area, thereby reducing the size of its database.

Areas limit the scope of route information distribution. It is not possible to do route update filtering within an area. The link-state database (LSDB) of routers within the same area must be synchronized and be exactly the same. However, route summarization and filtering is possible between different areas. The main benefit of creating areas is a reduction in the number of routes to propagate through the filtering and the summarization of routes.

Examples To add an OSPF area, 0, with the stub type, stub, use the following syntax:

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```
CLI network-admin@switch > vrouter-ospf-area-add vrouter-name vrouter-
ospf area 0 stub-type stub
```

vrouter-ospf-area-modify

This command is used to modify areas and stubs as well as prefixes to an OSPF configuration.

Syntax `vrouter-ospf-area-modify`

`vrouter-name` *`name-string`*	Specify the name of the vRouter.
Specify the following OSPF area arguments:	
`area` *`area-number`*	Specify the stub area number for the configuration. Stub areas are shielded from external routes but receive information about networks that belong to other areas of the same OSPF domain
`stub-type none|stub|stub-no-summary|nssa|nssa-no-summary`	Specify the stub type as stubby or not-so-stubby areas (NSSA). You can define totally stubby areas. Routers in totally stubby areas keep their Link State Database (LSDB)-only information about routing within their area, plus the default route. Not-so-stubby areas (NSSAs) are an extension of OSPF stub areas. Like stub areas, they prevent the flooding of AS-external link-state advertisements (LSAs) into NSSAs, relying instead on default routing to external destinations. As a result, NSSAs (like stub areas) must be placed at the edge of an OSPF routing domain. NSSAs are more flexible than stub areas in that an NSSA can import external routes into the OSPF routing domain, thereby providing transit service to small routing domains that are not part of the OSPF routing domain
`prefix-list-in vrouter` *`prefix-list name`*	Specify an inbound prefix list name to filter incoming packets.
`prefix-list-out vrouter` *`prefix-list name`*	Specify an outbound prefix list name to filter outgoing packets.

Defaults None

Access CLI

History Command introduced in Version 2.2.3.

Usage An OSPF network can be divided into sub-domains called areas. An area is a logical collection of OSPF networks, routers, and links that have the same area identification.. A router within an area must maintain a topological database for the area to which it belongs. The router doesn't have detailed information about network topology outside of its area, thereby reducing the size of its database.

Areas limit the scope of route information distribution. It is not possible to do route update filtering within an area. The link-state database (LSDB) of routers within the same area must be synchronized and be exactly the same. However, route summarization and filtering is possible between different areas. The main benefit of creating areas is a reduction in the number of routes to propagate through the filtering and the summarization of routes.

Examples To modify an OSPF area, 0, and change the stub type to nssa, use the following syntax:

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```
CLI network-admin@switch > vrouter-ospf-area-modify  vrouter-name
vrouter-ospf area 0 stub-type nssa
```

vrouter-ospf-area-remove

This command is used to remove an areas from an OSPF configuration.

Syntax `vrouter-ospf-area-remove`

`vrouter-name` *`name-string`*	Specify the name of the vRouter.
Specify the following OSPF area arguments:	
`area` *`area-number`*	Specify the area number.

Defaults None

Access CLI

History Command introduced in Version 2.2.3.

Usage An OSPF network can be divided into sub-domains called areas. An area is a logical collection of OSPF networks, routers, and links that have the same area identification.. A router within an area must maintain a topological database for the area to which it belongs. The router doesn't have detailed information about network topology outside of its area, thereby reducing the size of its database.

Areas limit the scope of route information distribution. It is not possible to perform route update filtering within an area. The link-state database (LSDB) of routers within the same area must be synchronized and be exactly the same. However, route summarization and filtering is possible between different areas. The main benefit of creating areas is a reduction in the number of routes to propagate through the filtering and the summarization of routes.

Examples To remove an OSPF area, 0, use the following syntax:

```
CLI network-admin@switch > vrouter-ospf-area-remove  vrouter-name
vrouter-ospf area 0
```

vrouter-ospf-area-show

This command is used to display information about areas and stubs as well as prefixes in an OSPF configuration.

Syntax `vrouter-ospf-area-show`

`vrouter-name` *`name-string`*	Specify the name of the vRouter.
Specify the following OSPF area arguments:	
`area` *`area-number`*	Specify the stub area number for the configuration. Stub areas are shielded from external routes but receive information about networks that belong to other areas of the same OSPF domain
`stub-type none|stub|stub-no-summary|nssa|nssa-no-summary`	Specify the stub type as stubby or not-so-stubby areas (NSSA). You can define totally stubby areas. Routers in totally stubby areas keep their Link State Database (LSDB)-only information about routing within their area, plus the default route. Not-so-stubby areas (NSSAs) are an extension of OSPF stub areas. Like stub areas, they prevent the

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	flooding of AS-external link-state advertisements (LSAs) into NSSAs, relying instead on default routing to external destinations. As a result, NSSAs (like stub areas) must be placed at the edge of an OSPF routing domain. NSSAs are more flexible than stub areas in that an NSSA can import external routes into the OSPF routing domain, thereby providing transit service to small routing domains that are not part of the OSPF routing domain
`prefix-list-in vrouter` *`prefix-list name`*	Specify an inbound prefix list name to filter incoming packets.
`prefix-list-out vrouter` *`prefix-list name`*	Specify an outbound prefix list name to filter outgoing packets.

Defaults None

Access CLI

History Command introduced in Version 2.2.3.

Usage An OSPF network can be divided into sub-domains called areas. An area is a logical collection of OSPF networks, routers, and links that have the same area identification.. A router within an area must maintain a topological database for the area to which it belongs. The router doesn't have detailed information about network topology outside of its area, thereby reducing the size of its database.

Areas limit the scope of route information distribution. It is not possible to do route update filtering within an area. The link-state database (LSDB) of routers within the same area must be synchronized and be exactly the same. However, route summarization and filtering is possible between different areas. The main benefit of creating areas is a reduction in the number of routes to propagate through the filtering and the summarization of routes.

Examples To display information about an OSPF area, use the following syntax:

```
CLI network-admin@switch > vrouter-ospf-area-show vrouter-name vrouter-ospf area 0 stub-type stub
```

vrouter-ospf-add

This command adds Open Shortest Path First (OSPF) routing protocol to a virtual router (vRouter) service for a fabric, cluster, virtual network (VNET), or standalone switch.

Syntax `vrouter-ospf-add`

`vrouter-name` *`name-string`*	Specify the name of the vRouter.
Specify the following OSPF arguments:	
`network` *`ip-address`*	Specify the network IP address.
`netmask` *`netmask`*	Specify the netmask of the IP address.
`ospf-area` *`ospf-area-number`*	Specify the OSPF area number in dotted decimal format.

Defaults None.

Access CLI.

History

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Version 1.2	Command introduced.
Version 2.1	The parameters, `stub-area` and `stub-type`, added.
Version 2.2.3	The parameters, `stub-area` and `stub-type`, moved to the command `vrouter-ospf-area`.

Usage Each fabric, cluster, standalone switch, or virtual network (VNET) can provide its tenants with a virtual router (vRouter) service that forwards traffic between networks and implements Layer 3 protocols. This command adds OSPF for an existing Router service.

Examples To add OSPF to vRouter, MyvService, with the IP address of 192.168.11.3, netmask 32, and OSPF area 1.0.0.0, use the following command:

```
CLI network-admin@switch > vrouter-ospf-add vrouter-name MyvService
network 192.168.11.3/32 ospf-area 1.0.0.0
```

vrouter-ospf-remove

This command is used to remove an OSPF configuration from a vRouter service on a fabric, cluster, virtual network (VNET), or standalone switch.

Syntax `vrouter-ospf-remove`

`vrouter-name` *`name-string`*	Specify the name of the vRouter.
Specify the following OSPF arguments:	
`network` *`ip-address`*	Specify the network IP address.

Defaults None

Access CLI

History Command introduced in nvOS Version 1.2.1.

Usage Each fabric, cluster, standalone switch, or virtual network (VNET) can provide its tenants with a virtual router (vRouter) service that forwards traffic between networks and implements Layer 3 protocols. This command removes OSPF for an existing Router service.

Examples To remove **ospf-route** from the vRouter, **MyvService**, use the following command:

```
CLI network-admin@switch > vrouter-ospf-remove vrouter-name MyvService
name ospf-route
```

vrouter-ospf-show

This command displays information about OSPF on a virtual router (vRouter) service for a fabric, cluster, virtual network (VNET), or standalone switch.

Syntax `vrouter-ospf-show`

`vrouter-name` *`name-string`*	Specify the name of the vRouter.
Specify the following OSPF arguments:	
`network` *`ip-address`*	Specify the network IP address.

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netmask *netmask*	Specify the netmask of the IP address.
ospf-area *ospf-area-number*	Specify the OSPF area number in dotted decimal format.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The parameters, `stub-area` and `stub-type`, added.
Version 2.2.3	The parameters, `stub-area` and `stub-type`, moved to the command `vrouter-ospf-area`.

Usage Each fabric, cluster, standalone switch, or virtual network (VNET) can provide its tenants with a virtual router (vRouter) service that forwards traffic between networks and implements Layer 3 protocols. This command displays OSPF for an existing Router service.

Examples To display information about all OSPF instances configured on vRouters, use the following command:

```
CLI network-admin@switch > vrouter-ospf-show layout vertical
```

vrouter-ospf-interface-show

This command is used to display specific OSPF configuration information

Syntax `vrouter-ospf-interface-show`

vrouter-name *name-string*	Displays the name of the vRouter.
Specify any of the following optional OSPF parameters:	
nic vrouter interface *nic*	Displays the name of the vNIC.
nic-state down|up	Displays the vNIC state.
l3-port *l3-port-number*	Displays the Layer 3 port numbers.
ip *ip-address*	Displays the IP address of the interface.
netmask *netmask*	Displays the netmask of the IP address.
broadcast *ip-address*	Displays the broadcast IP address.
area ip-address	Displays the area ID for the interface in IPv4 format.
mtu *mtu-number*	Displays MTU for the interface.
mtu-mismatch-detection| no-mtu-mismatch-detection	Displays if MTU mismatch detection is configured.
router-id *ip-address*	Displays the router ID as an IP address.
network-type point-to-point|broadcast| loopback	Displays the OSPF network type.

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state down|loopback|waiting|point-to-point|dr-other|backup|dr	Displays OSPF interface state.
dr-id *ip-address*	Displays the designated router ID.
dr-ip *ip-address*	Displays the designated router IP address.
bdr-id *ip-address*	Displays the backup designated router ID.
bdr-ip ip-address	Displays the designated router IP address.
priority *priority-number*	Displays the priority.
cost *cost-number*	Displays the cost.
hello *hello-number(s)*	Displays the hello-interval in seconds.
dead *dead-number(s)*	Displays the dead time in seconds.
retransmit *retransmit-number(s)*	Displays the retransmit interval time in seconds.
hello-due *hello-due-string*	Displays the hello due in.
neighbor *neighbor-number*	Displays the neighbor count.
adjacent *adjacent-number*	Displays the adjacent number count.

Defaults None

Access Network Administrator

History Command introduced in Version 3.0.0.

Usage Use this command to display statistics about a NAT configuration.

Examples To display information about an OSPF interface, use the following syntax:

```
CLI network-admin@switch > vrouter-ospf-interface-show
```

vrouter-ospf-neighbor-show

This command is used to display OSPF neighbors for a vRouter configured for OSPF.

Syntax `vrouter-ospf-neighbor-show`

vrouter-name *name-string*	Specifies the name of the vRouter.
neighbor *ip-address*	Specifies the IP address of the OSPF neighbor
pri *pri-number*	Specifies the priority.
state *state-string*	Specifies the current state of the OSPF neighbor.
dead-time *dead-time*	Specifies the dead-time. Dead-time is the interval of time that the vRouter waits before declaring a neighbor is down.
address *ip-address*	Specifies the IP address of the vRouter.
interface *interface-string*	Specifies the interface on the vRouter.

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vlan *vlan-id*	Specifies the VLAN ID.
l3-port *l3-port-number*	Specifies the Layer 3 port number.

Defaults None.

Access CLI

History Command introduced in nvOS Version 1.2.1.

Usage Each fabric, cluster, standalone switch, or virtual network (VNET) can provide its tenants with a virtual router (vRouter) service that forwards traffic between networks and implements Layer 3 protocols. This command displays OSPF information for an existing Router service.

Examples To display information about all OSPF neighbors on the network, use the following command:

```
CLI network-admin@switch > vrouter-ospf-neighbor-show layout vertical
```

vrouter-packet-relay-add

This command is used to forward packets to a DHCP server.

Syntax `vrouter-packet-relay-add`

vrouter-name *name-string*	Specify the name of the vRouter.
Specify the following packet relay arguments:	
forward-proto dhcp	Specify the forwarding protocol.
forward-ip *ip-address*	Specify the IP address to forward packets.
nic *vrouter interface nic*	Specify the interface of the vRouter.

Defaults None

Access CLI

History Command introduced in Version 2.2.3.

Usage Using the `vrouter-packet-relay` command configures the Layer3 interface which receives the client's DHCP broadcast. You can change the broadcast request into a unicast and send it to a centralized DHCP server that is located to a different subnet in your network. The unicast DHCP request is normally routed to the destination DHCP Server within the network, even if the server is far away from the DHCP client.

Examples To forward DHCP packets to a DHCP server with the IP address, 10.30.21.11, and vRouter interface `eth0`, use the following syntax:

```
CLI network-admin@switch > vrouter-packet-relay-add vrouter-name vrouter-
dhcp forward-proto dhcp forward-ip 10.30.21.11 nic eth0
```

vrouter-packet-relay-remove

This command is used to remove a packet forwarding configuration.

Syntax `vrouter-packet-relay-remove`

vrouter-name *name-string*	Specify the name of the vRouter.

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Specify the following packet relay arguments:	
`forward-proto dhcp`	Specify the forwarding protocol.
`forward-ip` *`ip-address`*	Specify the IP address to forward packets.
`nic` *`vrouter interface nic`*	Specify the interface of the vRouter.

Defaults None

Access CLI

History Command introduced in Version 2.2.3.

Usage Using the `vrouter-packet-relay` command configures the Layer3 interface which receives the client's DHCP broadcast. You can change the broadcast request into a unicast and send it to a centralized DHCP server located in a different subnet in your network. The unicast DHCP request is normally routed to the destination DHCP Server within the network, even if the server is far away from the DHCP client.

Examples To remove the configuration with a DHCP server with the IP address, 10.30.21.11, and vRouter interface `eth0`, use the following syntax:

```
CLI network-admin@switch > vrouter-packet-relay-remove vrouter-name
vrouter-dhcp forward-proto dhcp forward-ip 10.30.21.11 nic eth0
```

vrouter-packet-relay-show

This command is used to display information about a packet forwarding configuration.

Syntax `vrouter-packet-relay-show vrouter-name name-string forward-proto dhcp forward-ip ip-address nic vrouter interface nic`

`vrouter-name` *`name-string`*	Specify the name of the vRouter.
Specify the following packet relay arguments:	
`forward-proto dhcp`	Specify the forwarding protocol.
`forward-ip` *`ip-address`*	Specify the IP address to forward packets.
`nic` *`vrouter interface nic`*	Specify the interface of the vRouter.

Defaults None

Access CLI

History Command introduced in Version 2.2.3.

Usage Using the `vrouter-packet-relay` command configures the Layer3 interface which receives the client's DHCP broadcast. You can change the broadcast request into a unicast and send it to a centralized DHCP server that is located to a different subnet in your network. The unicast DHCP request is normally routed to the destination DHCP Server within the network, even if the server is far away from the DHCP client.

Examples To remove the configuration with a DHCP server with the IP address, 10.30.21.11, and vRouter interface `eth0`, use the following syntax:

```
CLI network-admin@switch > vrouter-packet-relay-show  vrouter-name
vrouter-dhcp forward-proto dhcp forward-ip 10.30.21.11 nic eth0
```

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vrouter-ping

This command is used to ping from a vRouter to a host IP address on the network.

Syntax `vrouter-ping`

`vrouter-name` *`name-string`*	Specify the name of the vRouter used to ping the host.
`host-ip` *`ip-address`*	Specify the IP address of the host on the network.
Specify between 0 and 3 of the following options:	
`count` *`count-number`*	Specify the number of packets to transmit to the host.
`fragment|no-fragment`	Specify if you want to toggle fragments.
`interval` *`interval-number`*	Specify the interval between successive transmissions.
`outgoing-interface` *`outgoing-interface-string`*	Specify the outgoing interface to ping.

Defaults None

Access CLi

History

Version 2.3.1	Command introduced.
Version 2.6.2	The parameter, `outgoing-interface`, added.

Usage Use this command to ping a host on the network from a vRouter.

Examples To ping the host, `192.168.11.134`, from vRouter, `myvrouter`, use the following syntax:

```
CLI network-admin@switch > vrouter-ping vrouter-name myvrouter host-ip
192.168.11.134
```

vrouter-prefix-list-add

Prefix lists are used by BGP and OSPF to filter route advertisements.

Syntax `vrouter-prefix-list-add`

`vrouter-name` *`name-string`*	Specify the name of the vRouter.
Specify the following prefix-list arguments:	
`name` *`name-string`*	Specify a name for the prefix list.
`action permit|deny`	Specify the type of action, permit or deny.
`prefix` *`ip-address`*	Specify the IP address used as the prefix.
`netmask` *`netmask`*	Specify the netmask of the IP address.

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Specify any of the following options:	
`seq` *`number`*	Specify a sequence number. This is a number between 1 and 4294967295.
`min-prefix-len` *`number`*	Specify the minimum prefix length. This is a value between 0 and 32.
`max-prefix-len` *`number`*	Specify the maximum prefix length. This is a value between 0 and 32.

Defaults None

Access CLI

History

Version 2.2.3	Command introduced.
Version 2.2.4	The parameter, `any`, added.
Version 2.5	The parameter, `anyv6`, added.
Version 5.1.0	The parameters, `any` and `anyv6`, deprecated.

Usage Use this command to specify prefix lists used with BGP and OSPF.

Examples To configure a prefix list, no-ads, with the action, deny, prefix, 10.9.11.13/32, and minimum prefix length 15, use the following syntax:

```
CLI network-admin@switch > vrouter-prefix-list-add  vrouter-name
vrouter-ospf name no-ads action deny prefix 10.9.11.13 netmask
255.255.255.0 min-prefix-len 15
```

vrouter-prefix-list-modify

Prefix lists are used by BGP and OSPF to filter route advertisements.

Syntax `vrouter-prefix-list-modify`

`vrouter-name` *`name-string`*	Specify the name of the vRouter.
Specify the following prefix-list arguments:	
`name` *`name-string`*	Specify a name for the prefix list.
`action permit|deny`	Specify the type of action, permit or deny.
`prefix` *`ip-address`*	Specify the IP address used as the prefix.
`netmask` *`netmask`*	Specify the netmask of the IP address.
Specify any of the following options:	
`seq` *`number`*	Specify a sequence number. This is a number between 1 and 4294967295.
`min-prefix-len` *`number`*	Specify the minimum prefix length. This is a value between 0 and 32.
`max-prefix-len` *`number`*	Specify the maximum prefix length. This is a value

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	between 0 and 32.

Defaults None

Access CLI

History

Version 2.2.3	Command introduced.
Version 2.2.4	The parameter, `any`, added.
Version 2.5	The parameter, `anyv6`, added.
Version 5.1.0	The parameters, `any` and `anyv6`, deprecated.

Usage Use this command to modify prefix lists used with BGP and OSPF.

Examples To modify a prefix list, no-ads, and change the action to permit, use the following syntax:

```
CLI network-admin@switch > vrouter-prefix-list-modify  vrouter-name
vrouter-ospf name no-ads action permit
```

vrouter-prefix-list-remove

Prefix lists are used by BGP and OSPF to filter route advertisements.

Syntax `vrouter-prefix-list-remove vrouter-name name-string name name-string seq number`

`vrouter-name` *`name-string`*	Specify the name of the vRouter.
Specify the following prefix-list arguments:	
`name` *`name-string`*	Specify a name for the prefix list.
Specify any of the following options:	
`seq` *`number`*	Specify a sequence number. This is a number between 1 and 4294967295.

Defaults None

Access CLI

History Command introduced in Version 2.2.3.

Usage Use this command to remove prefix lists used with BGP and OSPF.

Examples To remove a prefix list, no-ads, use the following syntax:

```
CLI network-admin@switch > vrouter-prefix-list-remove  vrouter-name
vrouter-ospf name no-ads
```

vrouter-prefix-list-show

Prefix lists are used by BGP and OSPF to filter route advertisements.

Syntax `vrouter-prefix-list-show`

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`vrouter-name` *`name-string`*	Specify the name of the vRouter.
Specify the following prefix-list arguments:	
`name` *`name-string`*	Specify a name for the prefix list.
`action permit|deny`	Specify the type of action, permit or deny.
`prefix` *`ip-address`*	Specify the IP address used as the prefix.
`netmask` *`netmask`*	Specify the netmask of the IP address.
Specify any of the following options:	
`seq` *`number`*	Specify a sequence number. This is a number between 1 and 4294967295.
`min-prefix-len` *`number`*	Specify the minimum prefix length. This is a value between 0 and 32.
`max-prefix-len` *`number`*	Specify the maximum prefix length. This is a value between 0 and 32.

Defaults None

Access CLI

History

Version 2.2.3	Command introduced.
Version 2.2.4	The parameter, `any`, added.
Version 2.5	The parameter, `anyv6`, added.
Version 5.1.0	The parameters, `any` and `anyv6`, deprecated.

Usage Use this command to modify prefix lists used with BGP and OSPF.

Examples To modify a prefix list, no-ads, and change the action to permit, use the following syntax:

```
CLI network-admin@switch > vrouter-prefix-list-modify  vrouter-name
vrouter-ospf name no-ads action permit
```

vrouter-rib-history-show

This command displays past changes to the RIB routing table. It was added to assist with troubleshooting and add time-machine-like capability for packet paths.

Syntax `vrouter-rib-history-show`

`time date/time: yyyy-mm-ddThh:mm:ss`	Specifies the time for the statistics.
`start-time` *`start-time`*	Specifies the start time for the statistics display using the notation *yyyy-mm-ddThh:mm:ss*.
`end-time` *`end-time`*	Specifies the end time for the statistics display using the notation *yyyy-mm-ddThh:mm:ss.*

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duration duration: #d#h#m#s	Specify the duration for the traffic statistics.
interval duration: #d#h#m#s	Specifies the time interval for the statistics display.
since-start| no-since-start	Specifies if the statistics are collected from the start of the VLAN.
older-than duration: #d#h#m#s	Specifies if the statistics are older than the stated duration.
within-last duration: #d#h#m#s	Specifies the statistics collected within the last duration.
caller init|control|logger|gre-tunnel|flush| user|static-route-init| fabric-tunnel| router-if|vnet-service|l3-check|vrf|vxlan-routing	Specifies the feature that made the change for this entry.
last-caller init|control|logger|gre-tunnel| flush|user| static-route-init|fabric-tunnel| router-if|vnet-service|l3-check|vrf|vxlan-routing	Specifies the most recent caller for this entry.
reason save|restart|add|modify|remove| remove-all|inject|evict| router-delete	Specifies the reason for the history entry.
last-reason save|restart|add|modify|remove| remove-all|inject|evict| router-delete	Specifies the most recent reason for the entry.
changes vrid|ip|prelen|number-of-nexthops| nexthops-in-hw|ecmp-group| nexthop|egress-id|flags|vlan|intf_ip|intf_id|number-of-tunnels	Specifies the change in the entry.
count *count-number*	Specifies the count for RIB history.
vrid *id*	Specifies the virtual router ID.
ip *ip-address*	Specifies the IP address.
prelen *number*	Specifies the prefix length as a value from 0 to 128.
number-of-nexthops *number-of-nexthops-number*	Specifies the number of next hops in the route.
nexthops-in-hw *nexthops-in-hw-number*	Specifies the number next hops in hardware.
ecmp-group *ecmp-group-number*	Specifies the ECMP group number.
nexthop *ip-address*	Specifies the next hop IP address.
egress-id *egress-id-number*	Specifies the egress ID.

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`flags ECMP|in-hw|in-cache|in-ecmp-cache|local-subnet|drop`	Specifies the flags for the routes. ECMP in-hw - stored in hardware cache - stored in the RIB. local-subnet - stored in the local subnet
`vnet` *`vnet name`*	Specifies the vNET name.
`bd` *`bridge-domain name`*	Specifies the bridge domain name.
`vlan` *`vlan-id`*	Specifies the VLAN ID.
`intf_ip ip-address`	Specifies the interface IP address.
`intf_id` *`vrouter-hw-if hw-id`*	Specifies the router interface.
`number-of-tunnels` *`number-of-tunnels-number`*	Specifies the number of tunnels dependent on the route.

Defaults None

Access Network-admin

History Command introduced in Version 2.4.1.

Usage Use this command to display the RIB history.

Examples To display RIB history, use the following syntax:

```
CLI network-admin@switch > vrouter-rib-history-show
time:                   15:29:41
caller:                 router-if
reason:                 add
ip:                     10.16.111.0 24
prelen:                 24
nexthop:                10.16.111.1
flags:                  in-hw,local-subnet
vlan:                   111
intf_ip:                10.16.111.1
intf_id:
time:                   15:29:43
caller:                 router-if
reason:                 add
ip:                     10.16.100.0
prelen:                 24
nexthop:                10.16.100.1
flags:                  in-hw,local-subnet
vlan:                   100
intf_ip:                10.16.100.1
intf_id:                1
```

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vrouter-rib-history-settings-modify

This command allows you to modify the RIB history log settings on the switch.

Syntax `vrouter-rib-history-settings-modify`

`enable|disable`	Specify if you want to enable RIB history logging on the switch.
`disk-space` *`disk-space-number`*	Specify if the amount of disk space allocated for the log files.
`log-file-count` *`number`*	Specify the number of log files for rotation. This is a value between 1 and 20.

Defaults None

Access Network-admin

History Command introduced in Version 2.4.1.

Usage Use this command to modify the RIB history log settings.

Examples To enable RIB history logging, use the following syntax:

```
CLI network-admin@switch > vrouter-rib-history-settings-modify   enable
```

vrouter-rib-history-settings-show

This command displays RIB history information.

Syntax `vrouter-rib-history-settings-show`

`enable|disable`	Specify if you want to enable RIB history logging on the switch.
`disk-space` *`disk-space-number`*	Specify if the amount of disk space allocated for the log files.
`log-file-count` *`number`*	Specify the number of log files for rotation. This is a value between 1 and 20.

Defaults None

Access Network-admin

History Command introduced in Version 2.4.1.

Usage Use this command to view the RIB history settings

Examples To view the RIB history settings, use the following syntax:

```
CLI network-admin@switch > vrouter-rib-history-settings-show
switch:         switchname
enable:         yes
disk-space:     50M
log-file-count: 10
```

vrouter-rib-routes-lookup

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Netvisor allows you to display information about routes in the Routing Information database using this command.

Syntax `vrouter-rib-routes-lookup`

vrid *vr-id*	Specifies the virtual router ID.
ip *ip-address*	Specifies the IP address.

Defaults None

Access Network administrator

History Command introduced in Version 5.1.0

Usage Use this command to display routes in the RIB.

Examples To display routes, use the following syntax:

```
CLI network-admin@switch > vrouter-rib-routes-lookup
```

vrouter-rib-routes-show

This command is used to display the Routing Information database (RIB) for vRouter routes.

Syntax `vrouter-rib-routes-show`

vrid *vrid-number*	Specifies the vRouter ID assigned.
ip *ip-address*	Specifies the IP address.
prelen *prelen-number*	Specifies the prefix length.
numer-of-nexthops *numer-of-nexthops-number*	Specifies the number of next hops for the route.
nexthops-in-hw *nexthops-in-hw-number*	Specifies the number of next hops for hardware routing.
nexthop *ip-address*	Specifies the IP address for the next hop on the route.
ecmp-group *ecmp-group-number*	Specifies the Equal Cost Multipath (ECMP) group number.
egress-id *egress-id-number*	Specifies the egress ID assigned to an outgoing route.
flags ECMP|in-hw|in-cache|local-subnet	Specifies the flags for the routes. ECMP in-hw - stored in hardware cache - stored in the RIB. local-subnet - stored in the local subnet.
vlan *vlan-number*	Specifies the VLAN of the routes.
intf_ip *ip-address*	Specifies the IP address of the interface participating

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	in the routing table.
`intf_id vrouter-hw-if hw-id`	Specifies the hardware ID if the router interface is hardware.
`ecmp-nexthops|no-ecmp-nexthops`	Specifies filter to display single/mutiple route entries (per nexthop)
`number-of-tunnels` *`number-of-tunnels-number`*	Specifies the number of tunnels dependent on this route.

Defaults None

Access CLI

History

Version 2.1	Command introduced.
Version 2.2	The parameters, `vlan` and `vxlan`, deprecated.
Version 2.2.3	The parameters, `vlan`, and `intf_id` added.
Version 2.2.5	The parameter, `local-subnet`, added to RIB route flags.
Version 2.4	The parameter, `number-of-tunnels`, added.
Version 2.5.4	The parameter, `ecmp-nexthops|no-ecmp-nexthops`,added.

Usage Use this command to display the RIB for vRouters which can be helpful when troubleshooting a connection.

Examples To display the RIB routes, use the following command:

```
CLI network-admin@switch > vrouter-rib-routes-show
switch:             Spine-1
vrid:               0
ip:                 192.168.10.52
prelen:             30
number-of-nexthops: 1
nexthops-in-hw:     1
nexthop:            192.168.0.225
egress-id:          100037
flags:              in-hw
vlan:               4081
intf-ip:            192.168.0.226
intf-id:            10
number-of-tunnels:  0
switch:             Spine-1
vrid:               0
ip:                 192.168.10.24
prelen:             30
number-of-nexthops: 1
nexthops-in-hw:     1
nexthop:            192.168.0.225
egress-id:          100037
flags:              in-hw
```

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```
vlan:                4081
intf-ip:             192.168.0.226
intf-id:             10
number-of-tunnels:   0
```

vrouter-rip-add

This command adds Routing Information Protocol (RIP) to a virtual router (vRouter) service on a fabric, cluster, virtual network (VNET), or standalone switch.

Syntax `vrouter-rip-add`

`vrouter-name` *`name-string`*	Specify the name of the vRouter service.
`network` *`ip-address`*	Specify the IP address.
`netmask` *`netmask`*	Specify the netmask of the IP address.

Defaults None.

Access CLI.

History Command introduced in nvOS Version 1.2.1.

Usage Each fabric, cluster, standalone switch, or virtual network (VNET) can provide its tenants with a virtual router (vRouter) service that forwards traffic between networks and implements Layer 3 protocols. This command displays adds RIP to an existing Router service.

Examples To add RIP with an IP address of 172.16.0.0/16 to the vRouter service, MyvService, use the following command:

```
CLI network-admin@switch > vrouter-rip-add vrouter-name MyvService
network 172.16.0.0/16
```

vrouter-rip-remove

This command removes a RIP instance from a vRouter service on a fabric, cluster, virtual network (VNET), or standalone switch.

Syntax `vrouter-rip-remove`

`vrouter-name` *`name-string`*	Specify the name of the vRouter service.
`network` *`ip-address`*	Specify the IP address.

Defaults None.

Access CLI

History Command introduced in nvOS Version 1.2.1.

Usage Each fabric, cluster, standalone switch, or virtual network (VNET) can provide its tenants with a virtual router (vRouter) service that forwards traffic between networks and implements Layer 3 protocols. This command removes a RIP instance on an existing Router service.

Examples To remove RIP with an IP address of 172.16.0.0/16 from the vRouter service, MyvService, use the following command:

```
CLI network-admin@switch > vrouter-rip-remove vrouter-name MyvService
```

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```
network 172.16.0.0
```

vrouter-rip-show

This command displays RIP information on vRouter services on a fabric, cluster, virtual network (VNET), or standalone switch.

Syntax `vrouter-rip-show`

`vrouter-name` *`name-string`*	Specifies the name of the vRouter service.
`network` *`ip-address`*	Specifies the IP address.
`netmask` *`netmask`*	Specifies the netmask of the IP address.
`next-hop` *`ip-address`*	Specifies the next hop IP address

Defaults None.

Access CLI.

History

Version 1.2	Command added.
Version 2.1	The parameter, `metric`, added..

Usage Each fabric, cluster, standalone switch, or virtual network (VNET) can provide its tenants with a virtual router (vRouter) service that forwards traffic between networks and implements Layer 3 protocols. This command displays information about RIP instances on existing vRouter services.

Examples To display RIP information on all vRouter services, use the following command:

```
CLI network-admin@switch > vrouter-rip-show layout vertical
```

vrouter-rip-routes-show

This command displays RIP routes currently installed on vRouter services on a fabric, cluster, virtual network (VNET), or standalone switch.

Syntax `vrouter-rip-routes-show`

`vrouter-name` *`name-string`*	Specifies the name of the vRouter service.
`network` *`ip-address`*	Specifies the IP address.
`netmask` *`netmask`*	Specifies the netmask of the IP address.
`next-hop` *`ip-address`*	Specifies the next hop IP address.
`metric` *`metric-number`*	Specifies the metric assigned to the route.
`source` *`ip-address`*	Specifies the source IP address.
`tag` *`tag-numbers`*	Specifies the tag number.
`type rip|connected|static|ospf|bgp|missing|kernel-route|igmp|babel|pim|ospf6`	Specifies the type of connection.

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`attribute normal|static|default|redistribute|interface`	Specifies the attribute for the connection.

Defaults None.

Access CLI.

History Command introduced in Version 2.2.

Usage This command displays information about RIP routes installed on the vRouter.

Examples To display RIP information on all vRouter services, use the following command:

```
CLI network-admin@switch > vrouter-rip-routes-show layout vertical
```

vrouter-route-map-add

Netvisor uses this command to create route maps for BGP and OSPF vRouter configurations.

Syntax `vrouter-route-map-add`

`vrouter-name` *`name-string`*	Specify the name of the vRouter.
`name` *`name-string`*	Specify the name of the route map.
`seq` *`number`*	Specify the sequence number to assign to the route map. This is a value between 1 and 4294967295.
`action permit|deny`	Specify the route map to permit or deny packets.
`match-prefix` *`prefix-list-name`*	Specify the prefixes used to match.
`match-community` *`match-community-string`*	Specify the community string to match. (BGP only)
`exact-match|no-exact-match`	Specify if the community string is an exact match or not. (BGP only)
`community-attribute unset|none|no-export|no-advertise|internet|local-AS`	Specify the community attribute. If you specify a community attribute, you cannot add a generic community attribute as well.
`community-attribute-generic` *`community-attribute-generic-string`*	Specify a generic community attribute such as AA:NN. (BGP only)
`additive|no-additive`	Specify if a given community is appended to existing communities value.
`comm-list-del vrouter` *`community-list name`*	Specify if you want to remove community values from BGP community attributes
`local-pref` *`integer`*	Specify a local preference. This is a value between 1 and 4294967295.
`metric none`	Specify a metric for the route map.

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`metric-type 1|2`	Specify the metric type as 1 or 2.
`as-path-prepend` *`integer`*	Specify an integer from 1 to 4294967295.
`as-path-prepend-last-as` *`integer`*	Specify an integer from 1 to 10.
`as-path-exclude` *`integer`*	Specify an integer from 1 to 4294967295.
`origin none|egp|igp|incomplete`	Specify the origin of BGP prefix: • **none** — Resets the origin to none. • **egp** — Specifies the route as a remote EGP route. • **igp** — Specifies the route as a local IGP route. • **incomplete** — Route is of unknown heritage.

Defaults None

Access CLI - Network Admin

History

Version 2.4.0	Command introduced.
Version 2.6.0	The parameters, `metric` and `metric-type`, added for OSPF. The parameters, `as-path-*`, added.
Version 3.0.0	The parameters for BGP communities added.
Version 3.0.3	The parameter, `origin`, added.

Usage Use this command to create route maps for BGP or OSPF configurations to ensure that prefixes are installed into the route table.

Examples To add a route map on vRouter1, with the name bgp-map, sequence number 75, action permit, match-prefix prefix1, community-attribue local-AS and local preference 25, use the following syntax:

```
CLI network-admin@switch > vrouter-route-map-add vrouter-name vRouter1
name bgp-map seq 75 action permit match-prefix prefix1 community-
attribute local-AS local-pref 25
```

vrouter-route-map-modify

This command is used to modify route maps for BGP and OSPF vRouter configurations.

Syntax `vrouter-route-map-modify`

`vrouter-name` *`name-string`*	Specify the name of the vRouter.
`name` *`name-string`*	Specify the name of the route map.
`seq` *`number`*	Specify the sequence number to assign to the route map. This is a value between 1 and 4294967295.
`action permit|deny`	Specify the route map to permit or deny packets.

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`match-prefix` *`prefix-list-name`*	Specify the prefixes used to match.
`match-community` *`match-community-string`*	Specify the community string to match. (BGP only)
`exact-match|no-exact-match`	Specify if the community string is an exact match or not. (BGP only)
`community-attribute unset|none|no-export|no-advertise| internet|local-AS`	Specify the community attribute. If you specify a community attribute, you cannot add a generic community attribute as well.
`community-attribute-generic` *`community-attribute-generic-string`*	Specify a generic community attribute such as AA:NN. (BGP only)
`additive|no-additive`	Specify if a given community is appended to existing communities value.
`comm-list-del vrouter` *`community-list name`*	Specify if you want to remove community values from BGP community attributes
`local-pref` *`integer`*	Specify a local preference. This is a value between 1 and 4294967295.
`metric none`	Specify a metric for the route map.
`metric-type 1|2`	Specify the metric type as 1 or 2.
`as-path-prepend` *`integer`*	Specify an integer from 1 to 4294967295.
`as-path-prepend-last-as` *`integer`*	Specify an integer from 1 to 10.
`as-path-exclude` *`integer`*	Specify an integer from 1 to 4294967295.
`origin none|egp|igp|incomplete`	Specify the origin of BGP prefix: • **none** — Resets the origin to none. • **egp** — Specifies the route as a remote EGP route. • **igp** — Specifies the route as a local IGP route. • **incomplete** — Route is of unknown heritage.

Defaults None

Access CLI - Network Admin

History

Version 2.4.0	Command introduced.
Version 2.6.0	The parameters, `metric` and `metric-type`, added for OSPF. The parameters, `as-path-*`, added.
Version 3.0.0	The parameters for BGP communities added.
Version 3.0.3	The parameter, `origin`, added.

Usage Use this command to modify route maps for BGP or OSPF configurations to ensure that prefixes are

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installed into the route table.

Examples To modify a route map on vRouter1, with the name **bgp-map**, and change the local preference to 27, use the following syntax:

```
CLI network-admin@switch > vrouter-route-map-modify vrouter-name
vRouter1 name bgp-map local-pref 27
```

vrouter-route-map-remove

This command is used to remove route maps for BGP and OSPF vRouter configurations.

Syntax `vrouter-route-map-remove vrouter-name name-string name name-string seq number`

`vrouter-name` *`name-string`*	Specify the name of the vRouter.
`name` *`name-string`*	Specify the name of the route map.
`seq` *`number`*	Specify the sequence number to assign to the route map. This is a value between 1 and 4294967295.

Defaults None

Access CLI - Network Admin

History Command introduced in Version 2.4.

Usage Use this command to remove route maps for BGP configurations.

Examples To remove a route map on vRouter1, with the name bgp-map, sequence number 75, use the following syntax:

```
CLI network-admin@switch > vrouter-route-map-remove vrouter-name
vRouter1 name bgp-map seq 75
```

vrouter-route-map-show

This command is used to display route maps for BGP and OSPF vRouter configurations.

Syntax `vrouter-route-map-show`

`vrouter-name` *`name-string`*	Specify the name of the vRouter.
`name` *`name-string`*	Specify the name of the route map.
`seq` *`number`*	Specify the sequence number to assign to the route map. This is a value between 1 and 4294967295.
`action permit|deny`	Specify the route map to permit or deny packets.
`match-prefix` *`prefix-list-name`*	Specify the prefixes used to match.
`match-community` *`match-community-string`*	Specify the community string to match. (BGP only)

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`exact-match|no-exact-match`	Specify if the community string is an exact match or not. (BGP only)
`community-attribute unset|none|no-export|no-advertise| internet|local-AS`	Specify the community attribute. If you specify a community attribute, you cannot add a generic community attribute as well.
`community-attribute-generic` *`community-attribute-generic-string`*	Specify a generic community attribute such as AA:NN. (BGP only)
`additive|no-additive`	Specify if a given community is appended to existing communities value.
`comm-list-del vrouter` *`community-list name`*	Specify if you want to remove community values from BGP community attributes
`local-pref` *`integer`*	Specify a local preference. This is a value between 1 and 4294967295.
`metric none`	Specify a metric for the route map.
`metric-type 1|2`	Specify the metric type as 1 or 2.
`as-path-prepend` *`integer`*	Specify an integer from 1 to 4294967295.
`as-path-prepend-last-as` *`integer`*	Specify an integer from 1 to 10.
`as-path-exclude` *`integer`*	Specify an integer from 1 to 4294967295.
`origin none|egp|igp|incomplete`	Specify the origin of BGP prefix: • **none** — Resets the origin to none. • **egp** — Specifies the route as a remote EGP route. • **igp** — Specifies the route as a local IGP route. • **incomplete** — Route is of unknown heritage.

Defaults None

Access CLI - Network Admin

History

Version 2.4.0	Command introduced.
Version 2.6.0	The parameters, `metric` and `metric-type`, added for OSPF. The parameters, `as-path-*`, added.
Version 3.0.0	The parameters for BGP communities added.
Version 3.0.3	The parameter, `origin`, added.

Usage Use this command to display route maps for BGP configurations.

Examples To display a route map on vRouter1, with the name bgp-map, use the following syntax:

```
CLI network-admin@switch > vrouter-route-map-show vrouter-name vRouter1
name bgp-map
vrouter-name   name    seq action match-prefix community-attribute
```

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```
-------------- ------- --- ------ ------------ -------------------
vRouter1       bgp-map 75 permit prefix1       local-AS
```

vrouter-routes-multicast-show

This command allows you to display information about multicast routes on a vRouter configured on the switch.

Syntax `vrouter-routes-multicast-show`

`vrouter-name` *`name-string`*	Specifies the vRouter name.
`source` *`ip-address`*	Specifies the source IP address.
`group` *`ip-address`*	Specifies the IP address of the group.
`proto rip|connected|static|ospf|bgp|missing|kernel-route|igmp|babel|pim|ospf6`	Specifies the protocol used by the routes.
`input` *`input-string`*	Specifies the input interface for incoming routes.
`iVifI` *`iVifI-number`*	Specifies the input index for on a virtual interface (VNIC).
`output` *`output-string`*	Specifies the output interface for an outgoing routes.
`oVifI` *`oVifI-number`*	Specifies the output index for a virtual interface (VNIC).
`ttl` *`ttl-number`*	Specifies the time-to-live (TTL) value.
`uptime` *`uptime-string`*	Specifies the uptime for the route.

Defaults None

Access CLI

History Command introduced in nvOS Version 1.2.1

Usage You can display information about the multicast routes on a vRouter.

Examples To display multicast route information, use the following command:

```
vrouter-routes-multicast-show  layout  vertical
vrouter-name:              vr1
source:                    10.13.25.200
group:                     232.1.1.1
proto:                     vr1.eth0
iVifI:                     2
output:                    vr1.eth1
oVifI:                     3
ttl:                       1
uptime:                    00:00:01
```

vrouter-routes-show

This command is used to display information about all routes on one or all configured vRouters.

Syntax `vrouter-routes-show`

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`vrouter-name` *`name-string`*	Specifies the name of a vRouter.
Any of the routes arguments:	
`network` *`ip-address`*	Specifies the IP address of the vRouter.
`netmask` *`netmask`*	Specifies the netmask.
`type rip|connected|static|ospf|bgp|missing|kernel-route|igmp|babel|pim|ospf6`	Specifies the type of route on the vRouter.
`interface` *`interface-string`*	Specifies the interface for the route.
`next-hop` *`ip-address`*	Specifies the next-hop IP address.
`distance` *`number`*	Specifies the administrative distance in a number from 0 to 255. • 0 — Connected interface • 1 — Static route • 110 — OSPF • 120 — RIP • 200 — Internal BGP
`metric` *`metric-number`*	Specifies the cost of advertised routes on the network.

Defaults None

Access CLI

History

Version 2.0	Command introduced.
Version 2.1	The parameters, `next-hop` and `distance`, added.
Version 2.2	The parameter, `metric`, added.

Usage Use this command to identify routes on vRouters configured on the switch.

Examples To display all route information for all vRouters, use the following command:

```
vrouter-routes-show
vrovrouter-name network       type      interface
--------------- -------       --------  --------------
vr-ext-50      10.121.1.0/24 connected   ext.50.mgr.eth0
vr-ext-50      10.111.1.0/24 rip         ext.50.mgr.eth0
vr-ext-50      127.0.0.0/8   connected   lo0
vr-www-51      10.121.1.0/24 connected   www.51.mgr.eth1
vr-www-51    10.111.1.0/24  connected   www.51.mgr.eth0
vr-www-51      127.0.0.0/8   connected   lo0
```

vrouter-routes-stats-show

This command is used to display statistical information about all routes on one or all configured vRouters.

Syntax `vrouter-routes-stats-show vrouter-name` *`name-string`*

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vrouter-name *name-string*	Specifies the name of a vRouter.
fib-max-routes *fib-max-routes-number*	Specifies the maximum number of routes in the Forwarding Information Database.
fib-current-routes *fib-current-routes-number*	Specifies the number of current routes in the Forwarding Information Database.
rib-current-routes *rib-current-routes-number*	Specifies the number of current routes in the Routing Information Database

Defaults None

Access CLI

History Command introduced in Version 2.3.3.

Usage Use this command to identify routes on vRouters configured on the switch.

Examples To display all route information for all vRouters, use the following command:

```
CLI network-admin@switch > vrouter-routes-stats-show
vrouter-name network       type        interface
------------ ------------- ---------   ---------------
vr-ext-50    10.121.1.0/24 connected   ext.50.mgr.eth0
vr-ext-50    10.111.1.0/24 rip         ext.50.mgr.eth0
vr-ext-50    127.0.0.0/8   connected   lo0
vr-www-51    10.121.1.0/24 connected   www.51.mgr.eth1
vr-www-51    10.111.1.0/24 connected   www.51.mgr.eth0
vr-www-51    127.0.0.0/8   connected   lo0
```

vtep-create

Previous versions of Netvisor required configuring a tunnel from every node in the fabric and manually adding VNIs to them. Also, when a new VTEP is added to the fabric, there is no notification about this event, and requires manually creating tunnels from the new node to all other nodes in the fabric. VTEP commands are used to automatically create tunnels between nodes in a fabric.

Syntax vtep-create

name *name-string*	Specify a name for the VTEP.
location fabric-node-name	Specify the location of the switch.
vrouter-name *name-string*	Specify the name of the vRouter service.
ip *ip-address*	Specify the primary IP address.
virtual-ip *ip-address*	Specify the virtual IP address.

Defaults None

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Access network-admin

History Command introduced in Version 2.6.0.

Usage Use this command to create a VTEP on a switch.

Examples To create a VTEP on Spine 1, use the following syntax:

```
CLI network-admin@Spine1>vtep-create name vtep1 ip 10.10.10.1 vrouter-name VR1
```

vtep-delete

Previous versions of Netvisor required configuring a tunnel from every node in the fabric and manually adding VNIs to them. Also, when a new VTEP is added to the fabric, there is no notification about this event, and requires manually creating tunnels from the new node to all other nodes in the fabric. VTEP commands are used to automatically create tunnels between nodes in a fabric.

Syntax `vtep-delete name name-string`

`name` *`name-string`*	Specify the name of a VTEP to delete.

Defaults None

Access network-admin

History Command introduced in Version 2.6.0.

Usage Use this command to delete a VTEP on a switch.

Examples To delete a VTEP on Spine 1, use the following syntax:

```
CLI network-admin@Spine1>vtep-delete name vtep1
```

vtep-show

Previous versions of Netvisor required configuring a tunnel from every node in the fabric and manually adding VNIs to them. Also, when a new VTEP is added to the fabric, there is no notification about this event, and requires manually creating tunnels from the new node to all other nodes in the fabric. VTEP commands are used to automatically create tunnels between nodes in a fabric.

Syntax `vtep-show scope fabric name name-string location fabric-node name vrouter-name vrouter-name ip ip-address virtual-ip ip-address`

`scope fabric`	Display the VTEP scope.
`name` *`name-string`*	Display a name for the VTEP.
`location fabric-node-name`	Display the location of the switch.
`vrouter-name` *`name-string`*	Display the name of the vRouter service.
`ip` *`ip-address`*	Display the primary IP address.

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virtual-ip *ip-address*	Display the virtual IP address.

Defaults None

Access network-admin

History Command introduced in Version 2.6.0.

Usage Use this command to display a VTEP on a switch.

Examples To display a VTEP on Spine 1, use the following syntax:

```
CLI network-admin@switch > vtep-show
```

vtep-group-create (unsupported)

vtep-group-delete (unsupported)

vtep-group-modify (unsupported)

vtep-group-show (unsupported)

vtep-vxlan-add

Previous versions of Netvisor required configuring a tunnel from every node in the fabric and manually adding VNIs to them. Also, when a new VTEP is added to the fabric, there is no notification about this event, and requires manually creating tunnels from the new node to all other nodes in the fabric. VTEP commands are used to automatically create tunnels between nodes in a fabric.

Syntax `vtep-vxlan-add name name-string vxlan vlan-vxlan`

name *name-string*	Specify the name of the VTEP.
vxlan *vxlan-id*	Specify the VXLAN identifier.

Defaults None

Access network-admin

History Command introduced in Version 2.6.0.

Usage Use this command to add a VXLAN to a VTEP on a switch.

Examples To add a VXLAN to VTEP1 on Spine 1, use the following syntax:

```
CLI network-admin@Spine1>vtep-vxlan-add vtep-name vtep1 vxlan 10000
```

vtep-vxlan-remove

Previous versions of Netvisor required configuring a tunnel from every node in the fabric and manually adding VNIs to them. Also, when a new VTEP is added to the fabric, there is no notification about this event, and requires manually creating tunnels from the new node to all other nodes in the fabric. VTEP

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commands are used to automatically create tunnels between nodes in a fabric.

Syntax `vtep-vxlan-remove name name-string vxlan vlan-vxlan`

`name` *`name-string`*	Specify the name of the VTEP.
`vxlan` *`vxlan-id`*	Specify the VXLAN identifier.

Defaults None

Access network-admin

History Command introduced in Version 2.6.0.

Usage Use this command to remove a VXLAN to a VTEP from a switch.

Examples To remove a VXLAN to VTEP1 on Spine 1, use the following syntax:

```
CLI network-admin@Spine1>vtep-vxlan-remove vtep-name vtep1 vxlan 10000
```

vtep-vxlan-show

Previous versions of Netvisor required configuring a tunnel from every node in the fabric and manually adding VNIs to them. Also, when a new VTEP is added to the fabric, there is no notification about this event, and requires manually creating tunnels from the new node to all other nodes in the fabric. VTEP commands are used to automatically create tunnels between nodes in a fabric.

Syntax `vtep-vxlan-show name` *`name-string`* `vxlan` *`vlan-vxlan`*

`name` *`name-string`*	Specify the name of the VTEP.
`vxlan` *`vxlan-id`*	Specify the VXLAN identifier.

Defaults None

Access network-admin

History Command introduced in Version 2.6.0.

Usage Use this command to display a VXLAN to a VTEP from a switch.

Examples To display a VXLAN to VTEP1 on Spine 1, use the following syntax:

```
CLI network-admin@Spine1>vtep-vxlan-show vtep-name vtep1 vxlan 10000
```

vtep-auto-vxlan-modify

You use this command to automatically assign VXLANs to a VTEP.

Syntax `vtep-auto-vxlan-modify`

`vxlans` *`vxlan-id`*	Specify the starting VXLAN ID.

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`vxlan-end` *`vxlan-id`*	Specify the ending VXLAN ID.

Defaults None

Access Network Administrator

History Command introduced in Version 3.1.0.

Usage Use the command to automatically assign VXLANs to VTEP.

Examples To automatically assign VXLANs to VTEPs, use the following syntax:

```
CLI network-admin@switch > vtep-auto-vxlan-modify
```

vtep-auto-vxlan-show

You use this command to display automatically assigned VXLANs for VTEPs.

Syntax `vtep-auto-vxlan-show`

`vxlans` *`vxlan-id`*	Specify the starting VXLAN ID.
`vxlan-end` *`vxlan-id`*	Specify the ending VXLAN ID.

Defaults None

Access Network Administrator

History Command introduced in Version 3.1.0.

Usage Use the command to display automatically assigned VXLANs to VTEPs.

Examples To display assigned VXLANs to VTEPs, use the following syntax:

```
CLI network-admin@switch > vtep-auto-vxlan-modify
```

vrouter-traceroute

vrouter-traceroute

This command is used to identify routing from a vRouter on the network.

Syntax `vrouter-traceroute`

`vrouter-name` *`vrouter-name`*	Specify the name of the vRouter service.
`host-ip` *`ip-address`*	Specify the IP address of the host.
Specify between 0 and 3 of the following options:	
`resolve|no-resolve`	Specify if you want to display IP addresses as

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	host names in the output.
`src-ip` *`ip-address`*	Specify if you want to select an alternative source address.
`probe-type icmp-probe|udp-probe`	Specify the type of probe used in the traceroute function.
`outgoing-interface` *`outgoing-interface-string`*	Specify the outgoing interface to ping.

Defaults None

Access CLi

History

Version 2.3.1	Command introduced.
Version 2.6.2	The parameter, `outgoing-interface`, added.

Usage Use this command to identify routes on the network between a vRouter and a host.

Examples To perform a traceroute between vRouter, vr-1, and host IP address, 192.168.11.134, use the following syntax:

```
CLI network-admin@switch > vrouter-traceroute vrouter-name vr-1 host-ip
192.168.11.134
```

vrouter-vtysh-cmd

Display Quagga show output using the Netvisor CLI.

Syntax `vrouter-vtysh-cmd name name-string cmd cmd-string`

`name` *`name-string`*	Specify the name of the vRouter service configuration.
`cmd` *`cmd-string`*	Specify any Quagga show/debug/undebug/no debug command.

Defaults None

Access CLi

History Command introduced in Version 2.5.3.

Usage Use this command to display information on Quagga show or debug output.

Examples To display information about IP routing, use the following syntax :

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```
CLI (network-admin@Spine1) > vrouter-vtysh-cmd name vr1 cmd "show ip
route"
Codes: K - kernel route, C - connected, S - static, R - RIP,
      O - OSPF, I - IS-IS, B - BGP, P - PIM, A - Babel,
       > - selected route, * - FIB route

C>* 100.1.1.0/24 is directly connected, eth1.100
C>* 127.0.0.0/8 is directly connected, lo0
```

vxlan-dest-port-modify

This command is used to modify a destination port for a VXLAN.

Syntax `vxlan-dest-port-modify port port-number`

Defaults None

Access CLI

History Command introduced in Version 2.3.

Usage Use this command to modify a destination port for a VXLAN.

Examples To modify the port, use the following syntax:

```
CLI network-admin@switch > vxlan-dest-port-modify port 21
```

vxlan-dest-port-show

This command is used to display a destination port for a VXLAN.

Syntax `vxlan-dest-port-show`

Defaults None

Access CLI

History Command introduced in Version 2.3.

Usage Use this command to display a destination port for a VXLAN.

Examples To display the port, use the following syntax:

```
CLI network-admin@switch > vxlan-dest-port-show
```

vxlan-stats-settings-modify

This command is used to modify settings for VXLAN statistics collection.

Syntax `vxlan-stats-settings-modify`

`disable|enable`	Enable or disable statistics collection.

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`interval duration: #d#h#m#s`	Specify the interval between statistics collection.
`disk-space` *`disk-space-numbe`*	Specify the amount of disk space for statistics collection.

Defaults None

Access CLI

History Command introduced in Version 2.5.1.

Usage Use this command to display a settings for VXLAN statistics collection.

Examples To enable the statistics collection, use the following syntax:

```
CLI network-admin@switch > vxlan-stats-settings-modify enable
```

vxlan-stats-settings-show

This command is used to display statistics settings for a VXLAN.

Syntax `vxlan-stats-settings-show`

Defaults None

Access CLI

History Command introduced in Version 2.5.1.

Usage Use this command to display settings for VXLAN statistics collection.

Examples To display the statistics collection, use the following syntax:

```
CLI network-admin@switch > vxlan-stats-settings-show
switch:     Spine1
enable:     yes
interval:   30m
disk-space: 50M
switch:     Leaf1
enable:     yes
interval:   30m
disk-space: 50M
```

vxlan-stats-show

This command displays Virtual Extensible LANs (VXLAN) statistics on a fabric, cluster, virtual network (VNET), or a standalone switch.

Syntax `vxlan-stats-show`

`time date/time: yyyy-mm-ddTHH:mm:ss]`	Specifies the time to start statistic collection.

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`start-time date/time: yyyy-mm-ddTHH:mm:ss`	Specifies the start-time of statistic collection.
`end-time date/time: yyyy-mm-ddTHH:mm:ss`	Specifies the end-time of statistic collection.
`duration duration: #d#h#m#s`	Specifies the duration of statistic collection.
`interval duration: #d#h#m#s`	Specifies the interval between statistic collection.
`since-start`	Specifies the statistics collected since start time.
`older-than duration: #d#h#m#s`	Specifies statistics older than the specified time.
`within-last duration: #d#h#m#s`	Specifies the statistics collected within the specified duration.
`vnid` *`vnid-number`*	Specifies a number for VNID. This is a value from 0 and 16777215.
`vxlan-name` *`vxlan-name`*	Specifies a name for the VXLAN
`vlan` *`vlan-name`*	Specifies the name of the VLAN.
`vnet` *`vnet name`*	Specifies the VNET for the VLAN.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The parameters, `multicast`, `deep-inspection`, and `untagged-ports`, deprecated. The parameter, `vlan`, added.
Version 2.6.2	The parameter, `vnet`, added.
Version 3.0.0	The output is now displayed in bits instead of bytes.

Usage Virtual Extensible LAN (VXLAN) is an encapsulation protocol for running an overlay network on existing Layer 3 infrastructure on a fabric, cluster, VNET, or standalone switch. Use this command to display information about a VXLAN.

Examples To display information about the VXLAN, MyVXLAN, use the following command:

```
CLI network-admin@switch > vxlan-stats-show name MyVXLAN layout
```

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vertical

vrouter-static-route-add

This command adds a static route entry for an existing virtual router (vRouter) service for a fabric, cluster, standalone switch, or virtual network (VNET).

Syntax `vrouter-static-route-add`

`vrouter-name` *`name-string`*	Specify the name of the vRouter service.
`network` *`ip-address`*	Specify the IP subnet of the network that you want to add a static router.
`netmask` *`netmask`*	Specify the netmask of the IP subnet.
`gateway-ip` *`ip-address`*	Specify the IP address of the gateway that you want to route packets destined for the network IP address.
`bfd-dst-ip` *`ip-address`*	Specify the destination IP address for BFD monitoring.
`distance` *`number`*	Specifies the administrative distance in a number from 0 to 255. • 0 — Connected interface • 1 — Static route • 110 — OSPF • 120 — RIP • 200 — Internal BGP
`interface vrouter interface nic`	Specify the vRouter interface for the static route.
`drop`	Specify if you want to drop packets to create a null static route.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The parameter, `distance`, added.

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Version 2.6.2	The parameter, `bfd-dst-ip`, added.
Version 3.0.0	The parameter, `interface`, added.
Version 3.0.3	The parameter, `drop`, added.

Usage Each fabric, cluster, standalone switch, or virtual network (VNET) can provide tenants with a virtual router (vRouter) service that forwards traffic between networks and implements Layer 3 protocols. This command adds a static route entry for an existing Router service.

Examples To add a static route entry for the vRouter service, MyvService, use the following command:

```
CLI network-admin@switch > vrouter-static-route-add  vrouter-name
MyvService network 10.1.0.0/16 gateway-ip 10.0.0.1
```

vrouter-static-route-remove

This command removes a static route entry for an existing virtual router (vRouter) service for a fabric, cluster, standalone switch, or virtual network (VNET).

Syntax `vrouter-static-route-remove vrouter-name name-string network ip-address gateway-ip ip-address`

`vrouter-name` *`name-string`*	Specify the name of the vRouter service.
`network` *`ip-address`*	Specify the IP subnet of the network that you want to add a static router.
`gateway-ip` *`ip-address`*	Specify the IP address of the gateway that you want to route packets destined for the network IP address.
`interface vrouter interface nic`	Specify the vRouter interface for the static route.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The parameter, `gateway`, added.
Version 3.0.0	The parameter, `interface`, added.

Usage Each fabric, cluster, standalone switch, or virtual network (VNET) can provide its tenants with a virtual router (vRouter) service that forwards traffic between networks and implements Layer 3 protocols. This command removes a static route entry for an existing Router service.

Examples To remove static route, 10.0.0.0/16 from the vRouter service, MyvRouter, use the following

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command:

```
CLI network-admin@switch > vrouter-static-route-remove  vrouter-name
MyvService  network  10.0.0.0/16
```

vrouter-static-route-show

This command displays static route entries for an existing virtual router (vRouter) service for a fabric, cluster, standalone switch, or virtual network (VNET).

Syntax `vrouter-static-route-show`

`vrouter-name` *`name-string`*	Specifies the name of the vRouter service.
`network` *`ip-address`*	Specifies the IP subnet of the network that you want to add a static router.
`netmask` *`netmask`*	Specifies the netmask of the IP subnet.
`gateway-ip` *`ip-address`*	Specifies the IP address of the gateway that you want to route packets destined for the network IP address.
`bfd-dst-ip` *`ip-address`*	Specifies the destination IP address for BFD monitoring.
`distance` *`number`*	Specifies the administrative distance in a number from 0 to 255. • 0 — Connected interface • 1 — Static route • 110 — OSPF • 120 — RIP • 200 — Internal BGP
`bfd none|single-hop|multi-hop`	Specifies the BFD protocol for the gateway fault detection.
`bfd-src-ip` *`ip-address`*	Specifies the source IP address for the BFD session.
`interface vrouter interface nic`	Specify the vRouter interface for the static route.
`drop`	Specify if you want to drop packets to create a null static route.

Defaults None.

Access CLI

History

Version 1.2	Command introduced.
Version 2.1	The parameter, `distance`, added.
Version 2.6.2	The parameters, `bfd-dst-ip`, `bfd`, `bfd-src-ip`, added.

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Version 3.0.0	The parameter, `interface`, added.
Version 3.0.3	The parameter, `drop`, added.

Usage Each fabric, cluster, standalone switch, or virtual network (VNET) can provide its tenants with a virtual router (vRouter) service that forwards traffic between networks and implements Layer 3 protocols. This command displays static route entries for an existing Router service.

Examples To display all static routes for all vRouter services, use the following command:

```
CLI network-admin@switch > vrouter-static-route-show layout vertical
```

vrouter-static-bfd-add

Currently when a static route is created, Netvisor installs a route entry in the routing information database (RIB) regardless of the reachability of the gateway. When static routes are conditional over BFD neighbor-ship formation, Netvisor alleviates this issue.

Netvisor supports static route reachability detection by using BFD protocol, and a static route entry is installed in the RIB only if BFD is able to communicate with the gateway. After installation, BFD periodically monitors reachability and removes the route if connectivity is interrupted. The Pluribus vRouter acts as a gateway, and sends out BFD hellos periodically to specified neighbors. Static BFD sessions are also configurable.

IPv4 and IPv6 addresses are both supported.

Syntax `vrouter-static-bfd-add`

`vrouter-name` *`name-string`*	Specify the vRouter name.
`src-ip` *`ip-address`*	Specify the source IPv4 or IPv6 address.
`dst-ip` *`ip-address`*	Specify the IPv4 or IPv6 destination address.
`type single-hop|multi-hop`	Specify the type of bi-directional forwarding hop, either single-hop or multi-hop.

Defaults None

Access Network Administrator

History Command introduced in Version 2.5.3.

Usage Use this command to add BFD to a static route.

Examples To add BFD to a static route with source IP address, 10.1.1.13 to destination IP address, 172.21.16.35, use the following syntax:

```
CLI network-admin@switch > vrouter-static-bfd-add src-ip 10.1.1.13 dst-
ip 172.21.16.35 type single-hop
```

vrouter-static-bfd-remove

Currently when a static route is created, Netvisor installs a route entry in the routing information

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database (RIB) regardless of the reachability of the gateway. When static routes are conditional over BFD neighbor-ship formation, Netvisor alleviates this issue.

Netvisor supports static route reachability detection by using BFD protocol, and a static route entry is installed in the RIB only if BFD is able to communicate with the gateway. After installation, BFD periodically monitors reachability and removes the route if connectivity is interrupted. The Pluribus vRouter acts as a gateway, and sends out BFD hellos periodically to specified neighbors. Static BFD sessions are also configurable.

IPv4 and IPv6 addresses are both supported.

Syntax `vrouter-static-bfd-remove`

`vrouter-name` *`name-string`*	Specify the vRouter name.
`src-ip` *`ip-address`*	Specify the source IPv4 or IPv6 address.
`dst-ip` *`ip-address`*	Specify the destination IPv4 or IPv6 address.

Defaults None

Access Network Administrator

History Command introduced in Version 2.5.3.

Usage Use this command to add BFD to a static route.

Examples To remove BFD from a static route with source IP address, 10.1.1.13 to destination IP address, 172.21.16.35, use the following syntax:

```
CLI network-admin@switch > vrouter-static-bfd-remove src-ip 10.1.1.13
dst-ip 172.21.16.35 type single-hop
```

vrouter-static-bfd-show

Currently when a static route is created, Netvisor installs a route entry in the routing information database (RIB) regardless of the reachability of the gateway. When static routes are conditional over BFD neighbor-ship formation, Netvisor alleviates this issue.

Netvisor supports static route reachability detection by using BFD protocol, and a static route entry is installed in the RIB only if BFD is able to communicate with the gateway. After installation, BFD periodically monitors reachability and removes the route if connectivity is interrupted. The Pluribus vRouter acts as a gateway, and sends out BFD hellos periodically to specified neighbors. Static BFD sessions are also configurable.

IPv4 and IPv6 addresses are both supported.

Syntax `vrouter-static-bfd-show`

`vrouter-name` *`name-string`*	Specify the vRouter name.
`src-ip` *`ip-address`*	Specify the source IPv4 or IPv6 address.
`dst-ip` *`ip-address`*	Specify the IPv4 or IPv6 destination address.

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`type single-hop|multi-hop`	Specify the type of bi-directional forwarding hop, either single-hop or multi-hop.

Defaults None

Access Network Administrator

History Command introduced in Version 2.5.3.

Usage Use this command to display BFD on a static route.

Examples To display BFD from a static route with source IP address, 10.1.1.13 to destination IP address, 172.21.16.35, use the following syntax:

```
CLI network-admin@switch > vrouter-static-bfd-show vrouter-name static-
1 src-ip 172.21.16.45 dst-ip 10.1.1.101 type multihop
```

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W Commands

web-cert-clear

You can perform TLS certificate management for the Netvisor Web service. For HTTPS communication between a REST API client and the Web application server running on the switch, you must configure a server certificate and deploy it on the Web application server.

Syntax `web-cert-clear`

Defaults None

Access Network admin

History Command introduced in Version 2.4.1.

Usage Use this command to delete certificates from the OS.

Examples To delete a Web certificate, use the following syntax:

```
CLI network-admin@switch > web-cert-clear
```

web-cert-import

You can perform TLS certificate management for the Netvisor Web service. For HTTPS communication between a REST API client and the Web application server running on the switch, you must configure a server certificate and deploy it on the Web application server.

Syntax `web-cert-import file-ca file-ca-string file-server file-server-string file-inter file-inter-string`

`file-ca` *`file-ca-string`*	Specify the name of the CA Certificate file.
`file-server` *`file-server-string`*	Specify the name of the Server Certificate file.
`file-inter` *`file-inter-string`*	Specify the name of the intermediate CA Certificate file.

Defaults None

Access Network admin

History Command introduced in Version 2.4.1.

Usage Use this command to import certificates into the OS.

Examples To import a Web certificate, use the following syntax:

```
CLI network-admin@switch > web-cert-import
```

web-cert-info-show

You can perform TLS certificate management for the Netvisor Web service. For HTTPS communication

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between a REST API client and the Web application server running on the switch, you must configure a server certificate and deploy it on the Web application server.

Syntax `web-cert-info-show cert-type ca|intermediate|server subject subject-string file-inter file-inter-string`

`cert-type ca|intermediate|server`	Specifies the type of the CA Certificate.
`subject` *`subject-string`*	Specifies the subject in the Certificate file.
`issuer` *`issuer-string`*	Specifies the issuer of the intermediate CA Certificate file.
`serial-number` *`serial-number-number`*	Specifies the serial number in the Certificate file.
`valid-from` *`valid-from-string`*	Specifies the valid from date in the Certificate file.
`valid-to` *`valid-to-string`*	Specifies the valid to date in the Certificate file.

Defaults None

Access Network admin

History Command introduced in Version 2.4.1.

Usage Use this command to display certificates in the OS.

Examples To display a Web certificate, use the following syntax:

```
CLI network-admin@switch > web-cert-info-show
```

web-cert-request-create

You can perform TLS certificate management for the Netvisor Web service. For HTTPS communication between a REST API client and the Web application server running on the switch, you must configure a server certificate and deploy it on the Web application server.

Syntax `web-cert-request`

Defaults None

Access Network admin

History Command introduced in Version 2.4.1.

Usage Use this command to request certificates for the OS.

Examples Torequest a Web certificate, use the following syntax:

```
CLI network-admin@switch > web-cert-request-create
```

web-cert-request-show

You can perform TLS certificate management for the Netvisor Web service. For HTTPS communication

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between a REST API client and the Web application server running on the switch, you must configure a server certificate and deploy it on the Web application server.

Syntax `web-cert-request-show cert-request cert-request-string`

`cert-request` *`cert-request-string`*	Displays the certificate request parameters.

Defaults None

Access Network admin

History Command introduced in Version 2.4.1.

Usage Use this command to display certificate requests.

Examples To display a certificate request, use the following syntax:

```
CLI network-admin@switch > web-cert-request-show
```

web-cert-self-signed-create

You can perform TLS certificate management for the Netvisor Web service. For HTTPS communication between a REST API client and the Web application server running on the switch, you must configure a server certificate and deploy it on the Web application server.

Syntax `web-cert-self-signed-create country country-string state state-string city city-string organization organization-string common-name common-name-string`

`country` *`country-string`*	Specify the country for the certificate.
`state` *`state-string`*	Specify the state for the certificate
`city` *`city-string`*	Specify the city for the certificate
`organization` *`organization-string`*	Specify the organization for the certificate
`common-name` *`common-name-string`*	Specify the common name for the certificate. The common name must match the host for authentication.

Defaults None

Access Network admin

History Command introduced in Version 2.4.1.

Usage Use this command to create self-signed certificate requests.

Examples To create a self-signed certificate, use the following syntax:

```
CLI network-admin@switch > web-cert-self-signed-create country us state
ca city palo alto organization engineering common-name web-server
```

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(bean.js):

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(d3v2):

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DataTables

(DataTables):

@summary DataTables

@description Paginate, search and sort HTML tables

@version 1.9.4

@file jquery.dataTables.js

@author Allan Jardine (www.sprymedia.co.uk)

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(Envision)

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Source: http://www.github.com/HumbleSoftware/envisionjs

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(excanvas.js):

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Special thanks to:

Flotr: http://code.google.com/p/flotr/ (fork)

Flot: https://github.com/flot/flot (original fork)

g.Raphael

g.Raphael 0.5 - Charting library, based on RaphaÃ«l

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GRUB

GRUB -- GRand Unified Bootloader

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jquery.js

jQuery JavaScript Library v1.4.3

http://jquery.com/

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jquery.cookie.js

jQuery Cookie plugin

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jquery.hotkeys.js

jQuery Hotkeys Plugin

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Based upon the plugin by Tzury Bar Yochay:

http://github.com/tzuryby/hotkeys

Original idea by:

Binny V A, http://www.openjs.com/scripts/events/keyboard_shortcuts/

jquery.validate.min.js

Query Validation Plugin 1.8.1

http://bassistance.de/jquery-plugins/jquery-plugin-validation/

http://docs.jquery.com/Plugins/Validation

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jstree

jsTree 1.0-rc3

http://jstree.com/

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(log4j

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(pciutils-3.1.10):

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qtip 2.0

qTip2 - Pretty powerful tooltips - v2.0.0 - 2012-10-03

http://craigsworks.com/projects/qtip2/

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raphael 2.1.0

Raphaël 2.1.0 - JavaScript Vector Library

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Eve 0.4.2 - JavaScript Events Library

Author Dmitry Baranovskiy (http://dmitry.baranovskiy.com/)

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Rickshaw v1.1.2

Adapted from https://github.com/Jakobo/PTClass */

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Based on Alex Arnell's inheritance implementation.

section: Language

class Class

Manages Prototype's class-based OOP system.

Refer to Prototype's web site for a [tutorial on classes and inheritance](http://prototypejs.org/learn/class-inheritance).

science.js 1.7.0

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sizzle

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tcl 8.5.9

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tclreadline 2.1.0

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Underscore.js v1.1.7

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About Pluribus Networks

Pluribus Networks delivers an open, controllerless software-defined network fabric for modern data centers, multi-site data centers and distributed cloud edge environments.

The Linux-based Netvisor® ONE operating system and the Adaptive Cloud Fabric™ have been purpose-built to deliver radically simplified networking and comprehensive visibility along with white box economics by leveraging hardware from our partners Celestica, Dell EMC, and Edgecore, as well as Pluribus' own Freedom™ Series of switches.

The Adaptive Cloud Fabric provides a fully automated underlay and virtualized overlay with comprehensive visibility and brownfield interoperability and is optimized to deliver rich and highly secure per-tenant services across data center sites with simple operations having no single point of failure.

Further simplifying network operations is Pluribus UNUM™, an agile, multi-functional web management portal that provides a rich graphical user interface to manage the Adaptive Cloud Fabric. UNUM has two key modules - UNUM Fabric Manager for provisioning and management of the fabric and UNUM Insight Analytics to quickly examine billions of flows traversing the fabric to ensure quality and performance.

Pluribus is deployed in more than 275 customers worldwide, including the 4G and 5G mobile cores of more than 75 Tier 1 service providers delivering mission-critical traffic across the data center for hundreds of millions of connected devices. Pluribus is networking, simplified.

For additional information contact Pluribus Networks at *info@pluribusnetworks.com*, or visit *www.pluribusnetworks.com*.

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Corporate Headquarters

Pluribus Networks, Inc.
5201 Great America Parkway, Suite 422
Santa Clara, CA 95054
1-855-438-8638 / +1-650-289-4717

India Office

Pluribus Networks India Private Limited
Indiqube Brigade Square, 4th Floor
21, Cambridge Road
Bangalore 560008

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