VSP 8000 Series Avaya Command Line Reference Guide

Introduction

This guides describes the Avaya Command Line Interface (ACLI) commands for the configuration of various features in Avaya VSP 8000 Series for the 4.2.1 release.

This document provides two different ways of navigating ACLI command documentation.

- alphabetically Each command is listed corresponding to the first letter of the command.
- command mode Each command mode page has a list of commands that are available in that mode. Each page is organized alphabetically for those commands in that mode.

Use the 'find-in-page' function of the browser to search for a command based on the page you are viewing. Most browsers launch 'find' using CTRL+F.

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Alphabetized list of commands

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Command mode index

The following command modes are available. Select the command mode to see a list of commands available in that mode.

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Commands starting with A organized alphabetically

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Commands starting with E organized alphabetically

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A | B | C | D | E | F | G | H | I | L | M | N | O | P | Q | R | S | T | U | V | W

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Commands starting with G organized alphabetically

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- grep

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Commands starting with H organized alphabetically

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- high-secure enable
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Commands starting with I organized alphabetically

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Commands starting with L organized alphabetically

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- l2 tracetree
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- lacp aggr-wait-time <200-2000>
- lacp enable (for a port)
- lacp fast-periodic-time <200-20000>
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- lacp mode
- lacp (on an MLT)
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- lacp partner-port-priority <0-65535>
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- lock
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Commands starting with M organized alphabetically

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Commands starting with N organized alphabetically

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Commands starting with O organized alphabetically

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- overload
- overload-on-startup

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Commands starting with P organized alphabetically

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Commands starting with Q organized alphabetically

A | B | C | D | E | F | G | H | I | L | M | N | O | P | Q | R | S | T | U | V | W

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Commands starting with R organized alphabetically

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Commands starting with S organized alphabetically

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- show isis int-counters
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- show mirror-by-port
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- show qos 802.1p-override
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- spanning-tree rstp max-age
- spanning-tree rstp p2p
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- spbm <1-100> lsdb-trap enable

A | B | C | D | E | F | G | H | I | L | M | N | O | P | Q | R | S | T | U | V | W

Commands starting with T organized alphabetically

A | B | C | D | E | F | G | H | I | L | M | N | O | P | Q | R | S | T | U | V | W

A | B | C | D | E | F | G | H | I | L | M | N | O | P | Q | R | S | T | U | V | W

Commands starting with U organized alphabetically

A | B | C | D | E | F | G | H | I | L | M | N | O | P | Q | R | S | T | U | V | W

A | B | C | D | E | F | G | H | I | L | M | N | O | P | Q | R | S | T | U | V | W

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Commands starting with V organized alphabetically

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A | B | C | D | E | F | G | H | I | L | M | N | O | P | Q | R | S | T | U | V | W

Commands starting with W organized alphabetically

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- web-server
- write memory

A | B | C | D | E | F | G | H | I | L | M | N | O | P | Q | R | S | T | U | V | W

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- vsptalk { gtalk | avaya } client username
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- vsptalk { gtalk | avaya } server encryption
- vsptalk { gtalk | avaya } server proxy
- vsptalk { gtalk | avaya } server ssltype
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GigabitEthernet Interface Configuration

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- ip ospf area (for a port)
- ip ospf authentication-key WORD<0-8> (for a port)
- ip ospf authentication-type (for a port)
- ip ospf cost <1-65535> (for a port)
- ip ospf dead-interval <0-2147483647> (for a port)
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- ipv6 dhcp-relay (for a port)
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- router bgp enable
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- show macsec status
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- slpp (globally)
- snmplog
- snmp-server authentication-trap enable
- snmp-server community
- snmp-server contact
- snmp-server force-iphdr-sender enable

- snmp-server force-trap-sender enable
- snmp-server group
- snmp-server host v1
- snmp-server host v2
- snmp-server host v3
- snmp-server location
- snmp-server login-success-trap enable
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- snmp-server notify-filter
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- spanning-tree mstp version
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- ssh (configuration)
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- ssl
- ssl certificate
- sys clipId-topology-ip
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- sys force-topology-ip-flag
- syslog enable
- syslog host
- syslog ip-header-type
- syslog max-hosts <1-10>
- sys msg-control
- sys mtu
- sys name
- sys power
- sys security-console
- sys software auto-commit
- sys software commit-time
- sys system-default
- sys usb enable

T

- tacacs accounting
- tacacs authentication
- tacacs authorization
- tacacs protocol enable
- tacacs server host
- tacacs switch
- telnet-access sessions

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W

IS-IS Router Configuration

A

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Loopback Interface Configuration

I

- ip address (loopback)
- ip area (loopback)
- ip ospf (loopback)
- ip pim (loopback)
- ipv6 interface address (loopback)

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mgmtEthernet Interface Configuration

A

- auto-negotiate (for the management port)

D

- duplex (for the management port)

I

- ip address (for the management port)
- ipv6 interface address (for the management port)
- ipv6 interface enable (for the management port)
- ipv6 interface hop-limit (for the management port)
- ipv6 interface link-local (for the management port)
- ipv6 interface mtu (for the management port)
- ipv6 interface name (for the management port)
- ipv6 interface reachable-time (for the management port)
- ipv6 interface retransmit-timer (for the management port)
- ipv6 nd dad-ns (for the management port)

S

- shutdown (for the management port)
- speed (for the management port)

MLT Interface Configuration

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OSPF Router Configuration

A

- accept adv-rtr (for OSPF)
- area
- area range
- area virtual-link
- as-boundary-router enable
- auto-vlink

B

- bad-lsa-ignore enable

D

- default-cost

H

- host-route

I

- ipv6 area
- ipv6 area range
- ipv6 area virtual-link
- ipv6 area virtual-link ipsec
- ipv6 area virtual-link ipsec action
- ipv6 area virtual-link ipsec direction
- ipv6 area virtual-link ipsec enable
- ipv6 area virtual-link ipsec security-association
- ipv6 as-boundary-router
- ipv6 redistribute
- ipv6 router-id
- ipv6 tunnel (for OSPF)

N

- neighbor (for OSPF)
- network (for OSPF)

R

- redistribute (for OSPF)
- rfc1583-compatibility enable
- router-id (for OSPF)

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- timers basic holddown (for OSPF)
- trap

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Privileged EXEC

P

- pwd

R

- rename
- reset
- rlogin
- rsh

S

- save
- save config
- show access-policy
- show application slamon agent
- show boot config
- show core-files
- show eapol session interface
- show filter acl
- show filter acl ace
- show filter acl action
- show filter acl arp
- show filter acl config
- show filter acl ethernet
- show filter acl ip
- show filter acl protocol
- show filter acl statistics
- show history
- show interfaces gigabitethernet
- show interfaces gigabitethernet channelize
- show interfaces gigabitethernet config
- show interfaces gigabitethernet fdb-entry
- show interfaces gigabitethernet high-secure
- show interfaces gigabitethernet interface
- show interfaces gigabitethernet l1-config
- show interfaces gigabitethernet name
- show interfaces gigabitethernet ospf
- show interfaces gigabitethernet private-vlan
- show interfaces gigabitethernet rate-limit
- show interfaces gigabitethernet shape
- show interfaces gigabitethernet slpp
- show interfaces gigabitethernet state
- show interfaces gigabitethernet statistics
- show interfaces gigabitethernet statistics dhcp-relay
- show interfaces gigabitethernet statistics lacp
- show interfaces gigabitethernet statistics rmon
- show interfaces gigabitethernet statistics verbose
- show interfaces gigabitethernet vlan
- show interfaces gigabitethernet vrfs
- show interfaces loopback
- show interfaces mgmtethernet
- show interfaces mgmtethernet config-L1
- show interfaces mgmtethernet error
- show interfaces mgmtethernet statistics
- show interfaces vlan
- show interfaces vlan arp
- show interfaces vlan autolearn-mac
- show interfaces vlan dhcp-relay
- show interfaces vlan ip
- show interfaces vlan manual-edit-mac
- show interfaces vlan nlb-mode
- show interfaces vlan vlan-bysrcmac

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W

RIP Router Configuration

D

- default-metric (for RIP)

N

- network (for RIP)

R

- redistribute (for RIP)

T

- timers basic holddown (for RIP)
- timers basic timeout
- timers basic update

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Route-Map Configuration

E

- enable (for a route policy)

M

- match as-path
- match community
- match community-exact
- match interface
- match local-preference
- match metric
- match network
- match next-hop
- match protocol
- match route-source
- match route-type
- match vrf
- match vrfids

N

- name

P

- permit

S

- set as-path
- set automatic-tag
- set community
- set injectlist
- set ip-preference
- set local-preference
- set mask
- set metric
- set metric-type
- set metric-type-internal
- set next-hop
- set nssa-pbit
- set origin
- set origin-egp-as
- set weight

User EXEC

C

- clear alarm
- clear filter acl
- clear ip arp interface
- clear ip dhcp-relay
- clear ip route
- clear ipsec stats all
- clear ip vrrp
- clear isis lsdb
- clear isis stats
- clear khi
- clear lacp
- clear logging
- clear mac-address-table
- clear qos
- clear radius statistics
- clear slpp
- clear-stats
- clear telnet
- clear trace
- clear virtual-ist stats
- clock set

E

- eapol init
- eapol re-authenticate
- enable
- exit

H

- help

I

- ip bgp apply redistribute
- ip bgp restart-bgp
- ip bgp stats-clear-counters
- ip ecmp path-list apply
- ip igmp flush port
- ip igmp flush vlan
- ip ospf apply accept
- ip ospf apply accept adv-rtr
- ip ospf apply redistribute
- ip ospf spf-run
- ip rip apply redistribute
- isis apply redistribute

L

- l2 ping ip-address
- l2 ping vlan
- l2 traceroute ip-address
- l2 traceroute vlan
- l2 tracetree
- line-card
- linktrace
- loopback
- ls

M

- manualtrigger ip rip interface
- md5
- monitor mlt error collision
- monitor mlt error main
- monitor mlt stats interface main
- monitor mlt stats interface utilization
- monitor ports error
- monitor ports statistics
- monitor ports statistics bridging
- monitor ports statistics dhcp-relay
- monitor ports statistics interface
- monitor ports statistics ospf main
- monitor ports statistics rmon
- monitor ports statistics routing

P

- ping
- pwc

R

- remove

S

- show alarm database
- show alarm statistics
- show autotopology
- show banner
- show basic config
- show bgp ipv6 aggregates
- show bgp ipv6 imported-routes
- show bgp ipv6 networks
- show bgp ipv6 redistributed-routes
- show bgp ipv6 route
- show brouter
- show cfm
- show cli info
- show clilog
- show cli password
- show clock
- show eapol auth-diags interface
- show eapol auth-stats interface
- show eapol multihost non-eap-mac status
- show eapol multihost-session-stats interface
- show eapol port
- show eapol session-stats interface
- show eapol status interface
- show eapol system
- show fdb-filter
- show ftp-access

- show fulltech
- show hosts
- show ip arp
- show ip arp interface
- show ip bgp aggregates
- show ip bgp cidr-only
- show ip bgp confederation
- show ip bgp dampened-paths
- show ip bgp flap-damp-config
- show ip bgp imported-routes
- show ip bgp neighbors
- show ip bgp networks
- show ip bgp peer-group
- show ip bgp redistributed-routes
- show ip bgp route
- show ip bgp stats
- show ip bgp summary
- show ip dhcp-relay
- show ip directed-broadcast
- show ip dns
- show ip ecmp
- show ip forward-protocol udp
- show ip forward-protocol udp portfwd
- show ip forward-protocol udp portfwdlist
- show ip interface
- show ip isis redistribute
- show ip mroute hw-resource-usage
- show ip mroute interface
- show ip mroute next-hop
- show ip mroute route
- show ip mroute static-source-group
- show ip ospf
- show ip ospf accept
- show ip ospf area
- show ip ospf area-range
- show ip ospf ase
- show ip ospf authentication
- show ip ospf default-cost
- show ip ospf host-route
- show ip ospf ifstats
- show ip ospf int-auth
- show ip ospf interface
- show ip ospf int-timers
- show ip ospf lsdb
- show ip ospf neighbor
- show ip ospf port-error
- show ip ospf redistribute
- show ip ospf stats
- show ip ospf virtual-link
- show ip pim
- show ip pim active-rp
- show ip pim bsr
- show ip pim interface
- show ip pim mode
- show ip pim mroute
- show ip pim neighbor
- show ip pim rp-candidate
- show ip pim rp-hash
- show ip pim static-rp
- show ip pim virtual-neighbor
- show ip prefix-list
- show ip rip
- show ip rip interface
- show ip rip redistribute

show isis interface
- show isis int-l1-cntl-pkts
- show isis int-l2-cntl-pkts
- show isis int-timers
- show isis lsdb
- show isis manual-area
- show isis net
- show isis spbm
- show isis spbm ip-multicast-route vsn-isid
- show isis spbm ip-unicast-fib
- show isis spbm i-sid
- show isis spbm multicast-fib
- show isis spbm nick-name
- show isis spbm unicast-fib
- show isis spbm unicast-tree
- show isis statistics
- show isis system-id
- show khi cpp
- show khi performance
- show lacp
- show lacp interface
- show license
- show logging
- show logging file
- show mac-address-table aging-time
- show mirror-by-port
- show mlt
- show mlt error collision
- show mlt error main
- show mlt stats
- show monitor-statistics
- show ntp
- show qos 802.1p-override
- show qos cosq-stats
- show qos egressmap
- show qos ingressmap
- show qos rate-limiting
- show qos shaper
- show radius
- show radius-server
- show radius snmp
- show rmon
- show route-map
- show slpp
- show slpp interface
- show smlt
- show snmplog
- show snmp-server
- show software
- show spanning-tree config
- show spanning-tree mstp config
- show spanning-tree mstp msti config
- show spanning-tree mstp msti port
- show spanning-tree mstp port config
- show spanning-tree mstp port role
- show spanning-tree mstp port statistics
- show spanning-tree mstp statistics
- show spanning-tree mstp status
- show spanning-tree rstp config
- show spanning-tree rstp port config
- show spanning-tree rstp port role
- show spanning-tree rstp port statistics
- show spanning-tree rstp port status
- show spanning-tree rstp statistics

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VLAN Interface Configuration

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VRF Router Configuration

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VRRP Router Configuration

E

- end

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- ipv6 send-trap enable

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- ping-virtual-address

S

- send-trap

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accept adv-rtr (for OSPF)

Use a route policy to define how the switch Redistribute external routes from a specified source into an OSPF domain. The policy defines which route types the switch accepts and Redistribute.

Syntax

- `accept adv-rtr {A.B.C.D}`
- `accept adv-rtr {A.B.C.D} enable`
- `accept adv-rtr {A.B.C.D} metric-type { type1 | type2 | any }`
- `accept adv-rtr {A.B.C.D} route-policy WORD<0-64>`
- `default accept adv-rtr {A.B.C.D}`
- `default accept adv-rtr {A.B.C.D} enable`
- `default accept adv-rtr {A.B.C.D} metric-type`
- `default accept adv-rtr {A.B.C.D} route-policy`
- `no accept adv-rtr {A.B.C.D}`
- `no accept adv-rtr {A.B.C.D} enable`

Default

None

Command mode

OSPF Router Configuration

Command parameters

Parameter	Description
{A.B.C.D}	Specifies the IP address.
enable	Enables an OSPF accept entry for a specified advertising router.
metric-type <type1|type2|any>	Indicates the OSPF external type. This parameter describes which types of OSPF external routes match this entry. any means match all external routes. type1 means match external type 1 only. type2 means match external type 2 only.
route-policy WORD<0-64>	Specifies the name of the route policy to use for filtering external routes advertised by the specified advertising router before accepting into the routing table.

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accept adv-rtr (for the GRT)

Configure an Intermediate-System-to-Intermediate-System (IS-IS) accept policy instance to apply to a specific advertising Backbone Edge Bridge (BEB) for the Global Routing Table (GRT).

Syntax

- `accept adv-rtr <x.xx.xx>`
- `accept adv-rtr <x.xx.xx> enable`
- `accept adv-rtr <x.xx.xx> i-sid <1-16777215>`
- `accept adv-rtr <x.xx.xx> i-sid <1-16777215> enable`
- `accept adv-rtr <x.xx.xx> i-sid <1-16777215> route-map WORD<1-64>`
- `accept adv-rtr <x.xx.xx> isid-list WORD<1-32>`
- `accept adv-rtr <x.xx.xx> isid-list WORD<1-32> enable`
- `accept adv-rtr <x.xx.xx> isid-list WORD<1-32> route-map WORD<1-64>`
- `accept adv-rtr <x.xx.xx> route-map WORD<1-64>`
- `no accept adv-rtr <x.xx.xx>`
- `no accept adv-rtr <x.xx.xx> enable`
- `no accept adv-rtr <x.xx.xx> i-sid <1-16777215>`
- `no accept adv-rtr <x.xx.xx> i-sid <1-16777215> enable`
- `no accept adv-rtr <x.xx.xx> i-sid <1-16777215> route-map`
- `no accept adv-rtr <x.xx.xx> isid-list WORD<1-32>`
- `no accept adv-rtr <x.xx.xx> isid-list WORD<1-32> enable`
- `no accept adv-rtr <x.xx.xx> route-map`

Default

None

Command mode

IS-IS Router Configuration

Command parameters

Parameter	Description
<x.xx.xx>	Specifies the Shortest Path Bridging MAC (SPBM) nickname at a level for each advertising BEB.
adv-rtr <x.xx.xx>	Specifies the Shortest Path Bridging MAC (SPBM) nickname for an advertising BEB for the IS-IS accept policy.
enable	Enables an IS-IS accept policy.
i-sid <0-16777215>	Specifies a service instance identifier (I-SID) number that represents a local or remote Layer 3 VSN for the IS-IS accept policy.
isid-list WORD <1-32>	Specifies a name for a list of I-SID numbers that represent local or remote Layer 3 VSN for the IS-IS accept policy.
route-map WORD<1-64>	Configures the IS-IS route policy by name.

accept (for the GRT)

Configure an Intermediate-System-to-Intermediate-System (IS-IS) accept policy instance to apply to all routes from all Backbone Edge Bridges (BEBs) for the Global Routing Table (GRT).

Syntax

- `accept i-sid <1-16777215>`
- `accept i-sid <1-16777215> enable`
- `accept i-sid <1-16777215> route-map WORD<1-64>`
- `accept isid-list WORD<1-32>`
- `accept isid-list WORD<1-32> enable`
- `accept isid-list WORD<1-32> route-map WORD<1-64>`
- `accept route-map WORD<1-64>`
- `no accept i-sid <1-16777215>`
- `no accept i-sid <1-16777215> enable`
- `no accept i-sid <1-16777215> route-map`
- `no accept isid-list WORD<1-32>`
- `no accept isid-list WORD<1-32> enable`
- `no accept isid-list WORD<1-32> route-map`
- `no accept route-map`

Default

None

Command mode

IS-IS Router Configuration

Command parameters

Parameter	Description
`enable`	Enables an IS-IS accept policy.
`i-sid <1-16777215>`	Specifies a service instance identifier (I-SID) number that represents a local or remote Layer 3 VSN for the IS-IS accept policy.

isid-list WORD <1-32>	Specifies a name for a list of I-SID numbers that represent local or remote Layer 3 VSN for the IS-IS accept policy.
route-map WORD<1-64>	Configures the IS-IS route policy by name.

accept i-sid (for the GRT)

Configure an Intermediate-System-to-Intermediate-System (IS-IS) accept policy instance to apply to a specific Service Instance Identifier (I-SID) for the Global Routing Table (GRT).

Syntax

- `accept i-sid <1-16777215>`
- `accept i-sid <1-16777215> enable`
- `accept i-sid <1-16777215> route-map WORD<1-64>`
- `no accept i-sid <1-16777215>`
- `no accept i-sid <1-16777215> enable`
- `no accept i-sid <1-16777215> route-map`

Default

None

Command mode

IS-IS Router Configuration

Command parameters

Parameter	Description
`enable`	Enables an IS-IS accept policy.
`i-sid <1-16777215>`	Specifies a service instance identifier (I-SID) number that represents a local or remote Layer 3 VSN for the IS-IS accept policy.
`route-map WORD<1-64>`	Configures the IS-IS route policy by name.

accept isid-list (for the GRT)

Configure an Intermediate-System-to-Intermediate-System (IS-IS) accept policy instance to apply to a specific list of Service Instance Identifiers (I-SIDs) for the Global Routing Table (GRT).

Syntax

- `accept isid-list <1-16777215>`
- `accept isid-list <1-16777215> enable`
- `accept isid-list <1-16777215> route-map WORD<1-64>`
- `no accept isid-list <1-16777215>`
- `no accept isid-list <1-16777215> enable`
- `no accept isid-list <1-16777215> route-map`

Default

None

Command mode

IS-IS Router Configuration

Command parameters

Parameter	Description
`enable`	Enables an IS-IS accept policy.
`isid-list WORD <1-32>`	Specifies a name for a list of I-SID numbers that represent local or remote Layer 3 VSN for the IS-IS accept policy.
`route-map WORD<1-64>`	Configures the IS-IS route policy by name.

accept route-map

Configure an Intermediate-System-to-Intermediate-System (IS-IS) accept policy instance to apply using a specific route-map for the Global Routing Table (GRT).

Syntax

- `accept route-map WORD<1-64>`
- `no accept route-map`

Default

None

Command mode

IS-IS Router Configuration

access-diffserv

Configure a port as trusted or untrusted to determine the Layer 3 QoS actions the switch performs. A trusted (core) port honors incoming Differentiated Services Code Point (DSCP) markings. An untrusted (access) port overrides DSCP markings.

Syntax

- `access-diffserv`
- `access-diffserv enable`
- `access-diffserv port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `access-diffserv port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} enable`
- `default access-diffserv`
- `default access-diffserv enable`
- `default access-diffserv port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `default access-diffserv port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} enable`
- `no access-diffserv`
- `no access-diffserv enable`
- `no access-diffserv port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `no access-diffserv port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} enable`

Default

`The default configuration is trusted (disabled).`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`enable`	If enabled, specifies an access port and overrides incoming DSCP bits. If disabled, specifies a core port and honors and handles incoming DSCP bits. The default is disabled.
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.

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access-policy

Configure an access policy to control access to the switch. You can define network stations that are explicitly allowed to access the switch or network stations that are explicitly forbidden to access the switch. For each service, you can also specify the level of access; for example, read-only or read/write/all. Use the command without parameters to globally enable access policies.

Syntax

- `access-policy`
- `access-policy <1-65535>`
- `default access-policy`
- `default access-policy <1-65535>`
- `no access-policy`
- `no access-policy <1-65535>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<1-65535>	Specifies the policy ID.

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access-policy <1-65535> accesslevel

Restrain access to criteria specified in the access policy. If true, the system accepts only the currently configured access level. If false, the system accepts access up to the configured access level.

Syntax

- `access-policy <1-65535> accesslevel { ro | rwa | rw }`
- `default access-policy <1-65535> accesslevel`

Default

`The default is ro.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`{ ro | rwa | rw }`	Specifies the access level.
`<1-65535>`	Specifies the policy ID.

access-policy <1-65535> access-strict

Specify the level of access if you configure the policy to allow access. The access-strict command ties to the accesslevel command. If you enable access-strict, the access policy looks at the accesslevel value, and only applies to that access level. If you disable access-strict (false), the policy looks at the value for accesslevel, and then the system applies the policy to anyone with equivalent rights or higher.

Syntax

- `access-policy <1-65535> access-strict`
- `default access-policy <1-65535> access-strict`
- `no access-policy <1-65535> access-strict`

Default

`The default is disabled (false).`

Command mode

Global Configuration

Command parameters

Parameter	Description
`<1-65535>`	Specifies the policy ID.

access-policy <1-65535> enable

Activate the access policy.

Syntax

- `access-policy <1-65535> enable`
- `default access-policy <1-65535> enable`
- `no access-policy <1-65535> enable`

Default

`The default is disabled (off).`

Command mode

Global Configuration

Command parameters

Parameter	Description
`<1-65535>`	Specifies the policy ID.

access-policy <1-65535> ftp

Activate or disables FTP for the specified policy. Because FTP derives its login and password from the ACLI management filters, FTP works for read-write-all (rwa) and readwrite (rw) access but not for the read-only (ro) access.

Syntax

- `access-policy <1-65535> ftp`
- `default access-policy <1-65535> ftp`
- `no access-policy <1-65535> ftp`

Default

`The default is disabled.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`<1-65535>`	Specifies the policy ID.

access-policy <1-65535> host

For remote login access, specify the trusted host address as an IP address.

Syntax

- `access-policy <1-65535> host WORD<0-46>`
- `default access-policy <1-65535> host`
- `no access-policy <1-65535> host`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<1-65535>	Specifies the policy ID.
WORD<0-46>	Specifies the IPv4 address.

access-policy <1-65535> http

Activate the HTTP for this access policy.

Syntax

- `access-policy <1-65535> http`
- `default access-policy <1-65535> http`
- `no access-policy <1-65535> http`

Default

`The default is disabled.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`<1-65535>`	Specifies the policy ID.

access-policy <1-65535> mode

Specify whether the designated network address is allowed access to the system through the specified access service.

Syntax

- `access-policy <1-65535> mode { allow | deny }`
- `default access-policy <1-65535> mode`

Default

`The default is allow.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`{ allow | deny }`	Allows or denies access to the designated network address.
`<1-65535>`	Specifies the policy ID.

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access-policy <1-65535> name

Specify a name expressed as a string.

Syntax

- `access-policy <1-65535> name WORD<0-15>`
- `default access-policy <1-65535> name`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<1-65535>	Specifies the policy ID.

access-policy <1-65535> network

Specify the IP address and subnet mask that can access the system through the specified access service.

Syntax

- `access-policy <1-65535> network WORD<1-46> <0-128>`
- `default access-policy <1-65535> network`
- `no access-policy <1-65535> network`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`<1-65535>`	Specifies the policy ID.
`WORD<1-46> <0-128>`	Specifies the IP address and subnet mask

access-policy <1-65535> precedence

Specify a precedence value for a policy, expressed as a number from 1-128. The precedence value determines which policy the system uses if multiple policies apply. Lower numbers take higher precedence.

Syntax

- `access-policy <1-65535> precedence <1-128>`
- `default access-policy <1-65535> precedence`

Default

`The default is 10.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`<1-128>`	Specifies a precedence value for a policy.
`<1-65535>`	Specifies the policy ID.

access-policy <1-65535> rlogin

Activate remote logon for the access policy.

Syntax

- `access-policy <1-65535> rlogin`
- `default access-policy <1-65535> rlogin`
- `no access-policy <1-65535> rlogin`

Default

`The default is disabled.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`<1-65535>`	Specifies the policy ID.

access-policy <1-65535> snmp-group

Add a Simple Network Management Protocol version 3 (SNMP-v3) group under the access policy.

Syntax

- `access-policy <1-65535> snmp-group WORD<1-32> { snmpv1 | snmpv2c | usm }`
- `no access-policy <1-65535> snmp-group WORD<1-32> { snmpv1 | snmpv2c | usm }`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`{ snmpv1 | snmpv2c | usm }`	Configures the security model.
`<1-65535>`	Specifies the policy ID.
`WORD<1-32>`	Specifies the name of the group.

access-policy <1-65535> snmpv3

Activate Simple Network Management Protocol (SNMP) version 3 for the access policy.

Syntax

- `access-policy <1-65535> snmpv3`
- `default access-policy <1-65535> snmpv3`
- `no access-policy <1-65535> snmpv3`

Default

The default is disabled.

Command mode

Global Configuration

Command parameters

Parameter	Description
<1-65535>	Specifies the policy ID.

access-policy <1-65535> ssh

Activate Secure Shell (SSH) for the access policy.

Syntax

- `access-policy <1-65535> ssh`
- `default access-policy <1-65535> ssh`
- `no access-policy <1-65535> ssh`

Default

`The default is disabled.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`<1-65535>`	Specifies the policy ID.

access-policy <1-65535> telnet

Activate Telnet for the access policy.

Syntax

- `access-policy <1-65535> telnet`
- `default access-policy <1-65535> telnet`
- `no access-policy <1-65535> telnet`

Default

The default is disabled.

Command mode

Global Configuration

Command parameters

Parameter	Description
<1-65535>	Specifies the policy ID.

access-policy <1-65535> tftp

Activate the Trivial File Transfer Protocol (TFTP) for this access policy.

Syntax

- `access-policy <1-65535> tftp`
- `default access-policy <1-65535> tftp`
- `no access-policy <1-65535> tftp`

Default

`The default is disabled.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`<1-65535>`	Specifies the policy ID.

access-policy <1-65535> username

Specify the trusted host user name for remote login access.

Syntax

- `access-policy <1-65535> username WORD<0-30>`
- `default access-policy <1-65535> username`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<1-65535>	Specifies the policy ID.
WORD<0-30>	Specifies the username.

access-policy by-mac

Configure access-policies by MAC address to allow or deny local MAC addresses on the network management port after an access policy is activated. If the source MAC does not match a configured entry, then the default action is taken.

Syntax

- `access-policy by-mac 0x00:0x00:0x00:0x00:0x00:0x00 { allow | deny }`
- `access-policy by-mac action { allow | deny }`
- `default access-policy by-mac 0x00:0x00:0x00:0x00:0x00:0x00`
- `default access-policy by-mac action`
- `no access-policy by-mac 0x00:0x00:0x00:0x00:0x00:0x00`

Default

`The default action is allow.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`<0x00:0x00:0x00:0x00:0x00:0x00> <allow|deny>`	Adds a MAC address to the policy. Enter the MAC address in hexadecimal format. Specify the action to take for the MAC address.
`action <allow|deny>`	Specifies the action for a MAC address that does not match the policy.

action

Flush or clear the Address Resolution Protocol (ARP) tables for administrative and troubleshooting purposes.

Syntax

- `action { none | flushMacFdb | flushArp | flushIp | triggerRipUpdate | flushAll | clearLoopDetectAlarm }`
- `action port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} { none | flushMacFdb | flushArp | flushIp | triggerRipUpdate | flushAll | clearLoopDetectAlarm }`
- `default action`
- `default action port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
ClearLoopDetectAlarm	Sets action to clear loop detect alarm.
flushAll	Sets action to flush all.
flushArp	Sets action to flushArp.
flushIp	Flush or clear the routing tables for administrative and troubleshooting purposes.
flushMacFdb	Flush or clear the MAC address tables for administrative and troubleshooting purposes.
none	Sets action to none.
port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}	Specifies the slot and the port list that needs to be changed.
triggerRipUpdate	Force RIP to update the routing table so that the port or VLAN uses the latest routing information.

aggregate-address

Add or delete an aggregate address in a BGP routing table.

Syntax

- aggregate-address WORD<1-256>
- aggregate-address WORD<1-256> advertise-map WORD<0-1536>
- aggregate-address WORD<1-256> as-set
- aggregate-address WORD<1-256> attribute-map WORD<0-1536>
- aggregate-address WORD<1-256> summary-only
- aggregate-address WORD<1-256> suppress-map WORD<0-1536>
- default aggregate-address WORD<1-256>
- default aggregate-address WORD<1-256> advertise-map
- default aggregate-address WORD<1-256> as-set
- default aggregate-address WORD<1-256> attribute-map
- default aggregate-address WORD<1-256> summary-only
- default aggregate-address WORD<1-256> suppress-map
- no aggregate-address WORD<1-256>
- no aggregate-address WORD<1-256> advertise-map WORD<0-1536>
- no aggregate-address WORD<1-256> as-set
- no aggregate-address WORD<1-256> attribute-map WORD<0-1536>
- no aggregate-address WORD<1-256> summary-only
- no aggregate-address WORD<1-256> suppress-map WORD<0-1536>

Default

The default value is disable.

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
advertise-map WORD<0-1536>	Specifies the route map name (any string length between 0 and 64 characters) for route advertisements.
as-set	Enables autonomous system (AS) information.
attribute-map WORD <0-1536>	Specifies the route map name (string length between 0 and 64 characters).
summary-only	Enables the summarization of routes not included in routing updates. This parameter creates the aggregate route and suppresses advertisements of more specific routes to all neighbors. The default value is disable.
suppress-map WORD<0-1536>	Specifies the route map name (string length between 0 and 64 characters) for the suppressed route list.
WORD <1-256>	Specifies the IPv4 or the IPv6 address and an integer value in the range of 1 to 256.

application

Enter Application mode.

Syntax

- `application`

Default

`None.`

Command mode

Global Configuration

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area

Import information from other areas to learn their OSPF relationships and create normal, stubby, or not-so-stubby areas (NSSA). Place stubby or NSSAs at the edge of an OSPF routing domain.

Syntax

- `area {A.B.C.D}`
- `area {A.B.C.D} default-cost <0-16777215>`
- `area {A.B.C.D} import external`
- `area {A.B.C.D} import noexternal`
- `area {A.B.C.D} import nssa`
- `area {A.B.C.D} import-summaries enable`
- `area {A.B.C.D} stub`
- `default area {A.B.C.D}`
- `default area {A.B.C.D} default-cost`
- `default area {A.B.C.D} import`
- `default area {A.B.C.D} import-summaries enable`
- `default area {A.B.C.D} stub`
- `no area {A.B.C.D}`
- `no area {A.B.C.D} import-summaries enable`

Default

None

Command mode

OSPF Router Configuration

Command parameters

Parameter	Description
`default-cost <0-16777215>`	Stub area default metric for this stub area, which is the cost from 0 to 16 777 215. This is the metric value applied at the indicated type of service.
`import`	Specifies the type of area: external - Stub and NSSA (not so

<external|noexternal|nssa>	stubby area) are both false. noexternal-Configures the area as stub area. nssa - Configures the area as NSSA.
import-summaries enable	Configures the area support to import summary advertisements into a stub area. This parameter must be used only if the area is a stub area.
stub	Configures the import external option for this area as stub. A stub area has only one exit point (router interface) from the area.

area range

Use aggregate area ranges to reduce the number of link-state advertisements that are required within the area. You can also control advertisements.

Syntax

- `area range {A.B.C.D} {A.B.C.D/X} { summary-link | nssa-extlink } advertise-metric <0-65535>`
- `area range {A.B.C.D} {A.B.C.D/X} { summary-link | nssa-extlink } advertise-mode { summarize | suppress | no-summarize }`
- `default area range {A.B.C.D} {A.B.C.D/X} { summary-link | nssa-extlink }`
- `default area range {A.B.C.D} {A.B.C.D/X} { summary-link | nssa-extlink } advertise-metric`
- `default area range {A.B.C.D} {A.B.C.D/X} { summary-link | nssa-extlink } advertise-mode`
- `no area range {A.B.C.D} {A.B.C.D/X} { summary-link | nssa-extlink }`

Default

None

Command mode

OSPF Router Configuration

Command parameters

Parameter	Description
<A.B.C.D> <A.B.C.D/X>	<A.B.C.D> identifies an OSPF area and <A.B.C.DX> is the IP address and subnet mask of the range, respectively.
<summary-link|nssa-extlink>	Specifies the LSA type. If you configure the range as type nssa-extlink then you cannot configure the advertise-metric.
advertise-metric <0-65535>	Changes the advertised metric cost of the OSPF area range.
advertise-mode <summarize|suppress|no-summarize>	Changes the advertisement mode of the range.

area virtual-link

Use manual virtual interfaces to provide a backup link for vital OSPF traffic with a minimum of resource use.

Syntax

- area virtual-link {A.B.C.D} {A.B.C.D}
- area virtual-link {A.B.C.D} {A.B.C.D} authentication-key WORD<0-8>
- area virtual-link {A.B.C.D} {A.B.C.D} authentication-type message-digest
- area virtual-link {A.B.C.D} {A.B.C.D} authentication-type none
- area virtual-link {A.B.C.D} {A.B.C.D} authentication-type sha 1
- area virtual-link {A.B.C.D} {A.B.C.D} authentication-type sha 2
- area virtual-link {A.B.C.D} {A.B.C.D} authentication-type simple
- area virtual-link {A.B.C.D} {A.B.C.D} dead-interval <0-2147483647>
- area virtual-link {A.B.C.D} {A.B.C.D} hello-interval <1-65535>
- area virtual-link {A.B.C.D} {A.B.C.D} primary-digest-key <1-255>
- area virtual-link {A.B.C.D} {A.B.C.D} retransmit-interval <0-3600>
- area virtual-link {A.B.C.D} {A.B.C.D} transit-delay <0-3600>
- area virtual-link digest-key {A.B.C.D} {A.B.C.D} <1-255> key WORD<0-16>
- default area virtual-link {A.B.C.D} {A.B.C.D}
- default area virtual-link {A.B.C.D} {A.B.C.D} authentication-type
- default area virtual-link {A.B.C.D} {A.B.C.D} dead-interval
- default area virtual-link {A.B.C.D} {A.B.C.D} hello-interval
- default area virtual-link {A.B.C.D} {A.B.C.D} primary-digest-key
- default area virtual-link {A.B.C.D} {A.B.C.D} retransmit-interval
- default area virtual-link {A.B.C.D} {A.B.C.D} transit-delay
- default area virtual-link digest-key {A.B.C.D} {A.B.C.D} <1-255>
- no area virtual-link {A.B.C.D} {A.B.C.D}
- no area virtual-link digest-key {A.B.C.D} {A.B.C.D} <1-255>

Default

None

Command mode

OSPF Router Configuration

Command parameters

Parameter	Description
<1-255>	Specifies the key ID.
<A.B.C.D> <A.B.C.D>	Creates a virtual interface area identifier. <A.B.C.D> <A.B.C.D> specify the area ID and the virtual interface ID, respectively.
authentication-key WORD<0-8>	Configures the authentication key of up to eight characters.
authentication-type <none|simple|message-digest|sha 1|sha 2>	Configures the authentication type for the OSPF area. authentication-type is: none, simple password, MD5 authentication, SHA 1, or SHA 2. If simple, all OSPF updates received by the interface must contain the authentication key specified by the area authentication-key command. If MD5, they must contain the MD5 key. The default is none.
dead-interval <0-2147483647>	Configures the dead interval, in seconds, for the virtual interface, the number of seconds that a router Hello packets are not seen before its neighbors declare the router down. This value must be at least four times the Hello interval value. The default is 60.
digest-key	Creates a digest-key.
hello-interval <1-65535>	Configures the Hello interval, in seconds, on the virtual interface for the length of time (in seconds) between the Hello packets that the router sends on the interface. The default is 10.
key WORD<0-16>	Specifies the digest key range.
primary-digest-key <1-255>	Changes the primary key used to encrypt outgoing packets. <1-255> is the ID for the message digest key.
retransmit-interval <0-3600>	Configures the retransmit interval for the virtual interface, the number of seconds between link-state advertisement retransmissions. The range is from 0 to 3600.
transit-delay <0-3600>	Configures the transit delay for the virtual interface, the estimated number of seconds required to transmit a link-state update over the interface. The range is from 0 to 3600.

as-boundary-router enable

Configure the router as an autonomous system boundary router (ASBR).

Syntax

- `as-boundary-router enable`
- `default as-boundary-router`
- `default as-boundary-router enable`
- `no as-boundary-router`
- `no as-boundary-router enable`

Default

`The default is disabled.`

Command mode

OSPF Router Configuration

asg

Configure ASG.

Syntax

- `asg enable`
- `no asg enable`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
enable	Enable ASG.

asg load-af-file

Loads the AF file on ASG.

Syntax

- `asg WORD<1-256> forceload`
- `asg WORD<1-256> test`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`WORD<1-256> forceload`	Load older AF file or AF file with different product id for the specified AF file present in /intflash/.
`WORD<1-256> test`	Validate the AF file without loading for the specified AF file present in /intflash/.

attribute

Modify MS-DOS file attributes to enable file transfer. Using the wildcard value log.* for a filename enables transfer of log files from VOSS Release 4.1 and earlier.

Syntax

- `attribute WORD<1-99> + | - | R`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
+ | - | R	Set or remove read-only permission.
WORD<1-99>	Specifies the file name.

auto-negotiate enable (on an Ethernet port)

Enable AutoNegotiation on the Ethernet port to optimally operate on the network.

Syntax

- `auto-negotiate`
- `auto-negotiate enable`
- `auto-negotiate port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `auto-negotiate port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} enable`
- `default auto-negotiate`
- `default auto-negotiate enable`
- `default auto-negotiate port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `default auto-negotiate port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} enable`
- `no auto-negotiate`
- `no auto-negotiate enable`
- `no auto-negotiate port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `no auto-negotiate port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} enable`

Default

`The default is true, enabled.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`enable`	Enables or disables AutoNegotiation for the port or other ports of the module or both.
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.

auto-negotiate (for the management port)

Configure auto-negotiation for the Ethernet management port. Note: This command is applicable only to VSP 8400.

Syntax

- `auto-negotiate enable`
- `default auto-negotiate enable`
- `no auto-negotiate enable`

Default

`The default is enabled.`

Command mode

mgmtEthernet Interface Configuration

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.

auto-negotiation-advertisements

Configure autonegotiation advertisements after you enable autonegotiation. Note: This command is applicable only to VSP 8400.

Syntax

- `auto-negotiation-advertisements 10000-full`
- `auto-negotiation-advertisements 1000-full`
- `auto-negotiation-advertisements 100-full`
- `auto-negotiation-advertisements none`
- `auto-negotiation-advertisements port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} 10000-full`
- `auto-negotiation-advertisements port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} 1000-full`
- `auto-negotiation-advertisements port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} 100-full`
- `auto-negotiation-advertisements port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} none`
- `default auto-negotiation-advertisements`
- `default auto-negotiation-advertisements port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `no auto-negotiation-advertisements`
- `no auto-negotiation-advertisements port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
10000-full	Advertises 10000 Mbps full duplex.
1000-full	Advertises 1000 Mbps full duplex.
100-full	Advertises 100 Mbps full duplex.

none	Configures the value to none.
port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}	Identifies the slot and port in one of the following formats: a single slot and port (1/1), a range of slots and ports (1/2-1/4), or a series of slots and ports (1/2,2/3).

auto-peer-restart enable

Enable the process that automatically restarts a connection to a BGP neighbor.

Syntax

- `auto-peer-restart enable`
- `default auto-peer-restart`
- `default auto-peer-restart enable`
- `no auto-peer-restart`
- `no auto-peer-restart enable`

Default

`The default value is enable.`

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
`enable`	Enables the process that automatically restarts a connection to a BGP neighbor.

auto-recover-delay

Set the time delay for the automatic recovery of ports.

Syntax

- `auto-recover-delay <5-3600>`
- `default auto-recover-delay`
- `no auto-recover-delay <5-3600>`

Default

`The default is 30.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`<5-3600>`	Specifies the range to be set for the auto-recovery of ports in seconds. The range varies between 5 to 3600 seconds.

auto-recover-port

Enable or disable autorecovery on a port.

Syntax

- auto-recover-port
- auto-recover-port enable
- auto-recover-port port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- auto-recover-port port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} enable
- default auto-recover-port
- default auto-recover-port enable
- default auto-recover-port port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- default auto-recover-port port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} enable
- no auto-recover-port
- no auto-recover-port enable
- no auto-recover-port port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- no auto-recover-port port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} enable

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
enable	Enables spoof detection on the port.
port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}	Specifies the port list.

auto-summary

Summarize the networks based on class limits after BGP is enabled. (For example, Class A, B, C networks).

Syntax

- `auto-summary`
- `default auto-summary`
- `no auto-summary`

Default

`The default value is enable.`

Command mode

BGP Router Configuration

autotopology

Configure the SynOptics Network Management Protocol (SONMP) to allow a network management station (NMS) formulate a map that shows the interconnections between Layer 2 devices in a network.

Syntax

- `autotopology`
- `default autotopology`
- `no autotopology`

Default

`The default status is enabled.`

Command mode

Global Configuration

auto-vlink

Use automatic virtual links to provide an automatic, dynamic backup link for vital OSPF traffic. Automatic virtual links require more system resources than manually configured virtual links.

Syntax

- `auto-vlink`
- `default auto-vlink`
- `no auto-vlink`

Default

None

Command mode

OSPF Router Configuration

bad-lsa-ignore enable

Configures the switch to accept bad LSAs, for example, with a hole in the mask. If you use the no operator with this command, the switch ignores bad LSAs.

Syntax

- `bad-lsa-ignore enable`
- `default bad-lsa-ignore`
- `default bad-lsa-ignore enable`
- `no bad-lsa-ignore`
- `no bad-lsa-ignore enable`

Default

`The default is disabled.`

Command mode

OSPF Router Configuration

banner

Configure the ACLI logon banner to display a warning message to users before authentication.

Syntax

- banner custom
- banner displaymotd
- banner motd WORD<1-1516>
- banner static
- banner WORD<1-80>
- default banner
- default banner displaymotd
- default banner motd
- no banner
- no banner displaymotd
- no banner motd

Default

The default configuration uses the default banner with no message of the day.

Command mode

Global Configuration

Command parameters

Parameter	Description
custom	Activates the custom banner.
displaymotd	Activates or disables the message of the day.
motd WORD<1-1516>	Creates a message of the day to display with the logon banner. To provide a string with spaces, include the text in quotation marks ("").
static	Activates static banner.
WORD<1-80>	Adds lines of text to the ACLI logon banner.

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bgp aggregation

Enables or disables the aggregation feature on the interface.

Syntax

- `bgp aggregation`
- `bgp aggregation enable`
- `default bgp aggregation`
- `default bgp aggregation enable`
- `no bgp aggregation`
- `no bgp aggregation enable`

Default

`The default value is enable.`

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
`enable`	Enables the aggregation feature on the interface.

bgp always-compare-med

Enables the comparison of the multiexit discriminator (MED) parameter for paths from neighbors in different autonomous systems. A path with a lower MED is preferred over a path with a higher MED.

Syntax

- `bgp always-compare-med`
- `default bgp always-compare-med`
- `no bgp always-compare-med`

Default

`The default value is disable.`

Command mode

BGP Router Configuration

bgp client-to-client reflection

Enables or disables route reflection between two route reflector clients. This option is applicable only if the route reflection value is set to enable.

Syntax

- `bgp client-to-client reflection`
- `default bgp client-to-client reflection`
- `no bgp client-to-client reflection`

Default

`The default value is enable.`

Command mode

BGP Router Configuration

bgp cluster-id

Configures a cluster ID. This option applies only if the route reflection value is set to enable, and if multiple route reflectors are in a cluster.

Syntax

- `bgp cluster-id {A.B.C.D}`
- `no bgp cluster-id {A.B.C.D}`

Default

None

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
<A.B.C.D>	Specifies the cluster ID of the reflector router.

bgp confederation

Configures a BGP confederation.

Syntax

- `bgp confederation identifier <0-4294967295>`
- `bgp confederation peers WORD<0-255>`
- `default bgp confederation`
- `default bgp confederation identifier`
- `default bgp confederation peers`
- `no bgp confederation`
- `no bgp confederation identifier`
- `no bgp confederation peers`

Default

`The default value is 0.`

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
`peers WORD <0-255>`	Lists adjoining ASs that are part of the confederation in the format (5500,65535,0,10,...,...), put the list in quote sign "".
`identifier <0-4294967295>`	Specifies the confederation identifier, 0-65535(2-Byte AS) 0-4294967295(4-Byte AS).

bgp default local-preference<0-2147483647>

Specifies the default value of the local preference attribute. You cannot change the default value when BGP is enabled.

Syntax

- `bgp default local-preference <0-2147483647>`
- `default bgp default local-preference`
- `no bgp default local-preference`
- `no bgp default local-preference <0-2147483647>`

Default

`The default value is 100.`

Command mode

BGP Router Configuration

bgp deterministic-med enable

Enables deterministic Multiexit Discriminator (MED).

Syntax

- `bgp deterministic-med enable`
- `default bgp deterministic-med`
- `default bgp deterministic-med enable`
- `no bgp deterministic-med`
- `no bgp deterministic-med enable`

Default

`The default value is enable.`

Command mode

BGP Router Configuration

bgp multiple-paths <1-8>

Configures the maximum number of equal-cost-paths that are available to a BGP router by limiting the number of equal-costpaths that can be stored in the routing table.

Syntax

- `bgp multiple-paths <1-8>`
- `default bgp multiple-paths`

Default

`The default value is 1.`

Command mode

BGP Router Configuration

boot

Reset the switch/stack.

Syntax

- `boot`
- `boot config WORD<1-99>`
- `boot -y`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`-y`	Suppresses the confirmation message before the switch restarts. If you omit this parameter, you must confirm the action before the switch restarts.
`config WORD<1-99>`	Specifies the software configuration device and file name.

boot config choice

Change the boot source order to change the order in which the system accesses the configuration files. If you change the primary source, the system uses your configuration first, and then accesses the default locations. If the default locations do not contain a configuration or backup configuration file, the system loads the default configuration.

Syntax

- `boot config choice primary backup-config-file WORD<0-255>`
- `boot config choice primary config-file WORD<0-255>`
- `default boot config choice primary`
- `default boot config choice primary backup-config-file`
- `default boot config choice primary config-file`

Default

`By default, the primary source is the internal flash.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`{backup-config-file |config-file}`	Specifies that the boot source uses either the configuration file or a backup configuration file.
`WORD<0-255>`	Identifies the configuration file. WORD<0-255> is the device and file name, up to 255 characters including the path.

boot config flags block-snmp

Activate or disable Simple Network Management Protocol (SNMP) management.

Syntax

- `boot config flags block-snmp`
- `default boot config flags block-snmp`
- `no boot config flags block-snmp`

Default

`The default is disabled.`

Command mode

Global Configuration

boot config flags debug-config

Activate or disable run-time debugging of the configuration file. After you enable debug-config and save the configuration, the debug output either displays on the console or logs to an output file the next time the switch reboots. You do not have to restart the switch after you enable debug-config, unless you want to immediately debug the configuration.

Syntax

- `boot config flags debug-config`
- `boot config flags debug-config console`
- `boot config flags debug-config file`
- `default boot config flags debug-config`
- `no boot config flags debug-config`

Default

`The default is disabled.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`console`	Displays the lineby-line configuration file processing and result of the execution on the console while the device loads the configuration file.
`file`	Logs the line-by-line configuration file processing and result of the execution to the debug file while the device loads the configuration file.

boot config flags debugmode

Control whether the switch stops in debug mode following a fatal error. Debug mode provides information equivalent to the trace commands. If you enable this flags, the switch does not restart following a fatal error. If you change this flags, you must restart the switch. Do not change this flags unless directed by Avaya.

Syntax

- `boot config flags debugmode`
- `default boot config flags debugmode`
- `no boot config flags debugmode`

Default

`The default is disabled.`

Command mode

Global Configuration

boot config flags enhancedsecure-mode

Enable enhanced secure mode. If you enable enhanced secure mode the switch provides role-based access levels, stronger password requirements, and stronger rules on password length, password complexity, password change intervals, password resue, and password maximum age use. You must save and reboot the switch for the change to take effect.

Syntax

- `no boot config flags enhancedsecure-mode`
- `boot config flags enhancedsecure-mode`
- `default boot config flags enhancesecure-mode`

Default

`The default is disabled.`

Command mode

Global Configuration

boot config flags factorydefaults

Specify whether the switch uses the factory default settings at startup. This flags automatically resets to the default setting after the CPU restarts. If you change this flags you must restart the switch.

Syntax

- `boot config flags factorydefaults`
- `no boot config flags factorydefaults`

Default

`The default is disabled.`

Command mode

Global Configuration

boot config flags ftpd

Activate or disable the FTP server on the switch. To enable FTP, ensure that the tftpd flags is disabled.

Syntax

- `boot config flags ftpd`
- `default boot config flags ftpd`
- `no boot config flags ftpd`

Default

`The default is disabled.`

Command mode

Global Configuration

boot config flags hsecure

Activate or disable High Secure mode. The hsecure command provides the following password behavior: 10 character enforcement, aging time, failed login attempt limitation, and designated IP address filtration. If you enable High Secure mode, you must restart the switch to enforce secure passwords. If you operate the switch in High Secure mode, the switch prompts a password change if you enter invalid-length passwords.

Syntax

- `boot config flags hsecure`
- `default boot config flags hsecure`
- `no boot config flags hsecure`

Default

`The default is disabled.`

Command mode

Global Configuration

boot config flags ipv6-mode

Activate or disable IPv6 mode.

Syntax

- `boot config flags ipv6-mode`
- `default boot config flags ipv6-mode`
- `no boot config flags ipv6-mode`

Default

`The default is disabled.`

Command mode

Global Configuration

boot config flags logging

If an external flash device exists in the system, you can use the logging command to activate or disable system logging to a file on the external flash. The system names log files according to the following: - File names appear in 8.3 (xxxxxxxx.sss) format. - The first 6 characters of the file name contain the last three bytes of the chassis base MAC address. - The next two characters in the file name specify the slot number of the CPU that generated the logs. - The last three characters in the file name are the sequence number of the log file. The system generates multiple sequence numbers for the same chassis and same slot if: - You replace the CPU. - You reinsert the CPU. - The system reaches the maximum log file size.

Syntax

- `boot config flags logging`
- `default boot config flags logging`
- `no boot config flags logging`

Default

`The default is enabled.`

Command mode

Global Configuration

boot config flags reboot

Activate or disable automatic reboot on a fatal error. The reboot command is equivalent to the debugmode command. If you change the reboot value, you must restart the switch. Do not change this parameter unless directed by Avaya.

Syntax

- `boot config flags reboot`
- `default boot config flags reboot`
- `no boot config flags reboot`

Default

`The default is enabled.`

Command mode

Global Configuration

boot config flags rlogind

Activate or disable the remote login (rlogin) and remote shell (rsh) server.

Syntax

- `boot config flags rlogind`
- `default boot config flags rlogind`
- `no boot config flags rlogind`

Default

`The default is disabled.`

Command mode

Global Configuration

boot config flags spanning-tree-mode

Specify the Multiple Spanning Tree Protocol (MSTP) or Rapid Spanning Tree Protocol (RSTP) mode. If you do not specify a protocol, the switch uses the default mode. If you change the spanning tree mode, you must save the current configuration and restart the switch.

Syntax

- `boot config flags spanning-tree-mode mstp`
- `boot config flags spanning-tree-mode rstp`
- `default boot config flags spanning-tree-mode`
- `no boot config flags spanning-tree-mode`

Default

`The default is MSTP.`

Command mode

Global Configuration

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boot config flags spbm-config-mode

Enable spbm configuration mode

Syntax

- `boot config flags spbm-config-mode`
- `default boot config flags spbm-config-mode`
- `no boot config flags spbm-config-mode`

Default

`The default is enabled.`

Command mode

Global Configuration

boot config flags sshd

Activate or disable the Secure Shell (SSH) server service.

Syntax

- `boot config flags sshd`
- `default boot config flags sshd`
- `no boot config flags sshd`

Default

`The default is disabled.`

Command mode

Global Configuration

boot config flags telnetd

Activate or disable the Telnet server service. If you disable the Telnet server service in a dual CPU system, the Telnet server prevents a Telnet connection initiated from the other CPU.

Syntax

- `boot config flags telnetd`
- `default boot config flags telnetd`
- `no boot config flags telnetd`

Default

`The default is disabled.`

Command mode

Global Configuration

boot config flags tftpd

Activate or disable Trivial File Transfer Protocol (TFTP) server service. If you disable the TFTP server you can still copy files between the CPUs.

Syntax

- `boot config flags tftpd`
- `default boot config flags tftpd`
- `no boot config flags tftpd`

Default

`The default is disabled.`

Command mode

Global Configuration

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boot config flags trace-logging

Activate or disable the creation of trace logs. Do not change this parameter unless directed by Avaya.

Syntax

- `boot config flags trace-logging`
- `default boot config flags trace-logging`
- `no boot config flags trace-logging`

Default

`The default is disabled.`

Command mode

Global Configuration

boot config flags verify-config

Activates syntax checking of the configuration file. When you enable the verify-config flags, the primary configuration file is pre-checked for syntax errors. If the system finds an error, the system loads the backup configuration file. If you disable the verify-config flags, the system ignores any lines with errors during loading of the primary configuration file. If the primary configuration file is not present or cannot be found, the system tries to load the backup file. The system does not check the backup file for syntax errors. The system ignores any lines with errors during the loading of the backup configuration file. If no backup file exists, the system defaults to factory defaults.

Syntax

- `boot config flags verify-config`
- `default boot config flags verify-config`
- `no boot config flags verify-config`

Default

`The default is enabled.`

Command mode

Global Configuration

boot config host

Configure the remote host logon to modify parameters for FTP and TFTP access. Use the default parameters for TFTP transfers. If you want to use FTP as transfer mechanism, you must change the password to a valid value.

Syntax

- `boot config host ftp-debug`
- `boot config host password WORD<0-16>`
- `boot config host tftp-debug`
- `boot config host tftp-hash`
- `boot config host tftp-rexmit <1-120>`
- `boot config host tftp-timeout <1-120>`
- `boot config host user WORD<0-16>`
- `default boot config host ftp-debug`
- `default boot config host tftp-debug`
- `default boot config host tftp-hash`
- `default boot config host tftp-rexmit`
- `default boot config host tftp-timeout`
- `default boot config host user`
- `no boot config host ftp-debug`
- `no boot config host tftp-debug`
- `no boot config host tftp-hash`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
ftp-	Enables or disables the debug mode on FTP. If you enable the debug mode, debug

debug	messages appear on the management console screen. The default is disabled.
password WORD<0-16>	Configures the password to enable FTP transfers. WORD<0-16> is the password, up to 16 characters. After you configure this password, you can use only FTP for remote host logon. Important: This password must match the password for the FTP server, or the FTP operation fails. Also, if you configure the password to a valid value, then all copying to and from the network uses FTP instead of TFTP. If the user name or password is incorrect, copying over the network fails.
tftp-debug	Enables or disables debug mode on TFTP or TFTPD. If you enable the debug mode, debug messages appear on the management console screen. The default is disabled.
tftp-hash	Enables or disables the TFTP hash bucket display. The default is disabled.
tftp-rexmit <1-120>	Configures the TFTP retransmission timeout in seconds. The default is 2.
tftp-timeout <1-120>	Configures the TFTP timeout in seconds. The default is 6.
user WORD<0-16>	Configures the remote user logon. WORD<0-16> is the user logon name (up to 16 characters). The default is target.

boot config loadconfigtime

Set the timeout for loading the configuration file.

Syntax

- `boot config loadconfigtime <0-300>`
- `default boot config loadconfigtime`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<0-300>	Specifies the timeout for loading the configuration file in seconds.

boot config logfile

Configure logfile parameters. The log file is named using an 8.3 (xxxxxxxx.sss) format. The first six characters of the file name contain the last three bytes of the chassis base MAC address. The next two characters specify the slot number of the CP module that generated the logs. The last three characters denote the sequence number of the log file. Multiple sequence numbers are generated for the same chassis and same slot, if you replace or reinsert the CP module, or if the maximum log file size is reached.

Syntax

- `boot config logfile <64-500> <500-16384> <10-90>`
- `default boot config logfile`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<10-90>	Specifies the maximum percentage, from 10-90%, of space on the external storage device the log file can use. The switch does not support this parameter.
<500-16384>	Specifies the maximum size of the log file from 500-16384 KB.
<64-500>	Specifies the minimum free memory space on the external storage device from 64- 500 KB. The switch does not support this parameter.

boot config sio console

Configure the serial port devices to define connection settings for the console port.

Syntax

- `boot config sio { console } 8databits`
- `boot config sio { console } baud <9600 - 115200>`
- `default boot config sio { console } 8databits`
- `default boot config sio { console } baud`
- `no boot config sio { console } 8databits`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<9600-115200>	Configures the baud rate for the port. The default baud rate is 9600.
8databits	Specifies either 8 (activated) or 7 (disabled) data bits for each byte for the software to interpret. The default is 8.

brouter

Configure a port as a brouter port.

Syntax

- `brouter port {slot/port} vlan <2-4059> subnet {A.B.C.D/X}`
- `brouter port {slot/port} vlan <2-4059> subnet {A.B.C.D/X} mac-offset <0-511>`
- `brouter port {slot/port} vlan <2-4059> subnet {A.B.C.D} {A.B.C.D}`
- `brouter vlan <2-4059> subnet {A.B.C.D/X}`
- `brouter vlan <2-4059> subnet {A.B.C.D/X} mac-offset <0-65535>`
- `brouter vlan <2-4059> subnet {A.B.C.D} {A.B.C.D}`
- `no brouter`
- `no brouter port {slot/port}`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`mac-offset <0-511>`	Specifies the Mac-offset value.
`port {slot/port}`	Specifies the slot and port.
`subnet <{A.B.C.D/X}|{A.B.C.D}>`	Assigns an IP address and mask for the management port.
`vlan <1-4059>`	Specifies the VLAN ID.

cd

Change current file system directory path.

Syntax

- `cd WORD<1-99>`

Default

None

Command mode

Privileged EXEC

cfm maintenance-association

Create the Connectivity Fault Management (CFM) Maintenance-Association (MA).

Syntax

- `cfm maintenance-association WORD<1-22> WORD<1-22>`
- `cfm maintenance-association WORD<1-22> WORD<1-22> index <1-2147483647>`
- `no cfm maintenance-association WORD<1-22> WORD<1-22>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
index <1-2147483647>	Specifies a Maintenance-Association (MA) entry index.
WORD<0-22> WORD<0-22>	Creates the Connectivity Fault Management (CFM) Maintenance-Association (MA). The first parameter, specifies the Maintenance-Domain (MD) name. The second parameter, specifies the MA name. The default is disabled.

cfm maintenance-domain

Create the Connectivity Fault Management (CFM) Maintenance-Domain (MD).

Syntax

- `cfm maintenance-domain WORD<1-22>`
- `cfm maintenance-domain WORD<1-22> index <1-2147483647>`
- `cfm maintenance-domain WORD<1-22> index <1-2147483647> maintenance-level <0-7>`
- `cfm maintenance-domain WORD<1-22> level <0-7>`
- `cfm maintenance-domain WORD<1-22> maintenance-level <0-7>`
- `cfm maintenance-domain WORD<1-22> maintenance-level <0-7> index <1-2147483647>`
- `no cfm maintenance-domain WORD<1-22>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
index <1-2147483647>	Specifies a Maintenance-Domain (MD) entry index.
level <0-7>	Specifies the Maintenance-Domain (MD) level for an existing Maintenance-Domain (MD).
maintenance-level <0-7>	Specifies the Maintenance-Domain (MD) maintenance level when creating the Maintenance-Domain (MD).
WORD<0-22>	Specifies the Maintenance-Domain (MD) name.

cfm maintenance-endpoint

Create the Connectivity Fault Management (CFM) Maintenance-Endpoint (MEP).

Syntax

- `cfm maintenance-endpoint WORD<1-22> WORD<1-22> <1-8191>`
- `cfm maintenance-endpoint WORD<1-22> WORD<1-22> <1-8191> enable`
- `cfm maintenance-endpoint WORD<1-22> WORD<1-22> <1-8191> state enable`
- `no cfm maintenance-endpoint WORD<1-22> WORD<1-22> <1-8191>`
- `no cfm maintenance-endpoint WORD<1-22> WORD<1-22> <1-8191> enable`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<1-8191>	Specifies the Maintenance Endpoint (MEP) ID.
enable	Enables an existing Maintenance Endpoint (MEP). Use this parameter with the no option to disable an existing MEP.
state enable	Enables the Maintenance Endpoint (MEP) when creating the MEP. Use the no option to disable the Maintenance Endpoint.
WORD<0-22> WORD<0-22>	The first parameter, specifies the Maintenance-Domain (MD) name. The second parameter, specifies the Maintenance-Association name.

cfm spbm enable

Enables CFM for B-VLANs, which creates the MD, MA, and MEP, and then associate the MEP and MIP level to B-VLANs.

Syntax

- `cfm spbm enable`
- `no cfm spbm enable`

Default

`The default is disabled.`

Command mode

Global Configuration

cfm spbm level <0-7>

Configures the maintenance level for every CFM SPBM MEP and MIP level on all SPBM VLANs.

Syntax

- `cfm spbm level <0-7>`
- `default cfm spbm level`

Default

`The default is 4.`

Command mode

Global Configuration

cfm spbm mepid <1-8191>

Assigns a global MEP ID for all CFM SPBM MEPs.

Syntax

- `cfm spbm mepid <1-8191>`
- `default cfm spbm mepid`

Default

`The default is 1.`

Command mode

Global Configuration

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channelize

Enable channelization on ports.

Syntax

- `channelize enable`
- `channelize port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} enable`
- `default channelize enable`
- `default channelize port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} enable`
- `no channelize enable`
- `no channelize port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} enable`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`enable`	Enable channelization for all ports.
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Enable channelization for the specified port.

clear alarm

Clear the alarm database to remove old information after a condition is resolved or to reset statistics.

Syntax

- `clear alarm database`
- `clear alarm database alarm-id WORD<0-100>`
- `clear alarm statistics`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`database`	Clears the alarm database.
`database alarm-id WORD<0-100>`	Specifies an alarm ID to clear.
`statistics`	Clears the alarm database statistics.

clear filter acl

Clear Access Control List (ACL) statistics if you no longer require previous statistics or log information.

Syntax

- `clear filter acl statistics <1-2048>`
- `clear filter acl statistics <1-2048> <1-2000>`
- `clear filter acl statistics <1-2048> qos`
- `clear filter acl statistics <1-2048> security`
- `clear filter acl statistics all`
- `clear filter acl statistics default`
- `clear filter acl statistics default <1-2048>`
- `clear filter acl statistics global`
- `clear filter acl statistics global <1-2048>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
[<1-2048>]	Specifies the ACL identifier.
<1-2000>	Specifies the ACE identifier.
all	Clears all statistics for all access control entries.
default <1-2048>	Clears traffic statistics for an access control entry (ACE).
global <1-2048>	Clears global statistics for an access control entry (ACE).
qos	Clears access control list (ACL) statistics for QoS access control entries (ACEs).
security	Clears access control list (ACL) statistics for Security ACEs.

clear ip arp interface

Clear the ARP timers.

Syntax

- `clear ip arp interface gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `clear ip arp interface vlan <1-4059>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.
`vlan <1-4059>`	Specifies the VLAN ID.

clear ip dhcp-relay

Clear dhcp-relay counter.

Syntax

- `clear ip dhcp-relay counters`
- `clear ip dhcp-relay counters interface gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `clear ip dhcp-relay counters interface vlan <1-4059>`
- `clear ip dhcp-relay counters vrf WORD<1-16>`
- `clear ip dhcp-relay counters vrfid <0-511>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`counters`	Clear dhcp-relay counters/statistics. No interface specified, it will clear all interface on GlobalRouter.
`counters interface gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Clear the brouter port dhcp-relay counters/statistics.
`counters interface vlan <1-4059>`	Clear Ip dhcp-relay statistics by vlan.
`counters vrf WORD<1-16>`	Clear vrf Ip dhcp-relay statistics.
`counters vrfid <0-511>`	Enter Vrf Id.

clear ip route

Clear the routing table.

Syntax

- `clear ip route gigabitethernet {slot/port}`
- `clear ip route vlan <1-4059>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`gigabitethernet {slot/port}`	Clear IP routes on the Interface Gigabit Ethernet.
`vlan <1-4059>`	Clear IP routes on the Interface Vlan.

clear ipsec stats all

Clear the Internet Protocol Security (IPsec) system statistics counters.

Syntax

- `clear ipsec stats all`

Default

None

Command mode

User EXEC

clear ipv6 dcache

Clear the destination cache.

Syntax

- `clear ipv6 dcache`
- `clear ipv6 dcache gigabitethernet {slot/port}`
- `clear ipv6 dcache mgmtethernet {slot/port}`
- `clear ipv6 dcache tunnel <1-2000>`
- `clear ipv6 dcache vlan <1-4059>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`gigabitethernet {slot/port}`	Identifies the slot and port.
`mgmtethernet {slot/port}`	Identifies the slot and port for the management interface. The slot can be either slot 1 or slot 2.
`tunnel <1-2000>`	Specifies the tunnel ID.
`vlan <1-4059>`	Specifies the VLAN ID.

clear ipv6 neighbor-cache

Clear the neighbor cache.

Syntax

- `clear ipv6 neighbor-cache`
- `clear ipv6 neighbor-cache gigabitEthernet <slot/port>`
- `clear ipv6 neighbor-cache mgmtethernet <slot/port>`
- `clear ipv6 neighbor-cache vlan <1-4059>`

Default

The default is disabled.

Command mode

Privileged EXEC

clear ipv6 route static

Clear IPv6 static routes.

Syntax

- `clear ipv6 route static`

Default

None

Command mode

Privileged EXEC

clear ipv6 statistics

Use this command to clear IPv6 statistics.

Syntax

- `clear ipv6 statistics all`
- `clear ipv6 statistics interface`
- `clear ipv6 statistics interface general`
- `clear ipv6 statistics interface general gigabitethernet {slot/port}`
- `clear ipv6 statistics interface general mgmtethernet {slot/port}`
- `clear ipv6 statistics interface general tunnel <1-2000>`
- `clear ipv6 statistics interface general vlan <1-4059>`
- `clear ipv6 statistics interface icmp`
- `clear ipv6 statistics tcp`
- `clear ipv6 statistics udp`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`all`	Clears all statistics.
`general`	Clears general statistics.
`gigabitEthernet{slot/port}`	Clears statistics for a brouter interface.
`icmp`	Clears Internet Control Message Protocol (ICMP) statistics.
`mgmtethernet{slot/port}`	Clears statistics for a management port.
`tcp`	Clears TCP statistics.
`tunnel <1-2000>`	Clears statistics for a tunnel.
`udp`	Clears UDP statistics.
`vlan <1-4059>`	Clears statistics for a tunnel.

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clear ipv6 vrrp

Clears the IPv6 VRRP configuration.

Syntax

- `clear ipv6 vrrp gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]} vrid <1-255>`
- `clear ipv6 vrrp vlan <1-4059> vrid <1-255>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port in one of the following formats: a single slot and port (3/1), a range of slots and ports (3/2-3/4), or a series of slots and ports (3/2,5/3,6/2).
`vlan <1-4059>`	Specifies the VLAN ID.
`vrid <1-255>`	Specifies the ID of the virtual router.

clear ip vrrp

Clear the Virtual Router Redundancy Protocol (VRRP) configuration.

Syntax

- `clear ip vrrp gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]} vrid <1-255>`
- `clear ip vrrp vlan <1-4059> vrid <1-255>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]} vrid <1-255>`	Identifies the slot and port.
`vlan <1-4059> vrid <1-255>`	Specifies the ID of the virtual router.

clear isis lsdb

Clear the Intermediate-System-to-Intermediate-System (IS-IS) Link State Database (LSDB). The command clears learned Link State Packets (LSPs) only. The command does not clear local generated LSPs. As soon as the platform clears the LSDB the LSP synchronization process starts immediately and the LSDB synchronizes with its neighbors.

Syntax

- `clear isis lsdb`

Default

None

Command mode

User EXEC

clear isis stats

Clear Intermediate-System-to-Intermediate-System (IS-IS) statistics.

Syntax

- `clear isis stats`
- `clear isis stats error-counters`
- `clear isis stats packet-counters`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`error-counters`	Clears the IS-IS stats error-counters.
`packet-counters`	Clears the IS-IS stats packet-counters.

clear khi

Clear the forwarding health and CPP statistics information.

Syntax

- `clear khi cpp port-statistics`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`cpp port-statistics`	Clears statistics for control packets that go to the control processor.

clear lacp

Clear link aggregation information and statistics.

Syntax

- `clear lacp link-aggregate <1-512>`
- `clear lacp stats`
- `clear lacp stats port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`link-aggregate <1-512>`	Identifies the slot and port.
`stats`	Specifies the MLT ID.
`stats port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Specifies the MLT ID.

clear logging

Clear the log file.

Syntax

- `clear logging`

Default

None

Command mode

User EXEC

clear mac-address-table

Clear the entries in the MAC address table.

Syntax

- `clear mac-address-table port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} address WORD<17-17>`
- `clear mac-address-table port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} address WORD<17-17> interface vlan <1-4059>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} address WORD<17-17>`	Specifies the MAC address.
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} address WORD<17-17> interface vlan <1-4059>`	Identifies the slot and port.

clear qos

Clear quality of service (QoS) information.

Syntax

- `clear qos cosq-stats`
- `clear qos cosq-stats cpu-port`
- `clear qos cosq-stats interface`
- `clear qos cosq-stats interface {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`cosq-stats`	Clear qos cos queue statistics
`cosq-stats cpu-port`	Clear Qos Cosq Stats on cpu port.
`cosq-stats interface`	Clear Qos Cosq Stats on port.
`cosq-stats interface {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Clear Qos Cosq Stats on port for the specified gigabit address.

clear radius statistics

Clear server statistics.

Syntax

- `clear radius statistics`

Default

None

Command mode

User EXEC

clear slpp

Clear SLPP Information

Syntax

- `clear slpp stats`
- `clear slpp stats port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`stats`	Clear SLPP Stats.
`stats port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Clear SLPP Stats for the specified port.

clear-stats

Clear port statistic counters.

Syntax

- `clear-stats`
- `clear-stats port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `clear-stats port mgmt`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.
`port mgmt`	Clear the management port stats.

clear telnet

Close open Telnet sessions.

Syntax

- `clear telnet <0-7>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
<0-7>	Specifies the Telnet session ID to close.

clear trace

Clear the trace file.

Syntax

- `clear trace`

Default

None

Command mode

User EXEC

clear virtual-ist stats

Clear stats for ist.

Syntax

- `clear virtual-ist stats`

Default

None

Command mode

User EXEC

clilog

Use ACLI logging to track all ACLI commands executed and for fault management purposes. ACLI commands are logged to the system log file as CLILOG module.

Syntax

- `clilog enable`
- `default clilog`
- `default clilog enable`
- `no clilog enable`

Default

`The default is disabled.`

Command mode

Global Configuration

cli password

Configure new passwords for each access level, or change the logon or password for the different access levels of the switch. After you receive the switch, use default passwords to initially access ACLI. If you use Simple Network Management Protocol version 3 (SNMPv3), you can change encrypted passwords.

Syntax

- `cli password WORD<1-20> layer1`
- `cli password WORD<1-20> layer2`
- `cli password WORD<1-20> layer3`
- `cli password WORD<1-20> read-only`
- `cli password WORD<1-20> read-write`
- `cli password WORD<1-20> read-write-all`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<layer1|layer2|layer3|read-only|read-write|read-write-all>	Changes the password for the specific access level. The read-only default logon is ro and the default password is ro.The Layer 1 read/write logon is l1 and the default password is l1.The Layer 2 read/write logon is l2 and the default password is l2. The Layer 3 read/write logon is l3 and the default password is l3. The read/write logon is rw and the default password is rw. The read/write/all logon is rwa and the default password is rwa.
WORD<1-20>	Specifies the user login name.

cli timeout

Configure the idle timeout period before automatic logoff for ACLI and Telnet sessions.

Syntax

- `cli timeout <30-65535>`
- `default cli timeout`

Default

The default is 900 seconds.

Command mode

Global Configuration

Command parameters

Parameter	Description
<30-65535>	Configures the timeout value, in seconds, to wait for a Telnet or ACLI login session before terminating the connection.

clock set

Configure the calendar time in the form of month, day, year, hour, minute, and second.

Syntax

- `clock set <MMddyyyyhhmmss>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
<MMddyyyyhhmmss>	Specifies the month, day, year, hours, minutes, and seconds.

clock set <MMddyyyyhhmmss>

Set the clock time.

Syntax

- `clock set <MMddyyyyhhmmss>`

Default

None

Command mode

Global Configuration

clock time-zone

Configure the time zone to use an internal system clock to maintain accurate time. The time zone data in Linux includes daylight changes for all time zones from 1901 to 2038. You do not need to configure daylight savings.

Syntax

- `clock time-zone`
- `clock time-zone WORD<1-10>`
- `clock time-zone WORD<1-10> WORD<1-20>`
- `clock time-zone WORD<1-10> WORD<1-20> WORD<1-20>`
- `default clock time-zone`
- `no clock time-zone`

Default

`The default is Coordinated Universal Time (UTC).`

Command mode

Global Configuration

Command parameters

Parameter	Description
`WORD<1-10>`	Specifies a directory name or a time zone name in /usr/share/zoneinfo, for example, Africa, Australia, Antarctica, or US. To see a list of options, enter clock time-zone at the command prompt without variables.
`WORD<1-20>`	The first instance of WORD<1-20> is the area within the timezone. The value represents a time zone data file in /usr/share/zoneinfo/WORD<1-10>/ , for example, Shanghai in Asia. The second instance of WORD<1-20>is the subarea. The value represents a time zone data file in /usr/share/zoneinfo/WORD<1-10>/WORD<1-20>/, for example, Vevay in America/Indiana. To see a list of options, enter clock time-zone at the command prompt without variables.
`WORD<1-20>`	

comp-bestpath-med-confed

When enabled, compares multiexit discriminator (MED) attributes within a confederation.

Syntax

- `comp-bestpath-med-confed enable`
- `default comp-bestpath-med-confed`
- `default comp-bestpath-med-confed enable`
- `no comp-bestpath-med-confed`
- `no comp-bestpath-med-confed enable`

Default

`The default value is enable.`

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
`enable`	Enables and compares multiexit discriminator attributes within a BGP confederation.

configure

Log on to Global Configuration mode.

Syntax

- `configure`
- `configure network`
- `configure network address {A.B.C.D}`
- `configure network address {A.B.C.D} filename WORD<1-239>`
- `configure network filename WORD<1-239>`
- `configure network filename WORD<1-239> address {A.B.C.D}`
- `configure terminal`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`network`	Configures the device from a TFTP network host.
`network address {A.B.C.D} filename WORD<1-239>`	Specifies an address of the TFTP server.
`network filename WORD<1-239> address {A.B.C.D}`	Specifies the filename of the configuration file.
`terminal`	Configures the device from a terminal.

copy

Copy files as part of an upgrade procedure to back up files or to move files to another location.

Syntax

- `copy running-config startup-config`
- `copy WORD<1-255> WORD<1-255>`
- `copy WORD<1-255> WORD<1-255> -y`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`running-config startup-config`	Copies running and start-up configuration.
`WORD<1-255> WORD<1-255>`	Source filename, a.b.c.d:<file> | /intflash/<file> | /usb/<file>.
`WORD<1-255> WORD<1-255> -y`	Source filename, a.b.c.d:<file> | /intflash/<file> | /usb/<file>.

cp

Use this command to copy files.

Syntax

- `cp WORD<1-255> WORD<1-255>`
- `cp WORD<1-255> WORD<1-255> -y`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`WORD<1-255> WORD<1-255> -y`	Specifies the file to copy.

csnp-interval

Configure the Complete Sequence Number Packets (CSNP) interval in seconds. This command is a system level parameter that applies to Level 1 CSNP generation on all interfaces.

Syntax

- `csnp-interval <1-600>`
- `default csnp-interval`
- `no csnp-interval`

Default

`The default CSNP interval is 10 seconds.`

Command mode

IS-IS Router Configuration

Command parameters

Parameter	Description
`<1-600>`	Configures the interval, in seconds.

debug ip pim

Configures debug commands for pim messages globally.

Syntax

- `debug ip pim assert`
- `debug ip pim bstrap`
- `debug ip pim group {A.B.C.D}`
- `debug ip pim hello`
- `debug ip pim join-prune`
- `debug ip pim pimdbglog`
- `debug ip pim pimdbgtrace`
- `debug ip pim rcv-dbg-trace`
- `debug ip pim register`
- `debug ip pim regstop`
- `debug ip pim rp-adv`
- `debug ip pim send-dbg-trace`
- `debug ip pim source {A.B.C.D}`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
assert	Set assert debug trace to true.
bstrap	Set bstrap trace to true.
group {A.B.C.D}	Set group value to specific multicast group value.
hello	Set hello debug trace to true.
join-prune	Set joinprune debug trace to true.

`pimdbglog`	Set pim debug log to true.
`pimdbgtrace`	Set pim debug trace to true.
`rcv-dbg-trace`	Set rcv debug trace to true.
`register`	Set register debug trace to true.
`regstop`	Set register stop debug trace to true.
`rp-adv`	Set rp-adv debug trace to true.
`send-dbg-trace`	Set send trace to true.
`source {A.B.C.D}`	Set source value to specific source ip-addr.

debug-screen

Display debug messages on the console, or saves them in a log file.

Syntax

- `debug-screen { off | on }`
- `default debug-screen`
- `no debug-screen`

Default

`The default value is off.`

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
<on|off>	Disables BGP screen logging (off) or enable BGP screen logging (on).

default-cost

Configures the default OSPF metrics.

Syntax

- `default default-cost`
- `default default-cost ethernet`
- `default default-cost fast-ethernet`
- `default default-cost forty-gig-ethernet`
- `default default-cost gig-ethernet`
- `default default-cost ten-gig-ethernet`
- `default-cost ethernet <1-65535>`
- `default-cost fast-ethernet <1-65535>`
- `default-cost forty-gig-ethernet <1-65535>`
- `default-cost gig-ethernet <1-65535>`
- `default-cost ten-gig-ethernet <1-65535>`

Default

None

Command mode

OSPF Router Configuration

Command parameters

Parameter	Description
`ethernet <1-65535>`	Configures the OSPF default metrics for 10 Mb/s Ethernet. The default is 100.
`fast-ethernet <1-65535>`	Configures the OSPF default metrics for 100 Mb/s (Fast) Ethernet. The default is 10.
`forty-gig-ethernet <1-65535>`	Configures the OSPF default metrics for 40 Gigabit Ethernet. The default is 1.
`gig-ethernet <1-65535>`	Configures the OSPF default metrics for Gigabit Ethernet. The default is 1.
`ten-gig-ethernet <1-`	Configures the OSPF default metrics for 10 Gigabit Ethernet. The default is 1.

65535>

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default-information

Enable the advertisement of a default route to peers, if it is present in the routing table.

Syntax

- `default default-information originate`
- `default-information originate`
- `no default-information originate`

Default

`The default value is disable.`

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
`originate`	Enables the origination default route.

default-metric (for BGP)

Configure a value that is sent to a BGP neighbor to determine the cost of a route a neighbor is using.

Syntax

- `default default-metric`
- `default-metric <-1-2147483647>`
- `no default-metric`
- `no default-metric <-1-2147483647>`

Default

`The default value is -1.`

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
`<-1-2147483647>`	Specifies the range of the default metric. A default metric value helps solve the problems associated with redistributing routes that have incompatible metrics.

default-metric (for RIP)

Configure RIP default import metric. This value is used by RIP announce of OSPF internal routes if the policy does not specify metric. 0 is used for deconfiguration.

Syntax

- `default default-metric`
- `default-metric <0-15>`

Default

`The default value is 8.`

Command mode

RIP Router Configuration

Command parameters

Parameter	Description
`<0-15>`	Configures the value of default import metric to import a route into RIP domain.

default-vlan-id

Configure the default VLAN ID for the port.

Syntax

- `default-vlan-id <0-4084>`
- `default-vlan-id port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} <0-4084>`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.
`<0-4084>`	Specifies the VLAN ID.

delete

Use this command to delete files.

Syntax

- `delete WORD<1-255>`
- `delete WORD<1-255> -y`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`WORD<1-255> -y`	Remove file or directory, with wildcard pattern.

dir

View the free space and files in flash memory.

Syntax

- `dir`
- `dir -l`
- `dir -r`
- `dir WORD<1-99>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`-l`	Details, dir -l [-r]
`-r`	Recursive, dir -r
`WORD<1-99>`	Directory path name, dir <path> [-l] [-r]

disable

Turns off privileged commands and returns you to the User Exec prompt.

Syntax

- `disable`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
<0-15>	Privilege level to go to.

dos-chkdsk

Check MS DOS file system for any inconsistencies.

Syntax

- `dos-chkdsk WORD<1-99>`
- `dos-chkdsk WORD<1-99> repair`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`WORD<1-99>`	Specifies the device name to repair.
`WORD<1-99> repair`	Repairs the errors found.

dos-format

Format the external flash or USB.

Syntax

- `dos-format WORD<1-99>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
WORD<1-99>	Specifies the device name to format.

dsapssap

Configure the multiple DSAP and SSAP to create a protocol-based VLAN.

Syntax

- `default dsapssap <0x0-0xffff | 0x0-0x0>`
- `dsapssap <0x0-0xffff | 0x0-0x0>`
- `no dsapssap <0x0-0xffff | 0x0-0x0>`

Default

None

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`<0x0-0xffff | 0x0-0x0>`	Configures a table used to maintain DSAP/SSAP values assigned to an sna802dot2 or user defined VLAN.

dump ar

To aid in troubleshooting, a dump of the hardware records can be captured.

Syntax

- `dump ar <1> WORD <1-1536> <0-3>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
PT_CPANDIOSLOT WORD<1-1536> <0-3>	Dump the ar table.

duplex (for the management port)

Configure the duplex mode for the Ethernet management port.

Syntax

- `default duplex [port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}]`
- `duplex [port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}]<half|full>`

Default

`The default is half-duplex mode.`

Command mode

mgmtEthernet Interface Configuration

Command parameters

Parameter	Description
`<half|full>`	Specifies half- or full-duplex mode. 1 and 10 Gb/s ports must use full-duplex mode.
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port in one of the following formats: a single slot and port (1/1), a range of slots and ports (1/2-1/4), or a series of slots and ports (1/2,2/3,1/2).

eapol enable

Configure Extensible Authentication Protocol (EAPoL) on the Switch.

Syntax

- `eapol enable`

Default

None

Command mode

Global Configuration

eapol init

Initialize Extensible Authentication Protocol (EAPoL) administration traffic control direction.

Syntax

- `eapol init`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`{slot/port [-slot/port] [,...]}`	Initializes Extensible Authentication Protocol (EAP) administration traffic control direction.

eapol max-request

Configures the maximum EAP requests sent to supplicant before timing out the session.

Syntax

- `default eapol max-request`
- `default eapol port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} max-request`
- `eapol max-request <1-10>`
- `eapol port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} max-request <1-10>`

Default

`The default is 2.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<1-10>`	Specifies the maximum EAP requests sent to supplicant before timing out the session.
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port in one of the following formats: a single slot and port (3/1), a range of slots and ports (3/2-3/4), or a series of slots and ports (3/2,5/3,6/2).

eapol multihost non-eap-pwd-fmt

Configure the RADIUS password format for non-eap authentication for a radius server.

Syntax

- `eapol multihost non-eap-pwd-fmt {[ip-addr] [mac-addr] [port-number] [keystring] [padding]}`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`ip-address WORD<0-255>`	Management ip-address of the switch.
`key WORD<0-16>`	Key string used in password format.
`mac-addr`	MAC address of the client.
`padding`	A dot(.) is used as delimiter.
`port-number`	IfIndex of the port on which MAC is received.

eapol multihost radius-non-eap-enable

Enable RADIUS based non-EAP authentication.

Syntax

- `enable`
- `no enable`
- `default no enable`

Default

`The default is disable.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`enable`	Enable RADIUS based non-EAP authentication.

eapol quiet-interval

Specifies the time interval between authentication failure and start of a new authentication.

Syntax

- `default eapol port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} quiet-interval`
- `default eapol quiet-interval`
- `eapol port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} quiet-interval <1-65535>`
- `eapol quiet-interval <1-65535>`

Default

`The default is 60.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<1-65535>`	Specifies the time interval in seconds between authentication failure and start of a new authentication.
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port in one of the following formats: a single slot and port (3/1), a range of slots and ports (3/2-3/4), or a series of slots and ports (3/2,5/3,6/2).

eapol re-authenticate

Starts re-authentication immediately.

Syntax

- `eapol re-authenticate {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`{slot/port [-slot/port] [,...]}`	Identifies the slot and port.

eapol re-authentication

Configures reauthentication.

Syntax

- default eapol port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} re-authentication
- default eapol port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} re-authentication enable
- default eapol port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} re-authentication-period
- default eapol re-authentication
- default eapol re-authentication enable
- default eapol re-authentication-period
- eapol port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} re-authentication
- eapol port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} re-authentication enable
- eapol port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} re-authentication-period <1-2147483647>
- eapol re-authentication
- eapol re-authentication enable
- eapol re-authentication-period <1-2147483647>
- no eapol port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} re-authentication
- no eapol port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} re-authentication enable
- no eapol re-authentication
- no eapol re-authentication enable

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
enable	Enables reauthenticating an existing supplicant at a specified time interval. The default is disabled.
port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}	Identifies the slot and port in one of the following formats: a single slot and port (3/1), a range of slots and ports (3/2-3/4), or a series of slots and ports (3/2,5/3,6/2).
re-authentication-period <1-2147483647>	Specifies the time interval in seconds between successive reauthentications. The default is 3600.

eapol status

Enable Extensible Authentication Protocol (EAPoL) on an interface.

Syntax

- `default eapol port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} status`
- `eapol port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} status authorized`
- `eapol port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} status auto`
- `eapol status {authorized|auto}`
- `no eapol port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} status`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
authorized	Specifies the port is always authorized.
auto	Specifies that port authorization depends on the results of the EAPoL authentication by the RADIUS server.
port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}	Identifies the slot and port in one of the following formats: a single slot and port (3/1), a range of slots and ports (3/2-3/4), or a series of slots and ports (3/2,5/3,6/2).

editing

Simple vi line editor to modify script files

Syntax

- `editing WORD<1-99>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
WORD<1-99>	Device name, /intflash.

enable

Use this command to enter Privileged EXEC mode in ACLI.

Syntax

- `enable`

Default

None

Command mode

User EXEC

enable-diffserv

Enable DiffServ so that the switch provides DiffServ-based QoS on that port.

Syntax

- `default enable-diffserv`
- `default enable-diffserv enable`
- `default enable-diffserv port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `default enable-diffserv port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} enable`
- `enable-diffserv`
- `enable-diffserv enable`
- `enable-diffserv port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `enable-diffserv port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} enable`
- `no enable-diffserv`
- `no enable-diffserv enable`
- `no enable-diffserv port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `no enable-diffserv port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} enable`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`enable`	Enables DiffServ for the specified port. The default is enabled.
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Specifies the slot and port, or slot and port list. To delete the current configuration, use the no option in the command: no enable-diffserv [port <portList>].

enable (for a route policy)

Enable the route policy.

Syntax

- `default enable`
- `enable`
- `no enable`

Default

`The default is disable.`

Command mode

Route-Map Configuration

encapsulation dot1q

Enable tagging on the ports before configuring Untagged VLANs.

Syntax

- `default encapsulation dot1q`
- `default encapsulation dot1q port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `encapsulation dot1q`
- `encapsulation dot1q port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `no encapsulation dot1q`
- `no encapsulation dot1q port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
dot1q	Sets encapsulation. dot1q enables trunking on the MLT.
port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}	Adds ports to this MLT.

end

Exit from router configuration mode.

Syntax

- `end`

Default

`None`

Command mode

VRRP Router Configuration

exception dump

Configure and enable the core-file collection on the switch.

Syntax

- `default exception dump {slot[-slot][,...]} core-pattern`
- `default exception dump {slot[-slot][,...]} directory`
- `default exception dump {slot[-slot][,...]} enable`
- `default exception dump {slot[-slot][,...]} max-disk-space`
- `exception dump {slot[-slot][,...]} core-pattern`
- `exception dump {slot[-slot][,...]} core-pattern WORD<1-32>`
- `exception dump {slot[-slot][,...]} directory WORD<1-64>`
- `exception dump {slot[-slot][,...]} enable`
- `exception dump {slot[-slot][,...]} max-disk-space <100-1024>`
- `no exception dump {slot[-slot][,...]} enable`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
{slot [-slot][,...]}	Specifies the slot list to enable the core-files on the switch. Valid slots are 1 to 12, SF1 to SF6, or all.
core-pattern WORD <1-32>	Denotes the pattern for generating core-file names.
directory WORD <1-64>	Specifies the directory to store core-files. WORD<1-64> specifies the name of the directory file to be stored in the range of 1 to 64 characters.
enable	Enables the core-file collection on the slots specified.
max-disk-space<100-1024>	Specifies the maximum disk space (in MB) allocated for the collection of core-files.

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exit

Use this command to exit a command mode and enter the lower command mode. If you use this command in User EXEC mode, you end the current ACLI session.

Syntax

- `exit`

Default

None

Command mode

User EXEC

filter acl

Use an access control list (ACL) to specify an ordered list of ACEs, or filter rules.

Syntax

- `default filter acl <1-2048>`
- `default filter acl <1-2048> enable`
- `default filter acl <1-2048> name`
- `filter acl <1-2048> enable`
- `filter acl <1-2048> name WORD<0-32>`
- `no filter acl <1-2048>`
- `no filter acl <1-2048> enable`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<1-2048>	Specifies a unique identifier (1 to 2048) for this ACL.
name WORD<0-32>	Specifies an optional descriptive name for the ACL.

filter acl ace

Use an access control entry (ACE) to define a packet pattern and the desired behavior for packets that carry the pattern.

Syntax

- `default filter acl ace <1-2048> <1-2000>`
- `default filter acl ace <1-2048> <1-2000> enable`
- `default filter acl ace <1-2048> <1-2000> name`
- `filter acl ace <1-2048> <1-2000>`
- `filter acl ace <1-2048> <1-2000> enable`
- `filter acl ace <1-2048> <1-2000> name WORD<1-32>`
- `no filter acl ace <1-2048> <1-2000>`
- `no filter acl ace <1-2048> <1-2000> enable`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<1-2000>	Specifies an access control entry (ACE) ID from 1 to 2000.
<1-2048>	Specifies an access control list (ACL) ID from 1 to 2048.
enable	Enables an access control entry (ACE) within an access control list (ACL). After you enable an ACE, to make changes, first disable it.
name WORD<1-32>	Specifies an optional descriptive name for the access control entry (ACE) that uses 1-32 characters.

filter acl ace action

Configure the access control entry (ACE) action mode as deny or permit.

Syntax

- default filter acl ace action <1-2048> <1-2000> { permit | deny }
- default filter acl ace action <1-2048> <1-2000> { permit | deny } count
- default filter acl ace action <1-2048> <1-2000> { permit | deny } internal-qos
- default filter acl ace action <1-2048> <1-2000> { permit | deny } monitor-dst-mlt
- default filter acl ace action <1-2048> <1-2000> { permit | deny } monitor-dst-mlt count
- default filter acl ace action <1-2048> <1-2000> { permit | deny } monitor-dst-mlt count redirect-next-hop
- default filter acl ace action <1-2048> <1-2000> { permit | deny } monitor-dst-mlt redirect-next-hop
- default filter acl ace action <1-2048> <1-2000> { permit | deny } monitor-dst-ports
- default filter acl ace action <1-2048> <1-2000> { permit | deny } redirect-next-hop
- default filter acl ace action <1-2048> <1-2000> { permit | deny } remark-dot1p
- default filter acl ace action <1-2048> <1-2000> { permit | deny } remark-dscp
- filter acl ace action <1-2048> <1-2000> { permit | deny }
- filter acl ace action <1-2048> <1-2000> { permit | deny } count
- filter acl ace action <1-2048> <1-2000> { permit | deny } internal-qos <0-7>
- filter acl ace action <1-2048> <1-2000> { permit | deny } monitor-dst-mlt <1-512>
- filter acl ace action <1-2048> <1-2000> { permit | deny } monitor-dst-ports {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- filter acl ace action <1-2048> <1-2000> { permit | deny } redirect-next-hop WORD<1-45>
- filter acl ace action <1-2048> <1-2000> { permit | deny } remark-dot1p <0-7>
- filter acl ace action <1-2048> <1-2000> { permit | deny } remark-dscp <0-256 | 0-256>
- no filter acl ace action <1-2048> <1-2000> { permit | deny }
- no filter acl ace action <1-2048> <1-2000> { permit | deny } count

- `no filter acl ace action <1-2048> <1-2000> { permit | deny } internal-qos`
- `no filter acl ace action <1-2048> <1-2000> { permit | deny } monitor-dst-mlt`
- `no filter acl ace action <1-2048> <1-2000> { permit | deny } monitor-dst-mlt count`
- `no filter acl ace action <1-2048> <1-2000> { permit | deny } monitor-dst-mlt count redirect-next-hop`
- `no filter acl ace action <1-2048> <1-2000> { permit | deny } monitor-dst-mlt redirect-next-hop`
- `no filter acl ace action <1-2048> <1-2000> { permit | deny } monitor-dst-ports`
- `no filter acl ace action <1-2048> <1-2000> { permit | deny } redirect-next-hop`
- `no filter acl ace action <1-2048> <1-2000> { permit | deny } remark-dot1p`
- `no filter acl ace action <1-2048> <1-2000> { permit | deny } remark-dscp`

Default

`The default to configure ACE actions to meter flows after a packet matches an ACE is disabled.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`<1-2000>`	Specifies the access control entry (ACE) ID. Use ACE IDs 1-1000 for security rules. Use ACE IDs 1001-2000 for QoS rules.
`<1-2048>`	Specifies an access control list (ACL) ID from 1 to 2048.
`<permit|deny>`	Configures the action mode for security access control entries (ACEs). Each ACE has a mode of permit or deny the matched traffic. You can use filters to configure metering of permitted traffic. If you need to enable IPFIX on denied traffic, you must enable it on an individual port basis, which enables IPFIX monitoring on all traffic that enters a port. Note For each Security ACE (1-1000), you must define one or more actions as well as the associated action mode (permit or deny). Otherwise, the security ACE cannot be enabled. There is no default configuration for Security ACEs. With QoS ACEs (1001-2000), the action mode is not configurable. QoS ACEs are always set to action mode permit.
`count`	Enables the ability to count matching packets. Use this parameter with either a security or QoS access control entry (ACE). The default is disabled.
`internal-qos`	Configures the Quality of Service (QoS) level. The access control entry (ACE) ID must be in the range of 1001-2000. The default value is 1.
`monitor-dst-mlt <1-512>`	Configures mirroring to a destination MLT group. This action is a security action. The ACE ID must be in the range of 1- 1000.
`monitor-dst-ports {slot/port[-slot/port][,...]}`	Configures mirroring to a destination port or ports. This action is a security action. The ACE ID must be in the range of 1-1000. {slot/port[/sub-port][-slot/port[/sub-port]][,...]} Identifies the slot and port.
`redirect-next-hop WORD<1-15>`	Specifies the next-hop IP address for redirect mode (a.b.c.d). This action is a security action. The ACE ID must be in the range of 1-1000.

`remark-dot1p <0-7>`	Specifies the new 802.1 priority bit for matching packets: zero, one, two, three, four, five, six, or seven. This action is a QoS action. The ACE ID must be in the range of 1001-2000.
`remark-dscp <0-63>`	Specifies the new Per-Hop Behavior (PHB) for matching packets: phbcs0, phbcs1, phbaf11, phbaf12, phbaf13, phbcs2, phbaf21,phbaf22, phbaf23, phbcs3, phbaf31, phbaf32, phbaf33, phbcs4,phbaf41, phbaf42, phbaf43, phbcs5, phbef, phbcs6, phbcs7. This action is a QoS action. The ACE ID must be in the range of 1001-2000.

filter acl ace arp

Use access control entry (ACE) ARP entries so that the filter looks for ARP requests or responses.

Syntax

- `default filter acl ace arp <1-2048> <1-2000>`
- `filter acl ace arp <1-2048> <1-2000> operation eq arprequest`
- `filter acl ace arp <1-2048> <1-2000> operation eq arpresponse`
- `no filter acl ace arp <1-2048> <1-2000>`
- `no filter acl ace arp <1-2048> <1-2000> operation`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`operation eq <arprequest|arpresponse>`	Specifies an ARP operation type of arpRequest or arpResponse. For ARP, only one operator and attribute exist (eq and operation).

filter acl ace ethernet

Use Ethernet access control entries (ACEs) to filter on Ethernet parameters.

Syntax

- default filter acl ace ethernet <1-2048> <1-2000>
- filter acl ace ethernet <1-2048> <1-2000> dst-mac eq WORD<1-1024>
- filter acl ace ethernet <1-2048> <1-2000> dst-mac mask WORD<1-1024> WORD<1-1024>
- filter acl ace ethernet <1-2048> <1-2000> ether-type eq WORD<1-200>
- filter acl ace ethernet <1-2048> <1-2000> port eq {slot/port}
- filter acl ace ethernet <1-2048> <1-2000> src-mac eq WORD<1-1024>
- filter acl ace ethernet <1-2048> <1-2000> src-mac mask WORD<1-1024> WORD<1-1024>
- filter acl ace ethernet <1-2048> <1-2000> vlan-id eq <1-4059>
- filter acl ace ethernet <1-2048> <1-2000> vlan-id mask <1-4059> <0-0xFFF | 0x0-0x0>
- filter acl ace ethernet <1-2048> <1-2000> vlan-tag-prio eq <0-7>
- filter acl ace ethernet <1-2048> <1-2000> vlan-tag-prio mask <0-7> <0-0x7 | 0x0-0x0>
- no filter acl ace ethernet <1-2048> <1-2000>
- no filter acl ace ethernet <1-2048> <1-2000> dst-mac
- no filter acl ace ethernet <1-2048> <1-2000> ether-type
- no filter acl ace ethernet <1-2048> <1-2000> port
- no filter acl ace ethernet <1-2048> <1-2000> src-mac
- no filter acl ace ethernet <1-2048> <1-2000> vlan-id
- no filter acl ace ethernet <1-2048> <1-2000> vlan-tag-prio

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
dst-mac <eq|mask> WORD<1-1024>	The <eq|mask> parameter specifies an operator for a field match condition. The WORD<1-1024> parameter specifies a list of destination MAC addresses separated by a comma, or a range of MAC addresses specified from low to high; for example, [AA:BB:CC:DD:EE:FF].
ether-type <eq> WORD<1-200>	The <eq> parameter specifies an operator for a field match condition: equal to. The WORD<1-200> parameter specifies an ether-type name: ip, arp, ipx802dot3, ipx802dot2, ipxSnap, ipxEthernet2, appleTalk, AppleTalk-Arp, sna802dot2, snaEthernet2, netBios, xns, vines, rarp, PPPoE-discovery, or PPPoE-session.
port eq <slot/port>	Specifies ports to which to match, where <slot/port> specifies the ports.
src-mac <eq|mask> WORD<1-1024>	The <eq|mask> parameter specifies an operator for a field match condition: equal to. The WORD<1-1024> parameter specifies a list of source MAC addresses separated by separated by a comma, or a range of MAC addresses specified from low to high; for example, [AA:BB:CC:DD:EE:FF].
vlan-id <eq|mask> <1-4059>	Specifies VLANs to match, where <1-4059> specifies the VLAN IDs.
vlan-tag-prio <eq|mask> <0-7>	The <eq|mask> parameter specifies an operator for a field match condition. The <0-7> parameter specifies a VLAN tag priority from 0-7 or undefined.

filter acl ace ip

Use IP access control entries (ACEs) to filter on the source IP address, destination IP address, DiffServ Code Point (DSCP), protocol, IP options, and IP fragmentation parameters.

Syntax

- `default filter acl ace ip <1-2048> <1-2000>`
- `filter acl ace ip <1-2048> <1-2000> dscp eq <0-63 | 0-63>`
- `filter acl ace ip <1-2048> <1-2000> dscp mask <0-63 | 0-63> <0-0x40 | 0x0-0x0>`
- `filter acl ace ip <1-2048> <1-2000> dst-ip eq {A.B.C.D}`
- `filter acl ace ip <1-2048> <1-2000> dst-ip mask {A.B.C.D} <0-32>`
- `filter acl ace ip <1-2048> <1-2000> dst-ip mask {A.B.C.D} {A.B.C.D}`
- `filter acl ace ip <1-2048> <1-2000> ip-frag-flag eq { noFragment | anyFragment }`
- `filter acl ace ip <1-2048> <1-2000> ip-options any`
- `filter acl ace ip <1-2048> <1-2000> ip-protocol-type eq WORD<1-256>`
- `filter acl ace ip <1-2048> <1-2000> src-ip eq {A.B.C.D}`
- `filter acl ace ip <1-2048> <1-2000> src-ip mask {A.B.C.D} <0-32>`
- `filter acl ace ip <1-2048> <1-2000> src-ip mask {A.B.C.D} {A.B.C.D}`
- `no filter acl ace ip <1-2048> <1-2000>`
- `no filter acl ace ip <1-2048> <1-2000> dscp`
- `no filter acl ace ip <1-2048> <1-2000> dst-ip`
- `no filter acl ace ip <1-2048> <1-2000> ip-frag-flag`
- `no filter acl ace ip <1-2048> <1-2000> ip-options`
- `no filter acl ace ip <1-2048> <1-2000> ip-protocol-type`
- `no filter acl ace ip <1-2048> <1-2000> src-ip`

Default

None

Command mode

Command parameters

Parameter	Description
dscp <eq|mask> WORD <0-256>	The <eq|mask> parameter specifies an operator for a field match condition. The equals to parameter specifies the PHB name or DSCP value {0 to 256, where 256 => disable}, or phbcs0, phbcs1, phbaf11, phbaf12, phbaf13, phbcs2, phbaf21, phbaf22,phbaf23, phbcs3, phbaf31, phbaf32, phbaf33, phbcs4, phbaf41,phbaf42, phbaf43, phbcs5, phbcs6, phbef, or phbcs7.
dst-ip <eq|mask> WORD <1-1024>	The <eq|mask> parameter specifies an operator for a field match condition. The WORD<1-1024> parameter specifies the destination IP address list in one of the following formats: a.b.c.d, [w.x.y.z-p.q.r.s], [l.m.n.o/mask], [a.b.c.d/len].
ip-frag-flag eq <noFragment|anyFragment>	The eq parameter specifies an operator for a field match condition: equal to. The ip-frag-flag parameter specifies a match option for IP fragments: noFragment or anyFragment.
ip-options any	Matches to an IP option. Any is the only option.
ip-protocol-type <eq> WORD <1-256>	The <eq> parameter specifies an operator for a field match condition: equal to. The WORD<1-256> parameter specifies one or more IP protocol types: (1-256), or icmp, tcp, udp, ipsecesp, ipsecah, ospf, vrrp, undefined.
src-ip <eq|mask> WORD <1-1024>	The <eq|mask> parameter specifies an operator for a field match condition: equal to, not equal to, less than or equal to, greater than or equal to. The WORD<1-1024> parameter specifies a source IP address list in one of the following formats: a.b.c.d, [w.x.y.z-p.q.r.s], [l.m.n.o/mask], [a.b.c.d/len].

filter acl ace ipv6

Use IPv6 access control entries (ACEs) to filter on the source IP address, destination IP address, DiffServ Code Point (DSCP), protocol, IP options, and IP fragmentation parameters.

Syntax

- `filter acl ace ipv6 <1-2048> <1-2000> dst-ipv6 {eq WORD<0-255> |mask WORD<0-128> WORD<0-255>}`
- `filter acl ace ipv6 <1-2048> <1-2000> nxt-hdr eq <fragment|hop-by-hop|icmpv6|ipsecah|ipsecesp|noHdr|routing|tcp|udp|undefined>`
- `filter acl ace ipv6 <1-2048> <1-2000> src-ipv6 {eq WORD<0-255> |mask WORD<0-128> WORD<0-255>}`
- `filter acl ace ipv6 <1-2048> <1-2000> traffic-class eq <0-255>`
- `no filter acl ace ip <1-2048> <1-2000> dst-ip`
- `no filter acl ace ip <1-2048> <1-2000> nxt-hdr`
- `no filter acl ace ip <1-2048> <1-2000> src-ipv6`
- `no filter acl ace ip <1-2048> <1-2000> traffic-class`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<1-2000>	Specifies the ACE ID.
<1-2048>	Specifies the ACL ID.
dst-ipv6 {eq WORD<0-255> |mask WORD<0-128> WORD<0-255>}	Specify destination IP address attribute of IPv6 header.
nxt-hdr eq <fragment|hop-by-hop|icmpv6|ipsecah|ipsecesp|noHdr|routing|tcp|udp|undefined>	Specify next header of IP header.
src-ipv6 {eq WORD<0-255> |mask WORD<0-128> WORD<0-255>}	Specify source IP address attribute of

`traffic-class eq <0-255>`	IPv6 header. Specify traffic class attribute of IPv6 header.

filter acl ace protocol

Use protocol access control entries (ACEs) to filter on the TCP source port, UDP source port, TCP destination port, UDP destination port, ICMP message type, and TCP flagss.

Syntax

- `default filter acl ace protocol <1-2048> <1-2000>`
- `filter acl ace protocol <1-2048> <1-2000> dst-port eq WORD<1-60>`
- `filter acl ace protocol <1-2048> <1-2000> dst-port mask WORD<1-60> <0x0-0xFFFF>`
- `filter acl ace protocol <1-2048> <1-2000> icmp-msg-type eq WORD<1-200>`
- `filter acl ace protocol <1-2048> <1-2000> routing-type eq <0-2>`
- `no filter acl ace protocol  <1-2048>  <1-2000> routing-type`
- `filter acl ace protocol <1-2048> <1-2000> src-port eq <0-65535>`
- `filter acl ace protocol <1-2048> <1-2000> src-port mask <0-65535> <0x0-0xFFFF>`
- `filter acl ace protocol <1-2048> <1-2000> tcp-flags eq WORD<1-50>`
- `filter acl ace protocol <1-2048> <1-2000> tcp-flags mask WORD<1-50> <0-0x3F | 0x0-0x0>`
- `no filter acl ace protocol <1-2048> <1-2000>`
- `no filter acl ace protocol <1-2048> <1-2000> dst-port`
- `no filter acl ace protocol <1-2048> <1-2000> icmp-msg-type`
- `no filter acl ace protocol <1-2048> <1-2000> src-port`
- `no filter acl ace protocol <1-2048> <1-2000> tcp-flags`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`dst-port <eq|mask>`	The <eq|mask> parameter specifies an operator for a field match condition: equal to. The WORD<1-60> parameter specifies the destination port for the TCP protocol: (0-

WORD<1-60>	65535), or {echo| ftpdata| ftpcontrol| ssh| telnet| dns| http|bgp| hdot323| bootpServer| boorpClient| tftp| rip| rtp| rctp| undefined}.
icmp-msg-type <eq> WORD <1-200>	Specifies the internet Control Message Protocol (ICMP) message type attribute of the protocol. The <eq> parameter specifies an operator for a field match condition: equal to. The WORD<1-200> parameter specifies one or more IP protocol types (0-255), or {echoreply|destunreach| sourcequench| redirect| echo-request| routeradv|routerselect| time-exceeded| param-problem| timestamp-request|timestamp-reply| addressmask-request| addressmask-reply| traceroute}.
routing-type eq <0-2>	This parameter represents the routing type attribute.
src-port <eq|mask> WORD<1-65535>	The <eq|mask> parameter specifies an operator for a field match condition. The WORD <1-65535> parameter specifies the destination port for the TCP protocol {0-65535}.
tcp-flags <eq|mask> WORD<1-50>	Specifies TCP-flags attribute of the protocol. The <eq|mask> parameter specifies an operator for a field match condition. The WORD <1-50> parameter specifies one or more TCP flags: {none| fin| syn| rst| push| ack| urg|undefined}. The tcp-flags and icmp-msg-type command options support lists.

filter acl port

Associate ports with, or remove ports from, an ACL so that filters do or do not apply to port traffic, respectively.

Syntax

- `default filter acl port <1-2048> {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `filter acl port <1-2048> {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `no filter acl port <1-2048> {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Associates a port or a port list to a particular ACL.
`<1-2048>`	Specifies an access control list (ACL) ID from 1-2048.

filter acl set

Configure an access control list (ACL) filter.

Syntax

- `default filter acl set <1-2048> default-action`
- `default filter acl set <1-2048> global-action`
- `default filter acl set <1-2048> global-action monitor-dst-mlt`
- `default filter acl set <1-2048> global-action monitor-dst-ports`
- `filter acl set <1-2048> default-action deny`
- `filter acl set <1-2048> default-action deny control-packet-action deny`
- `filter acl set <1-2048> default-action deny control-packet-action permit`
- `filter acl set <1-2048> default-action permit`
- `filter acl set <1-2048> global-action monitor-dst-mlt <1-512>`
- `filter acl set <1-2048> global-action monitor-dst-ports {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `no filter acl set <1-2048> global-action monitor-dst-mlt`
- `no filter acl set <1-2048> global-action monitor-dst-ports`

Default

`The default action is deny.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`<1-2048>`	Specifies the access control list (ACL) ID. The range is from 1-2048.
`default-action <permit|deny>`	Specifies the action to be taken when none of the access control entries (ACEs) match. The options are deny or permit.
`global-action{monitor-dst-mlt<1-512>|monitor-dst-ports`	Specifies the action to be taken for all access control entry (ACE) matches. The options are: monitor-dst-mlt <1-512>|monitor-dst-ports {slot/port[/sub-port][-slot/port[/sub-port]][,...]}.

{slot/port[/sub-port][-slot/port[/sub-port]][,...]}	{slot/port[/sub-port][-slot/port[/sub-port]][,...]} specifies the slot and the port number. <1-4059> specifies the VLAN ID.

filter acl vlan

Associate VLANs with, or remove VLANs from, an access control list (ACL) so that filters do or do not apply to VLAN traffic, respectively.

Syntax

- `default filter acl vlan <1-2048> <1-4059>`
- `filter acl vlan <1-2048> <1-4059>`
- `no filter acl vlan <1-2048> <1-4059>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<1-2048>	Specifies an access control list (ACL) ID from 1-2048.
<1-4059>	Specifies the VLAN IDs from 1-4084.

flap-dampening

Enable route suppression for routes that flap on and off.

Syntax

- `default flap-dampening`
- `default flap-dampening enable`
- `flap-dampening`
- `flap-dampening enable`
- `no flap-dampening`
- `no flap-dampening enable`

Default

`The default value is enable.`

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
`enable`	Enables Border Gateway Protocol (BGP) flap-dampening.

flight-recorder

Perform various functions on the flight recorder data on the switch.

Syntax

- `flight-recorder all {slot[-slot][,...]}`
- `flight-recorder archive {slot[-slot][,...]}`
- `flight-recorder snapshot {slot[-slot][,...]}`
- `flight-recorder trace {slot[-slot][,...]}`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`all {slot[-slot][,...]}`	Creates flight recorder snapshot, trace, and archive. {slot[-slot][,...]} specifies the slot number. Valid slot is 1.
`archive {slot[-slot][,...]}`	Creates tarball of flight recorder files, log files, config file and others. {slot [-slot][,...]} specifies the slot number. Valid slot is 1.
`snapshot {slot[-slot][,...]}`	Takes the snapshot of flight recorder PMEM data. {slot[-slot][,...]} specifies the slot number. Valid slot is 1.
`trace {slot[-slot][,...]}`	Takes the snapshot of always-on-trace data. {slot [-slot][,...]} specifies the slot number. Valid slot is 1.

global-debug mask

Display specific debug messages for your global BGP configuration.

Syntax

- `default global-debug mask`
- `global-debug mask WORD<1-100>`
- `no global-debug mask`

Default

None

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
`mask WORD <1-100>`	Specifies one or more mask choices that you enter, separated by commas with no space between choices. For example,[<mask>,<mask>,<mask>...]. Options include: none, all, error, packet, event, trace, warning, state, init, filter, update.

grep

Use this Unix command to search files for lines that match a given expression.

Syntax

- `grep WORD<0-1536> WORD<1-99>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
WORD<0-1536> WORD<1-99>	Searches files for lines that match a given expression. WORD<0-1536> specifies the string to match.

help

Use this command to see parameters for a particular command. You can use this command in any mode. You can also request Help at any point by entering a question mark after a command, which shows the available options.

Syntax

- `help`
- `help WORD<1-255>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
WORD<1-255>	Enters a command to see the options for that command.

high-secure enable

Protect the switch against IP packets with illegal IP addresses such as loopback addresses or a source IP address of ones, or Class D or Class E addresses from being routed.

Syntax

- `default high-secure`
- `default high-secure enable`
- `default high-secure port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `default high-secure port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} enable`
- `high-secure`
- `high-secure enable`
- `high-secure port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `high-secure port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} enable`
- `no high-secure`
- `no high-secure enable`
- `no high-secure port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `no high-secure port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} enable`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`enable`	Enables the high secure feature that blocks packets with illegal IP addresses. This flag is disabled by default.
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.

host-route

Use host routes when the switch resides in a network that uses routing protocols other than OSPF.

Syntax

- `default host-route {A.B.C.D}`
- `default host-route {A.B.C.D} metric`
- `host-route {A.B.C.D}`
- `host-route {A.B.C.D} metric <0-65535>`
- `no host-route {A.B.C.D}`

Default

None

Command mode

OSPF Router Configuration

Command parameters

Parameter	Description
<A.B.C.D>	Specifies the IP address of the host router in a.b.c.d format.
metric <0-65535>	Configures the metric (cost) for the host route.

ibgp-report-import-rt

Configure BGP to advertise imported routes to an interior BGP (IBGP) peer. This command Enable or disables the advertisement of nonBGP imported routes to other IBGP neighbors.

Syntax

- `default ibgp-report-import-rt`
- `default ibgp-report-import-rt enable`
- `ibgp-report-import-rt enable`
- `no ibgp-report-import-rt`
- `no ibgp-report-import-rt enable`

Default

`The default value is enable.`

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
`enable`	Enables advertisement of non BGP imported routes to other IBGP neighbors.

ignore-illegal-rtrid

Overlook an illegal router id after enabling BGP.

Syntax

- `default ignore-illegal-rtrid`
- `default ignore-illegal-rtrid enable`
- `ignore-illegal-rtrid enable`
- `no ignore-illegal-rtrid`
- `no ignore-illegal-rtrid enable`

Default

`The default value is enable.`

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
`enable`	Enables or disables the acceptance of a connection from a peer that sends an open message using a router ID of 0 (zero).

interface GigabitEthernet

Use this command to enter Interface Configuration mode for a GigabitEthernet slot and port.

Syntax

- `interface GigabitEthernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.

interface Loopback

Use this command to enter Interface Configuration mode for a loopback interface.

Syntax

- `interface Loopback <1-256>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<1-256>	Specifies the loopback ID.

interface mgmtEthernet

Use this command to enter Interface Configuration mode for a management interface on the CP module.

Syntax

- `interface mgmtEthernet mgmt`

Default

None

Command mode

Global Configuration

interface mlt

Use this command to enter Interface Configuration mode for an MLT.

Syntax

- `interface mlt <1-512>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<1-512>	Specifies the MLT ID.

interface vlan

Use this command to enter Interface Configuration mode for a VLAN.

Syntax

- `interface Vlan <1-4059>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<1-4059>	Specifies the VLAN ID.

ip address (for the management port)

Configure the IP address for the Ethernet management port.

Syntax

- `ip address {A.B.C.D A.B.C.D|A.B.C.D/X}`
- `ip address port {slot/port} {A.B.C.D/X}`
- `ip address port {slot/port} {A.B.C.D} {A.B.C.D}`
- `no ip address {A.B.C.D}`

Default

None

Command mode

mgmtEthernet Interface Configuration

Command parameters

Parameter	Description
{A.B.C.D A.B.C.D|A.B.C.D/X}	Assigns an IP address and mask for the management port. Important: You cannot assign an address of 0.0.0.0/0. You can specify the mask in either dotted decimal notation or as a decimal number.

ip address (loopback)

Configure a circuitless IP interface (CLIP) when you want to provide a virtual interface that is not associated with a physical port. You can use a CLIP interface to provide uninterrupted connectivity to your switch. You can configure a maximum of 256 CLIP interfaces on each device.

Syntax

- `ip address <1-256> {A.B.C.D/X}`
- `ip address <1-256> {A.B.C.D/X} vrf WORD<1-16>`
- `ip address <1-256> {A.B.C.D} {A.B.C.D}`
- `ip address {A.B.C.D/X}`
- `ip address {A.B.C.D/X} vrf WORD<1-16>`
- `ip address {A.B.C.D} {A.B.C.D}`
- `no ip address <1-256> {A.B.C.D}`
- `no ip address <1-256> {A.B.C.D} vrf WORD<1-16>`
- `no ip address {A.B.C.D}`
- `no ip address {A.B.C.D} vrf WORD<1-16>`

Default

None

Command mode

Loopback Interface Configuration

Command parameters

Parameter	Description
[vrf WORD<1-16>]	Specifies an associated VRF by name.
{A.B.C.D/X}	Specifies the IP address and subnet mask.
{A.B.C.D}	Specifies the IP address.
<1-256>	Specifies the interface identification number for the circuitless IP (CLIP).
no	Deletes the address for a particular VRF.

ip address (on a VLAN)

Assign an IP address to a VLAN to configure the VLAN.

Syntax

- `ip address {A.B.C.D/X}`
- `ip address {A.B.C.D} {A.B.C.D}`
- `ip address {A.B.C.D} {A.B.C.D} <0-1535>`

Default

None

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
<0-1535>	Specifies the Mac-offset value. The value is in the range of 0-1535.
<A.B.C.D/X>|<A.B.C.D> <A.B.C.D>	Specifies the IP address and subnet mask in the format A.B.C.D/X or A.B.C.D A.B.C.D.

ip alternative-route (globally)

Enable the alternative route feature globally.

Syntax

- `default ip alternative-route`
- `ip alternative-route`
- `no ip alternative-route`

Default

`The default is enabled.`

Command mode

Global Configuration

VSP 8000 Series Release 4.2.1
NN47227-104 VSP 8000 Series Avaya Command Line Reference Guide
Version 05.01 June 2015

Avaya.com/support

ip alternative-route (on a VRF)

Enable the alternative route feature for a VRF context.

Syntax

- `default ip alternative-route`
- `ip alternative-route`
- `no ip alternative-route`

Default

`The default is enabled.`

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
`alternative-route`	Enables or disables the Alternative Route feature. The default value is enabled. If the alternative-route parameter is disabled, all existing alternative routes are removed. When the parameter is enabled, all alternative routes are re-added.

ip area (loopback)

Designate an area for the circuitless IP (CLIP) interface.

Syntax

- `default ip area`
- `default ip area <1-256>`
- `default ip area vrf WORD<1-16>`
- `ip area <1-256> {A.B.C.D}`
- `ip area <1-256> {A.B.C.D} vrf WORD<1-16>`
- `ip area {A.B.C.D}`
- `ip area {A.B.C.D} vrf WORD<1-16>`
- `no ip area`
- `no ip area <1-256>`
- `no ip area vrf WORD<1-16>`

Default

None

Command mode

Loopback Interface Configuration

Command parameters

Parameter	Description
{A.B.C.D}	Specifies the IP address of the OSPF area that is associated with the CLIP.
<1-256>	Specifies the interface identification number for the CLIP.
default	Sets the loopback area for a particular VRF to the default value of none.
no	Deletes the loopback area for a particular VRF.
vrf WORD<1-16>	Specifies an associated VRF by name.

ip arp

Configure ARP static entries to modify the ARP parameters on the device. The only way to change a static ARP is to delete the static ARP entry and create a new entry with new information.

Syntax

- `default ip arp {A.B.C.D}`
- `default ip arp request-threshold`
- `default ip arp timeout`
- `ip arp {A.B.C.D} 0x00:0x00:0x00:0x00:0x00:0x00 {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `ip arp {A.B.C.D} 0x00:0x00:0x00:0x00:0x00:0x00 {slot/port[/sub-port][-slot/port[/sub-port]][,...]} vid <1-4059>`
- `ip arp request-threshold <50-1000>`
- `ip arp timeout <1-32767>`
- `no ip arp {A.B.C.D}`

Default

None

Command mode

Global Configuration

ip arp (for a VRF)

Configure ARP static entries to modify the ARP parameters on the device. The only way to change a static ARP is to delete the static ARP entry and create a new entry with new information.

Syntax

- `default ip arp {A.B.C.D}`
- `default ip arp timeout`
- `ip arp {A.B.C.D} 0x00:0x00:0x00:0x00:0x00:0x00 {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `ip arp {A.B.C.D} 0x00:0x00:0x00:0x00:0x00:0x00 {slot/port[/sub-port][-slot/port[/sub-port]][,...]} vid <1-4059>`
- `ip arp timeout <1-32767>`
- `no ip arp {A.B.C.D}`

Default

None

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
{A.B.C.D}	Specifies the IP address.
{slot/port}	Specifies the port that receives the flooding.
0x00:0x00:0x00:0x00:0x00:0x00	Specifies the MAC address in hexadecimal format. The MAC address parameter does not accept MAC addresses beginning with 01:00:5e (01:00:5e:00:00:00 to 01:00:5e:ff:ff:ff inclusive).
timeout <1-32767>	Configures the timeout value.
vid <1-4059>	Specifies the VLAN ID.

ip arp-proxy enable (for a port)

Configure an ARP proxy to allow a router to answer a local ARP request for a remote destination.

Syntax

- `default ip arp-proxy`
- `default ip arp-proxy enable`
- `ip arp-proxy enable`
- `no ip arp-proxy`
- `no ip arp-proxy enable`

Default

`The default is disabled.`

Command mode

GigabitEthernet Interface Configuration

ip arp-proxy enable (for a VLAN)

Configure an ARP proxy to allow a router to answer a local ARP request for a remote destination.

Syntax

- `ip arp-proxy enable`
- `no ip arp-proxy`
- `no ip arp-proxy enable`

Default

`The default is disabled.`

Command mode

VLAN Interface Configuration

ip arp-response (for a port)

Enable Address Resolution Protocol (ARP) on the switch to allow a router to answer a local ARP request.

Syntax

- `default ip arp-response`
- `ip arp-response`
- `no ip arp-response`

Default

None

Command mode

GigabitEthernet Interface Configuration

ip arp-response (for a VLAN)

Enable Address Resolution Protocol (ARP) on the switch to allow a router to answer a local ARP request.

Syntax

- `ip arp-response`
- `no ip arp-response`

Default

None

Command mode

VLAN Interface Configuration

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NN47227-104 VSP 8000 Series Avaya Command Line Reference Guide
Version 05.01 June 2015

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ip as-list (for a VRF)

Use an asynchronous (AS) path list to restrict the routing information a router learns or advertises to and from a neighbor. The AS path list acts as a filter that Match AS paths.

Syntax

- `ip as-list <1-1024> memberid <0-65535> { permit | deny } as-path WORD<0-1536>`
- `no ip as-list <1-1024> as-path WORD<0-1536>`
- `no ip as-list <1-1024> memberid <0-65535>`

Default

None

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
`{ permit | deny }`	Permits or denies access for matching conditions.
`<1-1024>`	Creates the specified AS-path list entry.
`as-path WORD<0-1536>`	Specifies an integer value between 0 and 1536 placed within quotation marks " ."
`memberid <0-65535>`	Adds a regular expression entry to the specified AS-path list.

ip bgp

Redistribute IPv6 static routes into Border Gateway Protocol (BGP).

Syntax

- `default ip bgp`
- `ip bgp`
- `no ip bgp`

Default

`The default value is disabled.`

Command mode

VRF Router Configuration

ip bgp aggregate-address

Add or delete an aggregate address in a BGP routing table.

Syntax

- default ip bgp aggregate-address <prefix/len>
- default ip bgp aggregate-address <prefix/len> advertise-map
- default ip bgp aggregate-address <prefix/len> as-set
- default ip bgp aggregate-address <prefix/len> attribute-map
- default ip bgp aggregate-address <prefix/len> summary-only
- default ip bgp aggregate-address <prefix/len> suppress-map
- ip bgp aggregate-address <prefix/len>
- ip bgp aggregate-address <prefix/len> advertise-map WORD<0-1536>
- ip bgp aggregate-address <prefix/len> as-set
- ip bgp aggregate-address <prefix/len> attribute-map WORD<0-1536>
- ip bgp aggregate-address <prefix/len> summary-only
- ip bgp aggregate-address <prefix/len> suppress-map WORD<0-1536>
- no ip bgp aggregate-address <prefix/len>
- no ip bgp aggregate-address <prefix/len> advertise-map
- no ip bgp aggregate-address <prefix/len> as-set
- no ip bgp aggregate-address <prefix/len> attribute-map
- no ip bgp aggregate-address <prefix/len> summary-only
- no ip bgp aggregate-address <prefix/len> suppress-map

Default

The default is disabled.

Command mode

VRF Router Configuration

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ip bgp aggregation

Enable or disable automatic route aggregation on the port. When enabled, the router automatically aggregates routes to their natural mask when they are advertised on an interface in a different class network.

Syntax

- `default ip bgp aggregation`
- `default ip bgp aggregation enable`
- `ip bgp aggregation`
- `ip bgp aggregation enable`
- `no ip bgp aggregation`
- `no ip bgp aggregation enable`

Default

`The default is disabled.`

Command mode

VRF Router Configuration

ip bgp always-compare-med

When enabled, compares multiexit discriminator (MED) attributes from neighbors in different autonomous systems.

Syntax

- `default ip bgp always-compare-med`
- `ip bgp always-compare-med`
- `no ip bgp always-compare-med`

Default

`The default is enabled.`

Command mode

VRF Router Configuration

ip bgp apply redistribute

Configure a redistribute entry to announce routes of a certain source protocol type into the Border Gateway Protocol (BGP) domain, for example, static, Routing Information Protocol (RIP), or direct routes.

Syntax

- `ip bgp apply redistribute`
- `ip bgp apply redistribute direct`
- `ip bgp apply redistribute direct vrf WORD<1-16>`
- `ip bgp apply redistribute direct vrf-src WORD<1-16>`
- `ip bgp apply redistribute isis`
- `ip bgp apply redistribute isis vrf WORD<1-16>`
- `ip bgp apply redistribute isis vrf-src WORD<1-16>`
- `ip bgp apply redistribute ospf`
- `ip bgp apply redistribute ospf vrf WORD<1-16>`
- `ip bgp apply redistribute ospf vrf-src WORD<1-16>`
- `ip bgp apply redistribute rip`
- `ip bgp apply redistribute rip vrf WORD<1-16>`
- `ip bgp apply redistribute rip vrf-src WORD<1-16>`
- `ip bgp apply redistribute static`
- `ip bgp apply redistribute static vrf WORD<1-16>`
- `ip bgp apply redistribute static vrf-src WORD<1-16>`
- `ip bgp apply redistribute vrf WORD<1-16>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`vrf WORD<1-16>`	Specifies a VRF instance by name.
`vrf-src WORD<1-16>`	Specifies the source VRF instance. This parameter is not required for redistribution within the same VRF.

ip bgp auto-peer-restart enable

Enable the process that automatically restarts a connection to a BGP neighbor.

Syntax

- `default ip bgp auto-peer-restart`
- `default ip bgp auto-peer-restart enable`
- `ip bgp auto-peer-restart enable`
- `no ip bgp auto-peer-restart`
- `no ip bgp auto-peer-restart enable`

Default

`The default is enabled.`

Command mode

VRF Router Configuration

ip bgp auto-summary

Summarize the networks based on class limits after BGP is enabled. (For example, Class A, B, C networks).

Syntax

- `default ip bgp auto-summary`
- `ip bgp auto-summary`
- `no ip bgp auto-summary`

Default

`The default is enabled.`

Command mode

VRF Router Configuration

ip bgp debug-screen

Display debug messages on the console, or saves them in a log file.

Syntax

- `default ip bgp debug-screen`
- `ip bgp debug-screen { off | on }`
- `no ip bgp debug-screen`

Default

`The default is off.`

Command mode

VRF Router Configuration

ip bgp default-information

Enable the advertisement of a default route to peers, if it is present in the routing table.

Syntax

- `default ip bgp default-information originate`
- `ip bgp default-information originate`
- `no ip bgp default-information originate`

Default

`The default is disabled.`

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
`originate`	Enables the origination default route.

ip bgp default local-preference

Specifies the default value of the local preference attribute.

Syntax

- `default ip bgp default local-preference`
- `ip bgp default local-preference <0-2147483647>`
- `no ip bgp default local-preference`

Default

`The default is 0.`

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
`<0-2147483647>`	Specifies the preference value.

ip bgp default-metric

Configure a value that is sent to a BGP neighbor to determine the cost of a route a neighbor is using.

Syntax

- `default ip bgp default-metric`
- `ip bgp default-metric <-1-2147483647>`
- `no ip bgp default-metric`

Default

`The default value is -1.`

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
`<-1-2147483647>`	Specifies the range of the default metric. A default metric value helps solve the problems associated with redistributing routes that have incompatible metrics.

ip bgp deterministic-med enable

Enables deterministic MED. Deterministic MED, when enabled, means that the first AS of the multiple paths must be the same.

Syntax

- `default ip bgp deterministic-med`
- `default ip bgp deterministic-med enable`
- `ip bgp deterministic-med enable`
- `no ip bgp deterministic-med`
- `no ip bgp deterministic-med enable`

Default

`The default is disabled.`

Command mode

VRF Router Configuration

ip bgp enable

Enabled BGP on the VRF.

Syntax

- `default ip bgp enable`
- `ip bgp enable`
- `no ip bgp enable`

Default

`The default is disabled.`

Command mode

VRF Router Configuration

ip bgp flap-dampening

Enable route suppression for routes that flap on and off.

Syntax

- `default ip bgp flap-dampening`
- `default ip bgp flap-dampening enable`
- `ip bgp flap-dampening`
- `ip bgp flap-dampening enable`
- `no ip bgp flap-dampening`
- `no ip bgp flap-dampening enable`

Default

`The default is enabled.`

Command mode

VRF Router Configuration

ip bgp global-debug mask

Display specific debug messages for your global BGP configuration.

Syntax

- `default ip bgp global-debug mask`
- `ip bgp global-debug mask WORD<1-100>`
- `no ip bgp global-debug mask`

Default

None

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
WORD<1-100>	Specifies one or more mask choices that you enter, separated by commas with no space between choices. For example,[<mask>,<mask>,<mask>...]. Options include: none, all, error, packet, event, trace, warning, state, init, filter, update.

ip bgp ibgp-report-import-rt enable

Configure BGP to advertise imported routes to an interior BGP (IBGP) peer. This command enable or disables the advertisement of non-BGP imported routes to other IBGP neighbors.

Syntax

- `default ip bgp ibgp-report-import-rt enable`
- `ip bgp ibgp-report-import-rt enable`
- `no ip bgp ibgp-report-import-rt enable`

Default

`The default is enabled.`

Command mode

VRF Router Configuration

ip bgp ignore-illegal-rtrid enable

Overlook an illegal router id after enabling BGP.

Syntax

- `default ip bgp ignore-illegal-rtrid`
- `default ip bgp ignore-illegal-rtrid enable`
- `ip bgp ignore-illegal-rtrid enable`
- `no ip bgp ignore-illegal-rtrid`
- `no ip bgp ignore-illegal-rtrid enable`

Default

`The default is enabled.`

Command mode

VRF Router Configuration

ip bgp in-route-map

Apply a route policy to all incoming routes.

Syntax

- `default ip bgp in-route-map`
- `ip bgp in-route-map WORD<0-256>`
- `no ip bgp in-route-map WORD<0-256>`

Default

None

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
WORD<0-256>	An alphanumeric string length (0–256 characters) that indicates the name of the route map or policy.

ip bgp multiple-paths <1-8>

Configures the maximum number of equal-cost-paths that are available to a BGP router by limiting the number of equal-cost-paths the routing table can store.

Syntax

- `default ip bgp multiple-paths`
- `ip bgp multiple-paths <1-8>`

Default

`The default is 1.`

Command mode

VRF Router Configuration

ip bgp neighbor

Configure BGP neighbors for a VRF context.

Syntax

- default ip bgp neighbor <nbr_ipaddr|peer-group-name>
- default ip bgp neighbor <nbr_ipaddr|peer-group-name> advertisement-interval
- default ip bgp neighbor <nbr_ipaddr|peer-group-name> allow-as-in
- default ip bgp neighbor <nbr_ipaddr|peer-group-name> as-override
- default ip bgp neighbor <nbr_ipaddr|peer-group-name> default-originate
- default ip bgp neighbor <nbr_ipaddr|peer-group-name> ebgp-multihop
- default ip bgp neighbor <nbr_ipaddr|peer-group-name> enable
- default ip bgp neighbor <nbr_ipaddr|peer-group-name> in-route-map
- default ip bgp neighbor <nbr_ipaddr|peer-group-name> max-prefix
- default ip bgp neighbor <nbr_ipaddr|peer-group-name> MD5-authentication enable
- default ip bgp neighbor <nbr_ipaddr|peer-group-name> neighbor-debug-mask
- default ip bgp neighbor <nbr_ipaddr|peer-group-name> next-hop-self
- default ip bgp neighbor <nbr_ipaddr|peer-group-name> out-route-map
- default ip bgp neighbor <nbr_ipaddr|peer-group-name> remote-as
- default ip bgp neighbor <nbr_ipaddr|peer-group-name> remove-private-as enable
- default ip bgp neighbor <nbr_ipaddr|peer-group-name> retry-interval
- default ip bgp neighbor <nbr_ipaddr|peer-group-name> send-community
- default ip bgp neighbor <nbr_ipaddr|peer-group-name> site-of-origin
- default ip bgp neighbor <nbr_ipaddr|peer-group-name> soft-reconfiguration-in enable
- default ip bgp neighbor <nbr_ipaddr|peer-group-name> timers
- default ip bgp neighbor <nbr_ipaddr|peer-group-name> update-source
- default ip bgp neighbor <nbr_ipaddr|peer-group-name> weight
- ip bgp neighbor <nbr_ipaddr|peer-group-name>

- ip bgp neighbor <nbr_ipaddr|peer-group-name> advertisement-interval <5-120>
- ip bgp neighbor <nbr_ipaddr|peer-group-name> allow-as-in <0-10>
- ip bgp neighbor <nbr_ipaddr|peer-group-name> as-override
- ip bgp neighbor <nbr_ipaddr|peer-group-name> default-originate
- ip bgp neighbor <nbr_ipaddr|peer-group-name> ebgp-multihop
- ip bgp neighbor <nbr_ipaddr|peer-group-name> enable
- ip bgp neighbor <nbr_ipaddr|peer-group-name> in-route-map WORD<0-256>
- ip bgp neighbor <nbr_ipaddr|peer-group-name> max-prefix <0-2147483647>
- ip bgp neighbor <nbr_ipaddr|peer-group-name> MD5-authentication enable
- ip bgp neighbor <nbr_ipaddr|peer-group-name> neighbor-debug-mask WORD<1-100>
- ip bgp neighbor <nbr_ipaddr|peer-group-name> next-hop-self
- ip bgp neighbor <nbr_ipaddr|peer-group-name> out-route-map WORD<0-256>
- ip bgp neighbor <nbr_ipaddr|peer-group-name> peer-group WORD<0-1536>
- ip bgp neighbor <nbr_ipaddr|peer-group-name> remote-as WORD<0-11>
- ip bgp neighbor <nbr_ipaddr|peer-group-name> remove-private-as enable
- ip bgp neighbor <nbr_ipaddr|peer-group-name> retry-interval <1-65535>
- ip bgp neighbor <nbr_ipaddr|peer-group-name> send-community
- ip bgp neighbor <nbr_ipaddr|peer-group-name> site-of-origin <0-65535> <0-2147483647>
- ip bgp neighbor <nbr_ipaddr|peer-group-name> site-of-origin {A.B.C.D} <0-65535>
- ip bgp neighbor <nbr_ipaddr|peer-group-name> soft-reconfiguration-in enable
- ip bgp neighbor <nbr_ipaddr|peer-group-name> timers <0-21845> <0-65535>
- ip bgp neighbor <nbr_ipaddr|peer-group-name> update-source {A.B.C.D}
- ip bgp neighbor <nbr_ipaddr|peer-group-name> weight <0-65535>
- no ip bgp neighbor <nbr_ipaddr|peer-group-name>
- no ip bgp neighbor <nbr_ipaddr|peer-group-name> as-override
- no ip bgp neighbor <nbr_ipaddr|peer-group-name> default-originate
- no ip bgp neighbor <nbr_ipaddr|peer-group-name> ebgp-multihop
- no ip bgp neighbor <nbr_ipaddr|peer-group-name> enable
- no ip bgp neighbor <nbr_ipaddr|peer-group-name> in-route-map
- no ip bgp neighbor <nbr_ipaddr|peer-group-name> MD5-authentication enable
- no ip bgp neighbor <nbr_ipaddr|peer-group-name> neighbor-debug-mask

- `no ip bgp neighbor <nbr_ipaddr|peer-group-name> next-hop-self`
- `no ip bgp neighbor <nbr_ipaddr|peer-group-name> out-route-map`
- `no ip bgp neighbor <nbr_ipaddr|peer-group-name> peer-group`
- `no ip bgp neighbor <nbr_ipaddr|peer-group-name> remove-private-as enable`
- `no ip bgp neighbor <nbr_ipaddr|peer-group-name> send-community`
- `no ip bgp neighbor <nbr_ipaddr|peer-group-name> site-of-origin`
- `no ip bgp neighbor <nbr_ipaddr|peer-group-name> soft-reconfiguration-in enable`
- `no ip bgp neighbor <nbr_ipaddr|peer-group-name> update-source`

Default

None

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
`<nbr_ipaddr|peer-group-name>`	Specifies the neighbor IP address or the neighbor group name.
`advertisement-interval <5-120>`	Specifies the IP Border Gateway Protocol (BGP) route advertisement interval.
`allow-as-in <0-10>`	Specifies the IP Border Gateway Protocol (BGP) neighbor allow-as-in.
`as-override`	Specifies the as-override.
`default-originate`	Specifies the default-originate.
`ebgp-multihop`	Specifies EBGP-multihop.
`enable`	Enables the command.
`in-route-map WORD<0-256>`	Specifies the in-route-map.
`max-prefix <0-2147483647>`	Specifies the max-prefix.
`MD5-authentication enable`	Enables the Message Digest 5 (MD5)-authentication.
`neighbor-debug-mask WORD<1-100>`	Specifies the neighbor-debug-mask.
`next-hop-self`	Specifies the next-hop-self.
`out-route-map WORD<0-256>`	Specifies the out-route-map.
`peer-group WORD<0-1536>`	Specifies the peer group.
`remote-as WORD<0-11>`	Specifies the remote-as.
`remove-private-as enable`	Enables the remote-private-as enable.
`retry-interval <1-65535>`	Specifies the retry-interval.
`send-community`	Specifies the send-community.
`site-of-origin {A.B.C.D} <0-65535>`	Specifies the site-of-origin.
`timers <0-21845> <0-65535>`	Specifies the timers.
`update-source {A.B.C.D}`	Specifies the update-source.

`weight <0-65535>`	Specifies the weight.

ip bgp neighbor password

Specify the password for IP BGP.

Syntax

- `default ip bgp neighbor password <nbr_ipaddr|peer-group-name> WORD<0-1536>`
- `ip bgp neighbor password <nbr_ipaddr|peer-group-name> WORD<0-1536>`
- `no ip bgp neighbor password <nbr_ipaddr|peer-group-name> WORD<0-1536>`

Default

None

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
`<nbr_ipaddr|peer-group-name>`	Specifies the peer IP address or the peer group name.
`password`	Configures the IP BGP neighbor password.
`WORD<0-1536>`	Specifies a password for IP BGP.

ip bgp network

Specify the Interior Gateway Protocol (IGP) network prefixes for Border Gateway Protocol (BGP) to advertise for redistribution.

Syntax

- `default ip bgp network <prefix/len>`
- `ip bgp network <prefix/len>`
- `ip bgp network <prefix/len> metric <0-65535>`
- `no ip bgp network <prefix/len>`

Default

None

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
`<prefix/len>`	Specifies IGP network prefixes for Border Gateway Protocol (BGP) to advertise for redistribution. This command imports routes into BGP. WORD <1-256> is the IPv4 or the IPv6 network address and mask.
`metric <0-65535>`	Corresponds to the multiexit discriminator (MED) BGP attribute for the route.

ip bgp no-med-path-is-worst enable

Enable Border Gateway Protocol (BGP) to treat an update without a multiexit discriminator (MED) attribute as the worst path.

Syntax

- `default ip bgp no-med-path-is-worst`
- `default ip bgp no-med-path-is-worst enable`
- `ip bgp no-med-path-is-worst enable`
- `no ip bgp no-med-path-is-worst`
- `no ip bgp no-med-path-is-worst enable`

Default

`The default value is enable.`

Command mode

VRF Router Configuration

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ip bgp out-route-map WORD<0-256>

Applies a route policy rule to all outgoing routes that are learned from, or sent to, the local peers or peer groups, of the BGP router. The local BGP router is the BGP router that allows or disallows routes, and sets attributes in incoming or outgoing updates.

Syntax

- `default ip bgp out-route-map`
- `ip bgp out-route-map WORD<0-256>`
- `no ip bgp out-route-map WORD<0-256>`

Default

None

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
WORD<0-256>	Specifies the route map or policy name in an alphanumeric string.

ip bgp quick-start enable

Enables the quick-start flag for exponential backoff.

Syntax

- `default ip bgp quick-start`
- `default ip bgp quick-start enable`
- `ip bgp quick-start enable`
- `no ip bgp quick-start`
- `no ip bgp quick-start enable`

Default

`The default value is enable.`

Command mode

VRF Router Configuration

ip bgp redistribute

Configure and enable redistribution entries to allow a protocol to announce routes of a certain source type, for example, static, RIP, or direct.

Syntax

- `default ip bgp redistribute WORD<0-32>`
- `default ip bgp redistribute WORD<0-32> enable`
- `default ip bgp redistribute WORD<0-32> metric`
- `default ip bgp redistribute WORD<0-32> route-map`
- `default ip bgp redistribute WORD<0-32> vrf-src WORD<1-16>`
- `ip bgp redistribute WORD<0-32>`
- `ip bgp redistribute WORD<0-32> enable`
- `ip bgp redistribute WORD<0-32> metric <0-65535>`
- `ip bgp redistribute WORD<0-32> route-map WORD<0-64>`
- `ip bgp redistribute WORD<0-32> vrf-src WORD<1-16>`
- `no ip bgp redistribute WORD<0-32>`
- `no ip bgp redistribute WORD<0-32> enable`
- `no ip bgp redistribute WORD<0-32> route-map`
- `no ip bgp redistribute WORD<0-32> vrf-src WORD<1-16>`

Default

`None`

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
`enable`	Enables the route redistribution instance.
`metric <0-65535>`	Configures the metric to apply to redistributed routes.

route-map WORD<0-64>	Configures the route map to apply to redistributed routes.
vrf-src WORD<1-16>	Specifies the source VRF instance. This parameter is not required for redistribution within the same VRF.
WORD<0-32>	Specifies the type of routes to redistribute-the protocol source.

ip bgp restart-bgp

Restart BGP for a particular peer.

Syntax

- `ip bgp restart-bgp`
- `ip bgp restart-bgp neighbor WORD<0-1536>`
- `ip bgp restart-bgp neighbor WORD<0-1536> soft-reconfiguration {in|out}`
- `ip bgp restart-bgp neighbor WORD<0-1536> vrf WORD<1-16>`
- `ip bgp restart-bgp vrf WORD<1-16>`
- `ip bgp restart-bgp vrf WORD<1-16> soft-reconfiguration {in|out}`

Default

`The default for soft-reconfiguration is: in`

Command mode

User EXEC

Command parameters

Parameter	Description
`soft-configuration {in|out}`	Enables or disables soft-reconfiguration. If peer soft-reconfiguration is enabled in the in-bound direction, the policy can be changed and routes can be re-learned without having to reset the BGP connection. Enabling soft-reconfiguration, using the in parameter, causes the system to store all BGP routes in local memory. Even non-best routes will be stored if soft-configuration in is enabled. Setting the value to out forces the neighbor to send out all the updates to the remote neighbor without resetting the connection.
`vrf WORD<1-16>`	Applies the BGP configuration for a particular VRF.
`WORD<1-1536>`	Specifies the neighbor IP address or the neighbor group name.

ip bgp router-id {A.B.C.D}

Specify the BGP router ID in IP address format.

Syntax

- `default ip bgp router-id`
- `ip bgp router-id {A.B.C.D}`
- `no ip bgp router-id`

Default

None

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
{A.B.C.D}	Identifies the router IP address.

ip bgp stats-clear-counters

Clears the BGP configuration statistics.

Syntax

- `ip bgp stats-clear-counters`
- `ip bgp stats-clear-counters neighbor <nbr_ipaddr|peer-group-name>`
- `ip bgp stats-clear-counters vrf WORD<1-16>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`neighbor <nbr_ipaddress|peer-group-name>`	Clears the BGP configuration statistics for the peer IP address or the peer group name.
`vrf WORD<1-16>`	Clears the statistics for the BGP configuration for a particular VRF.

ip bgp synchronization

Enables the router to accept routes from BGP peers without waiting for an update from the IGP.

Syntax

- `default ip bgp synchronization`
- `ip bgp synchronization`
- `no ip bgp synchronization`

Default

`The default value is enable.`

Command mode

VRF Router Configuration

ip bgp traps enable

Enables BGP traps.

Syntax

- `default ip bgp traps`
- `default ip bgp traps enable`
- `ip bgp traps enable`
- `no ip bgp traps`
- `no ip bgp traps enable`

Default

`The default value is disable.`

Command mode

VRF Router Configuration

ip community-list

Use community lists to specify permitted routes by using their BGP community. This list acts as a filter that Match communities or AS numbers

Syntax

- `ip community-list <1-1024> memberId <0-65535> <permit|deny> community-string WORD<0-256>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`<permit|deny>`	Sets the access mode, which permits or denies access for matching conditions.
`community-list <1-1024>`	Creates the specified community list entry. <1-1024> specifies the list id.
`community-string WORD<0-256>`	Specifies an alphanumeric string value with a string length of 0 to 1536 characters. This string value is either an AS num: community-value or a well-known community string. Well known communities include: internet no-export no-advertise local-as (known as NO_EXPORT_SUBCONFED).
`memberId <0-65535>`	Adds an entry to the community list. <0-65535> is an integer value that represents the member ID in the community list.

ip dhcp-relay (for a port)

Configure Dynamic Host Configuration Protocol (DHCP) Relay on an interface. The command no ip dhcp-relay disables DHCP Relay but does not delete the DHCP entry.

Syntax

- default ip dhcp-relay
- default ip dhcp-relay broadcast
- default ip dhcp-relay circuitId
- default ip dhcp-relay max-hop
- default ip dhcp-relay min-sec
- default ip dhcp-relay mode
- default ip dhcp-relay remoteId
- default ip dhcp-relay trusted
- ip dhcp-relay
- ip dhcp-relay broadcast
- ip dhcp-relay circuitId
- ip dhcp-relay max-hop <1-16>
- ip dhcp-relay min-sec <0-65535>
- ip dhcp-relay mode { bootp | dhcp | bootp_dhcp }
- ip dhcp-relay remoteId
- ip dhcp-relay trusted
- no ip dhcp-relay
- no ip dhcp-relay broadcast
- no ip dhcp-relay circuitId
- no ip dhcp-relay remoteId
- no ip dhcp-relay trusted

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
broadcast	Enables the device to send the server reply as a broadcast to the end station. After you disable this variable, the device sends the server reply as a unicast to the end station.
circuitId	Enables the device to insert the Option 82 Circuit ID into the packets sent to the server (enables DHCP Option 82). The default is disabled.
max-hop <1-16>	Configures the maximum number of hops before a BootP/DHCP packet is discarded (1-16). The default is 4.
min-sec <0-65535>	Configures the minimum seconds count for Dynamic Host Configuration Protocol (DHCP). If the secs field in the BootP/DHCP packet header is greater than this value, the device relays or forwards the packet; otherwise, the packet is dropped (0- 65535). The default is 0 seconds.
mode <bootp|dhcp|bootp_dhcp>	Configures DHCP mode to forward BootP messages only, Dynamic Host Configuration Protocol (DHCP) messages only, or both. The default is both.
remoteId	Enables the device to insert the Option 82 Remote ID into the packets sent to the server (enables DHCP Option 82). The default is disabled.
trusted	Configures the circuit as trusted in an Option 82 context.

ip dhcp-relay (for a VLAN)

Configure Dynamic Host Configuration Protocol (DHCP) Relay on an interface. The command no ip dhcp-relay disables DHCP Relay but does not delete the DHCP entry.

Syntax

- default ip dhcp-relay broadcast
- default ip dhcp-relay circuitId
- default ip dhcp-relay fwd-path {A.B.C.D}
- default ip dhcp-relay fwd-path {A.B.C.D} mode
- default ip dhcp-relay fwd-path {A.B.C.D} vrid <1-255>
- default ip dhcp-relay max-hop
- default ip dhcp-relay min-sec
- default ip dhcp-relay mode
- default ip dhcp-relay remoteId
- default ip dhcp-relay trusted
- ip dhcp-relay broadcast
- ip dhcp-relay circuitId
- ip dhcp-relay fwd-path {A.B.C.D}
- ip dhcp-relay fwd-path {A.B.C.D} disable
- ip dhcp-relay fwd-path {A.B.C.D} enable
- ip dhcp-relay fwd-path {A.B.C.D} mode bootp
- ip dhcp-relay fwd-path {A.B.C.D} mode bootp_dhcp
- ip dhcp-relay fwd-path {A.B.C.D} mode dhcp
- ip dhcp-relay fwd-path {A.B.C.D} vrid <1-255>
- ip dhcp-relay max-hop <1-16>
- ip dhcp-relay min-sec <0-65535>
- ip dhcp-relay mode { bootp | dhcp | bootp_dhcp }

- `ip dhcp-relay remoteId`
- `ip dhcp-relay trusted`
- `no ip dhcp-relay`
- `no ip dhcp-relay broadcast`
- `no ip dhcp-relay circuitId`
- `no ip dhcp-relay fwd-path {A.B.C.D}`
- `no ip dhcp-relay fwd-path {A.B.C.D} vrid <1-255>`
- `no ip dhcp-relay remoteId`
- `no ip dhcp-relay trusted`

Default

None

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
{A.B.C.D}	Creates a forwarding path to the DHCP server with a mode and a state. A.B.C.D is the IP address of the server. The default IP address of the relay is the address of the interface. Tip: If the relay is a Virtual Router configured on this interface, you must set the vrid.
broadcast	Enables the device to send the server reply as a broadcast to the end station. After you disable this variable, the device sends the server reply as a unicast to the end station.
circuitId	Enables the device to insert the Option 82 Circuit ID into the packets sent to the server (enables DHCP Option 82).
max-hop <1-16>	Configures the maximum number of hops before a BootP/DHCP packet is discarded (1-16). The default is 4.
min-sec <0-65535>	Configures the minimum seconds count for DHCP. If the secs field in the BootP/DHCP packet header is greater than this value, the device relays or forwards the packet; otherwise, the packet is dropped (0-65535). The default is 0 seconds.
mode <bootp|dhcp|bootp_dhcp>	Configures DHCP mode to forward BootP messages only, DHCP messages only, or both. The default is both.
remoteId	Enables the device to insert the Option 82 Remote ID into the packets sent to the server (enables DHCP Option 82).
trusted	Configures the circuit as trusted in an Option 82 context.

ip dhcp-relay fwd-path

Create the forwarding path from the client to the server.

Syntax

- `ip dhcp-relay fwd-path {A.B.C.D} {A.B.C.D}`
- `ip dhcp-relay fwd-path <A.B.C.D> <A.B.C.D>`
- `no ip dhcp-relay fwd-path <A.B.C.D> <A.B.C.D>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
fwd-path <A.B.C.D> <A.B.C.D>	Configures the forwarding path from the client to the server. A.B.C.D is the IP address configured on an interface (a locally configured IP address) to forward or relay BootP or Dynamic Host Configuration Protocol (DHCP). The relay can also be a VRRP address. A.B.C.D is the IP address of the DHCP server in the network. If this IP address corresponds to the locally configured IP network, the DHCP packet is broadcast out from the interface.

ip dhcp-relay fwd-path enable

Enable the forwarding path from the client to the server.

Syntax

- `default ip dhcp-relay fwd-path {A.B.C.D} {A.B.C.D}`
- `default ip dhcp-relay fwd-path {A.B.C.D} {A.B.C.D} mode`
- `ip dhcp-relay fwd-path {A.B.C.D} {A.B.C.D} disable`
- `ip dhcp-relay fwd-path {A.B.C.D} {A.B.C.D} enable`
- `no ip dhcp-relay fwd-path {A.B.C.D} {A.B.C.D} enable`

Default

`The ip dhcp-relay fwd-path default state is disabled.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`disable`	Disables Dynamic Host Configuration Protocol (DHCP) relaying on the path from the IP address to the server.
`disable`	Disables Dynamic Host Configuration Protocol (DHCP) relaying on the path from the IP address to the server.
`fwd-path <A.B.C.D> <A.B.C.D> enable`	Enables Dynamic Host Configuration Protocol (DHCP) relaying on the path from the IP address to the server. A.B.C.D is the IP address configured on an interface (a locally configured IP address). A.B.C.D is the IP address of the DHCP server in the network. If this IP address corresponds to the locally configured IP network, the DHCP packet is broadcast out from the interface.
`fwd-path <A.B.C.D> <A.B.C.D> enable`	Enables Dynamic Host Configuration Protocol (DHCP) relaying on the path from the IP address to the server. A.B.C.D is the IP address configured on an interface (a locally configured IP address). A.B.C.D is the IP address of the DHCP server in the network. If this IP address corresponds to the locally configured IP network, the DHCP packet is broadcast out from the interface.

ip dhcp-relay fwd-path (for a port)

Create the forwarding path from the client to the server.

Syntax

- `default ip dhcp-relay fwd-path {A.B.C.D}`
- `default ip dhcp-relay fwd-path {A.B.C.D} vrid <1-255>`
- `ip dhcp-relay fwd-path {A.B.C.D}`
- `ip dhcp-relay fwd-path {A.B.C.D} disable`
- `ip dhcp-relay fwd-path {A.B.C.D} enable`
- `ip dhcp-relay fwd-path {A.B.C.D} vrid <1-255>`
- `no ip dhcp-relay fwd-path {A.B.C.D}`
- `no ip dhcp-relay fwd-path {A.B.C.D} vrid <1-255>`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
{A.B.C.D}	Creates a forwarding path to the Dynamic Host Configuration Protocol (DHCP) server. A.B.C.D is the IP address of the server. The default IP address of the relay is the address of the interface. Tip: If the relay is a virtual router configured on this interface, you must set the vrid.
disable	Disables the forwarding path.
enable	Enables the forwarding path.
vrid <1-255>	Specifies the virtual router ID. The virtual router acts as the default router for one or more associated addresses.

ip dhcp-relay fwd-path (for a VRF)

Create the forwarding path from the client to the server.

Syntax

- `default ip dhcp-relay fwd-path {A.B.C.D} {A.B.C.D}`
- `default ip dhcp-relay fwd-path {A.B.C.D} {A.B.C.D} mode`
- `ip dhcp-relay fwd-path {A.B.C.D} {A.B.C.D}`
- `ip dhcp-relay fwd-path {A.B.C.D} {A.B.C.D} disable`
- `ip dhcp-relay fwd-path {A.B.C.D} {A.B.C.D} enable`
- `ip dhcp-relay fwd-path {A.B.C.D} {A.B.C.D} mode bootp`
- `ip dhcp-relay fwd-path {A.B.C.D} {A.B.C.D} mode bootp_dhcp`
- `ip dhcp-relay fwd-path {A.B.C.D} {A.B.C.D} mode dhcp`
- `no ip dhcp-relay fwd-path {A.B.C.D} {A.B.C.D}`

Default

None

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
{A.B.C.D}	Creates a forwarding path to the Dynamic Host Configuration Protocol (DHCP) server. A.B.C.D is the IP address of the server. The default IP address of the relay is the address of the interface. Tip: If the relay is a virtual router configured on this interface, you must set the vrid.
disable	Disables the forwarding path.
enable	Enables the forwarding path.
mode <bootp|dhcp|bootp_dhcp>	Configures DHCP mode to forward BootP messages only, Dynamic Host Configuration Protocol (DHCP) messages only, or both. The default is both.

ip dhcp-relay fwd-path mode

Modify Dynamic Host Configuration Protocol (DHCP) mode to forward BootP messages only, DHCP messages only, or both.

Syntax

- `ip dhcp-relay fwd-path {A.B.C.D} {A.B.C.D} mode bootp`
- `ip dhcp-relay fwd-path {A.B.C.D} {A.B.C.D} mode bootp_dhcp`
- `ip dhcp-relay fwd-path {A.B.C.D} {A.B.C.D} mode dhcp`

Default

`The default mode is both.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`fwd-path <A.B.C.D> <A.B.C.D> mode <bootp|bootp-dhcp|dhcp>`	Modifies Dynamic Host Configuration Protocol (DHCP) mode to forward BootP messages only, DHCP messages only, or both. The default is both. mode is {bootp | bootp_dhcp | dhcp}.
`fwd-path <A.B.C.D> <A.B.C.D> mode <bootp|bootp-dhcp|dhcp>`	Modifies Dynamic Host Configuration Protocol (DHCP) mode to forward BootP messages only, DHCP messages only, or both. The default is both. mode is {bootp | bootp_dhcp | dhcp}.

ip dhcp-relay fwd-path mode (for a port)

Modify Dynamic Host Configuration Protocol (DHCP) mode to forward BootP messages only, DHCP messages only, or both.

Syntax

- `default ip dhcp-relay fwd-path {A.B.C.D} mode`
- `ip dhcp-relay fwd-path {A.B.C.D} mode bootp`
- `ip dhcp-relay fwd-path {A.B.C.D} mode bootp_dhcp`
- `ip dhcp-relay fwd-path {A.B.C.D} mode dhcp`

Default

`The default mode is both.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`mode <bootp|dhcp|bootp_dhcp>`	Configures DHCP mode to forward BootP messages only, Dynamic Host Configuration Protocol (DHCP) messages only, or both. The default is both.

ip directed-broadcast (for a port)

Configure the device to forward directed broadcasts for a VLAN.

Syntax

- `default ip directed-broadcast enable`
- `ip directed-broadcast`
- `ip directed-broadcast enable`
- `no ip directed-broadcast`
- `no ip directed-broadcast enable`

Default

`The default is enabled.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`enable`	Allows the device to forward directed broadcast frames to the specified VLAN. The default setting for this feature is enabled.

ip directed-broadcast (for a VLAN)

Configure the device to forward directed broadcasts for a VLAN.

Syntax

- `default ip directed-broadcast`
- `default ip directed-broadcast enable`
- `ip directed-broadcast`
- `ip directed-broadcast enable`
- `no ip directed-broadcast`
- `no ip directed-broadcast enable`

Default

`The default is enabled.`

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`enable`	Allows the device to forward directed broadcast frames to the specified VLAN. The default setting for this feature is enabled.

ip domain-name

Configure the Domain Name Service (DNS) to establish the mapping between a name and an IP address.

Syntax

- `default ip domain-name`
- `ip domain-name WORD<0-255>`
- `no ip domain-name`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
WORD<0-255>	Configures the default domain name.

ip ecmp

Enable Equal Cost Multipath protocol (ECMP). If the ECMP parameter is disabled, all existing ECMP routes are removed. When ECMP is enabled, all ECMP routes are re-added.

Syntax

- `default ip ecmp`
- `default ip ecmp`
- `default ip ecmp max-path`
- `default ip ecmp max-path`
- `ip ecmp`
- `ip ecmp max-path <1-8>`
- `ip ecmp pathlist-1 WORD<0-64>`
- `ip ecmp pathlist-2 WORD<0-64>`
- `ip ecmp pathlist-3 WORD<0-64>`
- `ip ecmp pathlist-4 WORD<0-64>`
- `ip ecmp pathlist-5 WORD<0-64>`
- `ip ecmp pathlist-6 WORD<0-64>`
- `ip ecmp pathlist-7 WORD<0-64>`
- `ip ecmp pathlist-8 WORD<0-64>`
- `no ip ecmp`
- `no ip ecmp pathlist-1`
- `no ip ecmp pathlist-2`
- `no ip ecmp pathlist-3`
- `no ip ecmp pathlist-4`
- `no ip ecmp pathlist-5`
- `no ip ecmp pathlist-6`
- `no ip ecmp pathlist-7`

- `no ip ecmp pathlist-8`

Default

`The default is disabled.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`max-path <1-8>`	Configures the maximum number of Equal Cost Multipath (ECMP) paths.
`pathlist-1 WORD<0-64>`	Configures one equal-cost path to the same destination prefix. To remove the policy, enter a blank string. To configure this parameter, you must globally enable Equal Cost Multipath (ECMP).
`pathlist-2 WORD<0-64>`	Configures up to two equal-cost paths to the same destination prefix. To remove the policy, enter a blank string. To configure this parameter, you must globally enable Equal Cost Multipath (ECMP).
`pathlist-3 WORD<0-64>`	Configures up to three equal-cost paths to the same destination prefix. To remove the policy, enter a blank string. To configure this parameter, you must globally enable Equal Cost Multipath (ECMP).
`pathlist-4 WORD<0-64>`	Configures up to four equal-cost paths to the same destination prefix. To remove the policy, enter a blank string. To configure this parameter, you must globally enable Equal Cost Multipath (ECMP).
`pathlist-5 WORD<0-64>`	Configures up to five equal-cost paths to the same destination prefix. To remove the policy, enter a blank string. To configure this parameter, you must globally enable Equal Cost Multipath (ECMP).
`pathlist-6 WORD<0-64>`	Configures up to six equal-cost paths to the same destination prefix. To remove the policy, enter a blank string. To configure this parameter, you must globally enable Equal Cost Multipath (ECMP).
`pathlist-7 WORD<0-64>`	Configures up to seven equal-cost paths to the same destination prefix. To remove the policy, enter a blank string. To configure this parameter, you must globally enable Equal Cost Multipath (ECMP).
`pathlist-8 WORD<0-64>`	Configures up to eight equal-cost paths to the same destination prefix. To remove the policy, enter a blank string. To configure this parameter, you must globally enable Equal Cost Multipath (ECMP).

Version 05.01 June 2015

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ip ecmp path-list apply

Apply changes to all Equal Cost Multipath (ECMP) path-list configurations.

Syntax

- `ip ecmp pathlist-apply`
- `ip ecmp pathlist-apply vrf WORD<0-16>`

Default

None

Command mode

User EXEC

ip forward-protocol udp

Configure UDP protocols to determine which UDP broadcasts are forwarded

Syntax

- `default ip forward-protocol udp`
- `default ip forward-protocol udp <1-65535>`
- `default ip forward-protocol udp <1-65535>`
- `ip forward-protocol udp <1-65535> WORD<1-15>`
- `no ip forward-protocol udp <1-65535>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
[vrf WORD<0-32>]	The name of the VRF.
[vrfids <0-255>]	The ID of the VRF. The value is an integer between 0 and 255.
<1-65535> WORD/1-15 <1-15>	Creates a new UDP protocol. <1-65535>WORD <1-15>is the UDP protocol name as a string.
<1-65535> WORD/1-15 <1-15>	Creates a new UDP protocol. <1-65535>WORD <1-15>is the UDP protocol name as a string.

ip forward-protocol udp broadcastmask

Configure the broadcast mask on the IP forwarding list.

Syntax

- `default ip forward-protocol udp broadcastmask`
- `default ip forward-protocol udp broadcastmask {A.B.C.D}`
- `ip forward-protocol udp broadcastmask {A.B.C.D}`
- `ip forward-protocol udp vlan <1-4059> broadcastmask {A.B.C.D}`
- `no ip forward-protocol udp broadcastmask`
- `no ip forward-protocol udp broadcastmask {A.B.C.D}`

Default

None

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
<A.B.C.D>	Sets the interface broadcast mask (the interface broadcast mask can be different from the interface mask). A.B.C.D is an IP address in a.b.c.d format.

ip forward-protocol udp maxttl

Set the maximum time to live.

Syntax

- `default ip forward-protocol udp maxttl`
- `default ip forward-protocol udp maxttl <1-16>`
- `ip forward-protocol udp maxttl <1-16>`
- `ip forward-protocol udp vlan <1-4059> maxttl <1-16>`

Default

None

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`maxttl <1-16>`	Sets the maximum time-to-live value (TTL) for the UDP broadcast forwarded by the interface. The range is 1 to 16.

ip forward-protocol udp (on a VLAN)

Configure UDP protocols to determine which UDP broadcasts are forwarded

Syntax

- `default ip forward-protocol udp`
- `default ip forward-protocol udp vlan <1-4059>`
- `no ip forward-protocol udp`
- `no ip forward-protocol udp vlan <1-4059>`

Default

None

Command mode

VLAN Interface Configuration

ip forward-protocol udp portfwd

Configure a UDP port forward entry to add or remove a port forward entry.

Syntax

- `default ip forward-protocol udp portfwd <1-65535> {A.B.C.D}`
- `ip forward-protocol udp portfwd <1-65535> {A.B.C.D}`
- `no ip forward-protocol udp portfwd <1-65535> {A.B.C.D}`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
[vrf WORD<0-32>]	Specifies the name of the VRF.
[vrfids <0-255>]	Specifies the ID of VRF and is an integer between 0 and 255.
<1-65535> <A.B.C.D>	Adds a UDP protocol port to the specified port forwarding list. 1-65535 is a UDP protocol port in the range of 1 to 65535. A.B.C.D is an IP address in a.b.c.d format.
<1-65535> <A.B.C.D>	Adds a UDP protocol port to the specified port forwarding list. 1-65535 is a UDP protocol port in the range of 1 to 65535. A.B.C.D is an IP address in a.b.c.d format.

ip forward-protocol udp portfwdlist

Configure the UDP port forwarding list.

Syntax

- `default ip forward-protocol udp portfwdlist <1-1000>`
- `default ip forward-protocol udp portfwdlist <1-1000> <1-65535> {A.B.C.D}`
- `ip forward-protocol udp portfwdlist <1-1000>`
- `ip forward-protocol udp portfwdlist <1-1000> <1-65535> {A.B.C.D}`
- `ip forward-protocol udp portfwdlist <1-1000> name WORD<0-15>`
- `no ip forward-protocol udp portfwdlist <1-1000>`
- `no ip forward-protocol udp portfwdlist <1-1000> <1-65535> {A.B.C.D}`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<1-1000>	Creates a UDP port forwarding list in the range of 1 to 1000.
<1-1000>	Creates a UDP port forwarding list in the range of 1 to 1000.

ip forward-protocol udp portfwdlist (on a VLAN)

Configure the UDP port forwarding list.

Syntax

- `ip forward-protocol udp portfwdlist <1-1000>`
- `ip forward-protocol udp vlan <1-4059> portfwdlist <1-1000>`
- `no ip forward-protocol udp portfwdlist`
- `no ip forward-protocol udp portfwdlist <1-1000>`

Default

None

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
<1-1000>	Creates a UDP port forwarding list in the range of 1 to 1000.

ip gratuitous-arp

Enable Gratuitous Address Resolution Protocol (ARP) on a global level. When Gratuitous ARP is enabled, the switch allows all Gratuitous ARP requests. If you disable Gratuitous ARP, the switch only allows Gratuitous ARP packets associated with Routed Split Multi-Link Trunking (RSMLT) or Virtual Router Redundancy Protocol (VRRP), and the switch discards all other Gratuitous ARP request packets.

Syntax

- `default ip gratuitous-arp`
- `ip gratuitous-arp`
- `no ip gratuitous-arp`

Default

`The default is enabled.`

Command mode

Global Configuration

ip icmp

Enable Internet Control Message Protocol (ICMP) redirect and unreachable messages.

Syntax

- `default ip icmp`
- `default ip icmp`
- `default ip icmp redirect`
- `default ip icmp redirect`
- `default ip icmp unreachable`
- `default ip icmp unreachable`
- `ip icmp redirect`
- `ip icmp unreachable`
- `no ip icmp`
- `no ip icmp redirect`
- `no ip icmp unreachable`

Default

`The default is disabled.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`redirect`	Enables the switch to send Internet Control Message Protocol (ICMP) destination redirect messages.
`unreachable`	Enables the switch to send Internet Control Message Protocol (ICMP) unreachable messages. When enabled, generates Internet Control Message Protocol (ICMP) network unreachable messages if the destination network is not reachable from this router. These messages help determine if the routing switch is reachable over the network. The default is disabled.

ip igmp access-list (for a port)

Configure multicast access control for a Internet Group Management Protocol (IGMP) Ethernet port to restrict access to certain multicast streams and to protect multicast streams from spoofing (injecting data to the existing streams).

Syntax

- `default ip igmp access-list WORD<1-64> {A.B.C.D/X}`
- `ip igmp access-list WORD<1-64> {A.B.C.D/X} {mode| deny-tx | deny-rx | deny-both | allow-only-tx | allow-only-rx | allow-only-both }`
- `no ip igmp access-list WORD<1-64> {A.B.C.D/X}`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
{A.B.C.D/X}	Creates an access control group entry for a specific Internet Group Management Protocol (IGMP) interface. Specifies the IP address of the host and the subnet mask used to determine the host or hosts covered by this configuration. You can use the host subnet mask to restrict access to a portion of the network for the host.
mode|deny-tx|deny-rx|deny-both|allow-only-tx|allow-only-rx|allow-only-both	Indicates the action for the specified Internet Group Management Protocol (IGMP) interface. For example, if you specify deny-both, the interface denies both transmitted and received traffic
WORD<1-64>	Specifies the name of the access list from 1-64 characters.

ip igmp flush port

Use this command to flush Internet Group Management Protocol (IGMP) group members on a port.

Syntax

- `ip igmp flush port {slot/port [-slot/port] [,...]} grp-member`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`{slot/port [-slot/port] [,...]}`	Specifies the port list.
`grp-member`	Specifies a group member.

ip igmp flush vlan

Use this command to flush Internet Group Management Protocol (IGMP) group members, the multicast router and senders.

Syntax

- `ip igmp flush vlan <1-4059>`
- `ip igmp flush vlan <1-4059> grp-member`
- `ip igmp flush vlan <1-4059> mrouter`
- `ip igmp flush vlan <1-4059> sender`
- `ip igmp flush vlan <1-4059> sender {A.B.C.D}`
- `ip igmp flush vlan <1-4059>sender {A.B.C.D} {A.B.C.D}`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
<1-4059>	Specifies the VLAN ID.
grp-member	Specifies a group member.
mrouter	Specifies a multicast router.
sender {A.B.C.D}	Specifies a sender. The first IP address specifies the source IP address of the sender.
sender {A.B.C.D} {A.B.C.D}	Specifies a sender. The first IP address specifies the source IP address of the sender. The second IP address specifies the group IP address of the sender.

ip igmp (for an port)

Configure Internet Group Management Protocol (IGMP) for each interface to change default multicasting operations.

Syntax

- default ip igmp
- default ip igmp compatibility-mode
- default ip igmp dynamic-downgrade-version
- default ip igmp igmpv3-explicit-host-tracking
- default ip igmp immediate-leave
- default ip igmp last-member-query-interval
- default ip igmp port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- default ip igmp query-interval
- default ip igmp query-max-response
- default ip igmp robust-value
- default ip igmp router-alert
- default ip igmp stream-limit stream-limit-max-streams
- default ip igmp version
- ip igmp compatibility-mode
- ip igmp dynamic-downgrade-version
- ip igmp last-member-query-interval <0-255>
- ip igmp port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- ip igmp query-interval <1-65535>
- ip igmp query-max-response <0-255>
- ip igmp robust-value <2-255>
- ip igmp router-alert
- ip igmp version <1-3>
- no ip igmp

- `no ip igmp compatibility-mode`
- `no ip igmp dynamic-downgrade-version`
- `no ip igmp igmpv3-explicit-host-tracking`
- `no ip igmp immediate-leave`
- `no ip igmp port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `no ip igmp router-alert`
- `no ip igmp stream-limit`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`compatibility-mode`	Activates v2-v3 compatibility mode. The default value is disabled, which means IGMPv3 is not compatible with IGMPv2.
`dynamic-downgrade-version`	Configures if the system downgrades the version of Internet Group Management Protocol (IGMP) to handle older query messages. If the system downgrades, the host with IGMPv3 only capability does not work. If you do not configure the system to downgrade the version of IGMP, the system logs a warning. The default is enabled.
`igmpv3-explicit-host-tracking`	Enable igmpv3 explicit host tracking.
`immediate-leave`	Enable Immediate-leave.
`last-member-query-interval <0-255>`	Configures the maximum response time (in tenths of a second) inserted into group-specific queries sent in response to leave group messages. This value is also the time between group-specific query messages. You cannot configure this value for IGMPv1. Decreasing the value reduces the time to detect the loss of the last member of a group. Avaya recommends that you configure this value between 3-10 (equal to 0.3 - 1.0 seconds). The default is 10 tenths of a second.
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port in one of the following formats: a single slot and port, a range of slots and ports, or a series of slots and ports.
`query-interval <1-65535>`	Configures the frequency (in seconds) at which the VLAN transmits host query packets. The default is 125 seconds.
`query-max-response <0-255>`	Configures the maximum response time (in tenths of a second) advertised in IGMPv2 general queries on this interface. You cannot configure this value for IGMPv1. Smaller values allow a router to prune groups faster. Important: You must configure this value lower than the query-interval. The default is 100

	tenths of a second (equal to 10 seconds).
robust-value <2-255>	Configures the expected packet loss of a network. Increase the value if you expect the network to experience packet loss. The default is 2 seconds.
router-alert	Instructs the router to ignore Internet Group Management Protocol (IGMP) packets that do not contain the router alert IP option. When disabled (default configuration), the router processes IGMP packets regardless of the status of the router alert IP option. Important To maximize network performance, Avaya recommends that you configure this parameter according to the version of IGMP currently in use: IGMPv1-Disable IGMPv2-Enable IGMPv3-Enable. The default is disabled.
stream-limit	Enable stream-limit.
stream-limit stream-limit-max-streams <0-65535>	Set the maximum number of streams allowed on an interface.
version <1-3>	Configures the version of IGMP that you want to configure on this interface. For IGMP to function correctly, all routers on a LAN must use the same version. The default is 2 (IGMPv2).

ip igmp (for a VLAN)

Configure Internet Group Management Protocol (IGMP) for each interface to change default multicasting operations.

Syntax

- `default ip igmp compatibility-mode`
- `default ip igmp dynamic-downgrade-version`
- `default ip igmp igap`
- `default ip igmp igmpv3-explicit-host-tracking`
- `default ip igmp immediate-leave`
- `default ip igmp immediate-leave-members`
- `default ip igmp last-member-query-interval`
- `default ip igmp mrdisc`
- `default ip igmp mrouter`
- `default ip igmp proxy`
- `default ip igmp query-interval`
- `default ip igmp query-max-response`
- `default ip igmp robust-value`
- `default ip igmp router-alert`
- `default ip igmp snooping`
- `default ip igmp ssm-snoop`
- `default ip igmp static-group`
- `default ip igmp stream-limit`
- `default ip igmp stream-limit-group`
- `default ip igmp version`
- `ip igmp compatibility-mode`
- `ip igmp dynamic-downgrade-version`
- `ip igmp igmpv3-explicit-host-tracking`

- ip igmp immediate-leave
- ip igmp immediate-leave-members {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- ip igmp last-member-query-interval <0-255>
- ip igmp mrdisc
- ip igmp mrdisc maxadvertinterval <2-180>
- ip igmp mrdisc maxinitadvertinterval <2-180>
- ip igmp mrdisc maxinitadvertisements <2-15>
- ip igmp mrdisc minadvertinterval <3-180>
- ip igmp mrdisc neighdeadinterval <2-180>
- ip igmp mrouter {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- ip igmp proxy
- ip igmp query-interval <1-65535>
- ip igmp query-max-response <0-255>
- ip igmp robust-value <2-255>
- ip igmp router-alert
- ip igmp snooping
- ip igmp snoop-querier
- ip igmp snoop-querier-addr {A.B.C.D}
- ip igmp ssm-snoop
- ip igmp static-group {A.B.C.D} {A.B.C.D} {slot/port[/sub-port][-slot/port[/sub-port]][,...]} { static | blocked }
- ip igmp static-group {A.B.C.D} {A.B.C.D} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} { static | blocked }
- ip igmp static-group {A.B.C.D} {slot/port[/sub-port][-slot/port[/sub-port]][,...]} { static | blocked }
- ip igmp static-group {A.B.C.D} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} { static | blocked }
- ip igmp stream-limit
- ip igmp stream-limit stream-limit-max-streams <0-65535>
- ip igmp stream-limit-group {slot/port[/sub-port][-slot/port[/sub-port]][,...]} enable max-streams <0-65535>
- ip igmp stream-limit-group {slot/port[/sub-port][-slot/port[/sub-port]][,...]} max-streams <0-65535>
- ip igmp version <1-3>

- `no ip igmp stream-limit-group`
- `no ip igmp compatibility-mode`
- `no ip igmp dynamic-downgrade-version`
- `no ip igmp igap`
- `no ip igmp igmpv3-explicit-host-tracking`
- `no ip igmp immediate-leave`
- `no ip igmp immediate-leave-members`
- `no ip igmp mrdisc`
- `no ip igmp mrouter {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `no ip igmp proxy`
- `no ip igmp router-alert`
- `no ip igmp snooping`
- `no ip igmp snoop-querier`
- `no ip igmp snoop-querier-addr`
- `no ip igmp ssm-snoop`
- `no ip igmp static-group`
- `no ip igmp stream-limit`

Default

None

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`compatibility-mode`	Activates v2-v3 compatibility mode. The default value is disabled, which means IGMPv3 is not compatible with IGMPv1 or IGMPv2.
`dynamic-downgrade-version`	Configures if the system downgrades the version of Internet Group Management Protocol (IGMP) to handle older query messages. If the system downgrades, the host with IGMPv3 only capability does not work. If you do not configure the system to downgrade the version of IGMP, the system logs a warning. The default is enabled.
`igmpv3-explicit-host-tracking`	Enable igmpv3 explicit host tracking.
`immediate-leave`	Enable immediate leave.
`immediate-leave-members`	Enable fast leave members.

last-member-query-interval <0-255>	Configures the maximum response time (in tenths of a second) inserted into group-specific queries sent in response to leave group messages. This value is also the time between group-specific query messages. You cannot configure this value for IGMPv1. Decreasing the value reduces the time to detect the loss of the last member of a group. Avaya recommends that you configure this value between 3-10 (equal to 0.3 - 1.0 seconds). The default is 10 tenths of a second.
mrdisc	Multicast router discovery parameters.
mrouter {slot/port[/sub-port][-slot/port[/sub-port]][,...]}	Adds multicast router ports. {slot/port[/sub-port][-slot/port[/sub-port]][,...]} identifies the slot and port in one of the following formats: a single slot and port (3/1), a range of slots and ports (3/2-3/4), or a series of slots and ports (3/2,5/3,6/2).
proxy	Activates the proxy-snoop option globally for the VLAN. The default is disabled.
query-interval <1-65535>	Configures the frequency (in seconds) at which the VLAN transmits host query packets. The default is 125 seconds.
query-max-response <0-255>	Configures the maximum response time (in tenths of a second) advertised in IGMPv2 general queries on this interface. You cannot configure this value for IGMPv1. Smaller values allow a router to prune groups faster. Important: You must configure this value lower than the query-interval.
robust-value <2-255>	Configures the expected packet loss of a network. Increase the value if you expect the network to experience packet loss. The default is 2 seconds.
router-alert	Instructs the router to ignore Internet Group Management Protocol (IGMP) packets that do not contain the router alert IP option. When disabled (default configuration), the router processes IGMP packets regardless of the status of the router alert IP option. Important: To maximize network performance, Avaya recommends that you configure this parameter according to the version of IGMP currently in use: IGMPv1-Disable IGMPv2-Enable IGMPv3-Enable. The default is disabled.
snooping	Activates the snoop option for the VLAN. The default is disabled.
snoop-querier	Enable Igmp L2 querier.
snoop-querier-addr	Igmp L2 querier address.
ssm-snoop	Activates support for PIM-SSM on the snoop interface. The default is disabled.
static-group	Ip multicast static parameters.
stream-limit	Enable/set stream-limit features.
stream-limit-group	Enable/set stream-limit members features.
version <1-3>	Configures the version of IGMP that you want to configure on this interface. For IGMP to function correctly, all routers on a LAN must use the same version. The default is 2 (IGMPv2).

ip igmp (for a VRF)

Configure Internet Group Management Protocol (IGMP) for each interface to change default multicasting operations.

Syntax

- `default ip igmp ssm-map {A.B.C.D} {A.B.C.D}`
- `default ip igmp ssm-map {A.B.C.D} {A.B.C.D} [enable]`
- `ip igmp generate-log`
- `ip igmp generate-trap`
- `ip igmp immediate-leave-mode <multiple-user|one-user>`
- `ip igmp ssm [dynamic-learning] [group-range {A.B.C.D/X}]`
- `ip igmp ssm-map {A.B.C.D} {A.B.C.D} [enable]`
- `ip igmp ssm-map all`
- `no ip igmp ssm-map {A.B.C.D} {A.B.C.D}`
- `no ip igmp ssm-map {A.B.C.D} {A.B.C.D} [enable]`

Default

None

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
generate-log	Sets the Internet Group Management Protocol (IGMP) log.
generate-trap	Sets the Internet Group Management Protocol (IGMP) trap.
immediate-leave-mode <multiple-user|one-user	Enables immediate leave mode to users which is either a single user or multiple users.
ssm [dynamic-learning] [group-range {A.B.C.D/X}]	Enables and sets the Source Specific Multicast (SSM) features. The parameter, dynamic-learning enables SSM dynamic learning. The parameter, group range {A.B.C.D/X} configures the range group address and mask. The SSM range parameter extends the default SSM range of 232/8 to include an IP multicast address. You can configure existing applications without having to change their group configurations. This

	parameter specifies an IP multicast address within the range of 224.0.0.0 and 239.255.255.255. The default is 232.0.0.0. The address mask is the IP address mask of the multicast group. The default is 255.0.0.0.
`ssm-map all`	Enables the Source Specific Multicast (SSM) map table for all static entries.
`ssm-map{A.B.C.D} {A.B.C.D}[enable]`	Enables the Source Specific Multicast (SSM) map table for a specific entry or creates a static entry for a specific group. The parameter, {A.B.C.D} {A.B.C.D} creates a static SSM channel table entry by specifying the group and source IP addresses. The first IP address is an IP multicast address within the SSM range. The second IP address is the source IP address and it it is an IP host address that sends traffic to the group. The default for {A.B.C.D}{A.B.C.D} enable is enable for each entry. The default is enable for each entry.
`ssm-map{A.B.C.D}[enable]`	Enables the administrative state for a specific entry (group). This variable does not affect the dynamically-learned entries. This state determines whether the switch uses the static entry or saves it for future use. The default is enable for each entry.

ip igmp generate-log

Set igmp log.

Syntax

- `ip igmp generate-log`

Default

None

Command mode

Global Configuration

ip igmp (globally)

Configure the Internet Group Management Protocol (IGMP) commands to establish and manage the multicast groups.

Syntax

- `default ip igmp ssm-map {A.B.C.D} {A.B.C.D}`
- `default ip igmp ssm-map {A.B.C.D} {A.B.C.D} [enable]`
- `ip igmp generate-log`
- `ip igmp generate-trap`
- `ip igmp immediate-leave-mode <multiple-user|one-user>`
- `ip igmp ssm [dynamic-learning] [group-range {A.B.C.D/X}]`
- `ip igmp ssm-map {A.B.C.D} {A.B.C.D} [enable]`
- `ip igmp ssm-map all`
- `no ip igmp ssm-map {A.B.C.D} {A.B.C.D}`
- `no ip igmp ssm-map {A.B.C.D} {A.B.C.D} [enable]`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
generate-log	Sets the Internet Group Management Protocol (IGMP) log.
generate-trap	Sets the Internet Group Management Protocol (IGMP) trap.
immediate-leave-mode <multiple-user|one-user	Enables immediate leave mode to users which is either a single user or multiple users.
ssm [dynamic-learning] [group-range {A.B.C.D/X}]	Enables and sets the Source Specific Multicast (SSM) features. The parameter, dynamic-learning enables SSM dynamic learning. The parameter, group range {A.B.C.D/X} configures the range group address and mask. The SSM range parameter extends the default SSM range of 232/8 to include an IP multicast address. You can configure existing applications without having to change their group configurations. This

	parameter specifies an IP multicast address within the range of 224.0.0.0 and 239.255.255.255. The default is 232.0.0.0. The address mask is the IP address mask of the multicast group. The default is 255.0.0.0.
`ssm-map all`	Enables the Source Specific Multicast (SSM) map table for all static entries.
`ssm-map{A.B.C.D} {A.B.C.D}[enable]`	Enables the Source Specific Multicast (SSM) map table for a specific entry or creates a static entry for a specific group. The parameter, {A.B.C.D} {A.B.C.D} creates a static SSM channel table entry by specifying the group and source IP addresses. The first IP address is an IP multicast address within the SSM range. The second IP address is the source IP address and it it is an IP host address that sends traffic to the group. The default for {A.B.C.D}{A.B.C.D} enable is enable for each entry. The default is enable for each entry.
`ssm-map{A.B.C.D}[enable]`	Enables the administrative state for a specific entry (group). This variable does not affect the dynamically-learned entries. This state determines whether the switch uses the static entry or saves it for future use. The default is enable for each entry.

ip irdp

Enable Router Discovery globally so that the switch supports Router Discovery.

Syntax

- `default ip irdp`
- `default ip irdp`
- `default ip irdp enable`
- `default ip irdp enable`
- `ip irdp`
- `ip irdp enable`
- `no ip irdp`
- `no ip irdp enable`

Default

`None`

Command mode

Global Configuration

Command parameters

Parameter	Description
`enable`	Enables the router discovery protocol on the switch.

ip irdp address (for a port)

Configure Internet Control Message Protocol (ICMP) Router Discovery to enable hosts attached to multicast or broadcast networks to discover the IP addresses of their neighboring routers.

Syntax

- `default ip irdp`
- `default ip irdp address`
- `ip irdp address {A.B.C.D}`

Default

`The default address is 255.255.255.255.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`address <A.B.C.D>`	Specifies the IP destination address use for broadcast or multicast router advertisements sent from the interface. The address is the all-systems multicast address, 224.0.0.1, or the limited-broadcast address, 255.255.255.255.

ip irdp address (for a VLAN)

Configure Internet Control Message Protocol (ICMP) Router Discovery to enable hosts attached to multicast or broadcast networks to discover the IP addresses of their neighboring routers.

Syntax

- `default ip irdp address <A.B.C.D>`
- `default ip irdp vlan <1-4059> address`
- `ip irdp address <A.B.C.D>`
- `ip irdp vlan <1-4059> address {A.B.C.D}`

Default

`The default address is 255.255.255.255.`

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`address <A.B.C.D>`	Specifies the IP destination address use for broadcast or multicast router advertisements sent from the interface. The address is the all-systems multicast address, 224.0.0.1, or the limited-broadcast address, 255.255.255.255.

ip irdp holdtime (for a port)

Configure the lifetime for advertisements.

Syntax

- `default ip irdp holdtime`
- `ip irdp holdtime <4-9000>`

Default

`The default is 1800.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<4-9000>`	Specifies the lifetime.

ip irdp holdtime (for a VLAN)

Configure the lifetime for advertisements.

Syntax

- `default ip irdp holdtime`
- `default ip irdp vlan <1-4059> holdtime`
- `ip irdp holdtime <4-9000>`
- `ip irdp vlan <1-4059> holdtime <4-9000>`

Default

`The default is 1800.`

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`<4-9000>`	Specifies the lifetime.

ip irdp maxadvertinterval (for a port)

Specify the maximum time (in seconds) that elapses between unsolicited broadcast or multicast router advertisement transmissions from the router interface.

Syntax

- `default ip irdp maxadvertinterval`
- `ip irdp maxadvertinterval <4-1800>`

Default

`The default is 600 seconds.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<4-1800>`	Specifies the maximum time in seconds.

ip irdp maxadvertinterval (for a VLAN)

Specify the maximum time (in seconds) that elapses between unsolicited broadcast or multicast router advertisement transmissions from the router interface.

Syntax

- `default ip irdp maxadvertinterval`
- `default ip irdp vlan <1-4059> maxadvertinterval`
- `ip irdp maxadvertinterval <4-1800>`
- `ip irdp vlan <1-4059> maxadvertinterval <4-1800>`

Default

`The default is 600 seconds.`

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`<4-1800>`	Specifies the maximum time in seconds.

ip irdp minadvertinterval (for a port)

Specify the minimum time (in seconds) that elapses between unsolicited broadcast or multicast router advertisement transmissions from the interface. The range is 3 seconds to maxadvertinterval.

Syntax

- `default ip irdp minadvertinterval`
- `ip irdp minadvertinterval <3-1800>`

Default

`The default is 450 seconds.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<3-1800>`	Specifies the minimum time in seconds.

ip irdp minadvertinterval (for a VLAN)

Specify the minimum time (in seconds) that elapses between unsolicited broadcast or multicast router advertisement transmissions from the interface. The range is 3 seconds to maxadvertinterval.

Syntax

- `default ip irdp minadvertinterval`
- `default ip irdp vlan <1-4059> minadvertinterval`
- `ip irdp minadvertinterval <3-1800>`
- `ip irdp vlan <1-4059> minadvertinterval <3-1800>`

Default

`The default is 450 seconds.`

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
<3-1800>	Specifies the minimum time in seconds.

ip irdp multicast (for a port)

Specify if multicast advertisements are sent.

Syntax

- `default ip irdp multicast`
- `ip irdp multicast`
- `no ip irdp multicast`

Default

`The default is enabled (true).`

Command mode

GigabitEthernet Interface Configuration

ip irdp multicast (for a VLAN)

Specify if multicast advertisements are sent.

Syntax

- `default ip irdp multicast`
- `default ip irdp vlan <1-4059> multicast`
- `ip irdp multicast`
- `ip irdp vlan <1-4059> multicast`
- `no ip irdp multicast`
- `no ip irdp vlan <1-4059> multicast`

Default

`The default is enabled (true).`

Command mode

VLAN Interface Configuration

ip irdp preference (for a port)

Specify the preference (a higher number indicates more preferred) of the address as a default router address relative to other router addresses on the same subnet.

Syntax

- `default ip irdp preference`
- `ip irdp preference <-2147483648-2147483647>`

Default

`The default is 0.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<-2147483648-2147483647>`	Specifies the preference value.

ip irdp preference (for a VLAN)

Specify the preference (a higher number indicates more preferred) of the address as a default router address relative to other router addresses on the same subnet.

Syntax

- `default ip irdp preference`
- `default ip irdp vlan <1-4059> preference`
- `ip irdp preference <-2147483648-2147483647>`
- `ip irdp vlan <1-4059> preference <-2147483648-2147483647>`

Default

`The default is 0.`

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`<-2147483648-2147483647>`	Specifies the preference value.

ip isid-list (for a VRF)

Create an I-SID list to use with IS-IS accept policies.

Syntax

- `ip isid-list WORD<1-32> <0-16777215>`
- `ip isid-list WORD<1-32> list WORD<1-1024>`
- `no ip isid-list WORD<1-32> <0-16777215>`
- `no ip isid-list WORD<1-32> list WORD<1-1024>`

Default

None

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
`<0-16777215>`	Specifies an I-SID value.
`list WORD<1-1024>`	Specifies a list of I-SID values in one of the following formats (1,3,5,8-10).
`WORD<1-32>`	Specifies a name for the I-SID list.

ip max-routes-trap enable

Enable the switch to send a trap when the maximum number of routes is exceeded.

Syntax

- `default ip max-routes-trap enable`
- `ip max-routes-trap enable`
- `no ip max-routes-trap enable`

Default

`The default is disabled.`

Command mode

Global Configuration

ip more-specific-non-local-route

Enable more-specific-non-local-route.

Syntax

- `default ip more-specific-non-local-route`
- `default ip more-specific-non-local-route enable`
- `ip more-specific-non-local-route`
- `ip more-specific-non-local-route enable`
- `no ip more-specific-non-local-route`
- `no ip more-specific-non-local-route enable`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
enable	Enable more-specific-non-local-route

ip mroute (for a port)

Limit the number of multicast streams to protect a CPU from multicast data packet bursts generated by malicious applications.

Syntax

- `default ip mroute max-allowed-streams`
- `default ip mroute max-allowed-streams-timer-check`
- `default ip mroute port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `default ip mroute stream-limit`
- `ip mroute max-allowed-streams <1-32768>`
- `ip mroute max-allowed-streams-timer-check <1-3600>`
- `ip mroute port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} max-allowed-streams <1-32768>`
- `ip mroute port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} max-allowed-streams-timer-check <1-3600>`
- `ip mroute port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} stream-limit`
- `ip mroute stream-limit`
- `no ip mroute port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `no ip mroute stream-limit`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`max-allowed-streams <1-32768>`	Configures the maximum number of streams on the specified port. The port is shut down if the number of streams exceeds this limit. The value is a number between 1-32768. The default value is 1984 streams. To set this option to the default value, use the default operator with the command.
`max-allowed-streams-timer-`	Configures the sampling interval, which is used to check if the number of ingress multicast streams to the CPU is under a configured limit or if the port needs to shut down. The range is between 1-3600. The default value is 10

`check <1-3600>`	seconds. To set this option to the default value, use the default operator with the command.
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Specifies the port or range of ports in slot/port notation. Use the no operator to later remove this configuration.
`stream-limit`	Enables stream limit on a particular interface.

ip mroute resource-usage egress-threshold

Configure the resource usage counters to query the number of ingress and egress IP multicast streams traversing your switch.

Syntax

- `ip mroute resource-usage egress-threshold <0-32767> ingress-threshold <0-32767>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`egress-threshold <0-32767>`	Configures the egress record threshold (S,G). A notification message is sent if this value is exceeded. integer is a value between 0-32767. To set this option to the default value, use the default operator with the command. The default is 0.
`ingress-threshold <0-32767>`	Configures the ingress record threshold (peps). A notification message is sent if this value is exceeded. integer is a value between 0-32767. To set this option to the default value, use the default operator with the command. The default is 0.

ip mroute resource-usage (for a VRF)

Configures the resource usage counters.

Syntax

- `default ip mroute resource-usage egress-threshold <0-32767>`
- `default ip mroute resource-usage ingress-threshold <0-32767>`
- `default ip mroute resource-usage log-msg`
- `default ip mroute resource-usage trap-msg`
- `ip mroute resource-usage egress-threshold <0-32767>`
- `ip mroute resource-usage ingress-threshold <0-32767>`
- `ip mroute resource-usage log-msg`
- `ip mroute resource-usage trap-msg`
- `no ip mroute resource-usage egress-threshold <0-32767>`
- `no ip mroute resource-usage ingress-threshold <0-32767>`
- `no ip mroute resource-usage log-msg`
- `no ip mroute resource-usage trap-msg`

Default

None

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
`egress-threshold <0-32767>`	Configures the egress record threshold (S,G). A notification message is sent if this value is exceeded. The default is 0.
`ingress-threshold <0-32767>`	Configures the ingress record threshold (peps). A notification message is sent if this value is exceeded. The default is 0.
`log-msg`	Configures the notification method for sending only a log message after the threshold level is exceeded. The default is disabled.

`trap-msg`	Configures the notification method for sending only a trap message after the threshold level is exceeded. The default is disabled

ip mroute resource-usage log-msg trap-msg

Enable traps and log messages on the console.

Syntax

- `ip mroute resource-usage log-msg trap-msg`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`log-msg`	Configures the notification method for sending only a log message after the threshold level is exceeded. Use the no operator to later remove this configuration. To set this option to the default value, use the default operator with the command. The default is disabled.
`trap-msg`	Configures the notification method for sending only a trap message after the threshold level is exceeded. Use the no operator to later remove this configuration. To set this option to the default value, use the default operator with the command. The default is disabled.

ip mroute static-source-group

Configure static source-group entries in the Protocol Independent Multicast (PIM) multicast routing table.

Syntax

- `ip mroute static-source-group <A.B.C.D> <A.B.C.D/X>`
- `np ip mroute static-source-group <A.B.C.D> <A.B.C.D/X>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
A.B.C.D	Specifies the IP address of the multicast group. Use the no operator to remove this configuration.
A.B.C.D/X	Specifies the multicast source IP address and subnet mask for the static source group entry. You cannot create duplicate groups. How you configure the source address depends on the protocol and mode you use. Use the no operator to remove this configuration.

ip mroute stats enable

Enable the collection of multicast routing process statistics.

Syntax

- `default ip mroute stats enable`
- `ip mroute stats enable`
- `no ip mroute stats enable`

Default

`The default is disabled.`

Command mode

Global Configuration

ip mroute stream-limit (globally)

Limit the number of multicast streams to protect a Central Processor Unit (CPU) from multicast data packet bursts generated by malicious applications.

Syntax

- `ip mroute stream-limit`

Default

None

Command mode

Global Configuration

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ip name-server

Add addresses for DNS servers.

Syntax

- `default ip name-server primary`
- `default ip name-server secondary`
- `default ip name-server tertiary`
- `ip name-server primary WORD<0-46>`
- `ip name-server secondary WORD<0-46>`
- `ip name-server tertiary WORD<0-46>`
- `no ip name-server primary`
- `no ip name-server secondary`
- `no ip name-server tertiary`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`<primary|secondary|tertiary>WORD<0-46>`	Configures the primary, secondary, or tertiary DNS server address. Enter the IP address in a.b.c.d format for IPv4 (string length 0-46). You can specify the IP address for only one server at a time; you cannot specify all three servers in one command.

ip ospf

Configures OSPF settings.

Syntax

- `default ip ospf`
- `ip ospf`
- `no ip ospf`

Default

None

Command mode

VRF Router Configuration

ip ospf accept adv-rtr

Identifies the slot and port in one of the following formats: a single slot and port (1/1), a range of slots and ports (2/2-2/4), or a series of slots and ports (1/2,2/3).

Syntax

- `default ip ospf accept adv-rtr {A.B.C.D}`
- `default ip ospf accept adv-rtr {A.B.C.D} enable`
- `default ip ospf accept adv-rtr {A.B.C.D} metric-type`
- `default ip ospf accept adv-rtr {A.B.C.D} route-policy`
- `ip ospf accept adv-rtr {A.B.C.D}`
- `ip ospf accept adv-rtr {A.B.C.D} enable`
- `ip ospf accept adv-rtr {A.B.C.D} metric-type { type1 | type2 | any }`
- `ip ospf accept adv-rtr {A.B.C.D} route-policy WORD<0-64>`
- `no ip ospf accept adv-rtr {A.B.C.D}`
- `no ip ospf accept adv-rtr {A.B.C.D} enable`

Default

None

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
`adv-rtr <A.B.C.D>`	Specifies the advertising router IP address.
`vrf WORD<0-16>`	Specifies the configuration for a particular VRF. WORD<0-16> specifies the VRF name.

ip ospf admin-state

Shows the administrative status of OSPF for the router. Enabled denotes that the OSPF process is active on at least one interface; disabled disables it for all interfaces.

Syntax

- `default ip ospf admin-state`
- `ip ospf admin-state`
- `no ip ospf admin-state`

Default

None

Command mode

VRF Router Configuration

ip ospf advertise-when-down enable (for a port)

Enabled denotes that the OSPF process is active on at

Syntax

- `default ip ospf advertise-when-down enable`
- `ip ospf advertise-when-down enable`
- `ip ospf port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} advertise-when-down enable`
- `no ip ospf advertise-when-down enable`

Default

`The default is disabled.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.

ip ospf advertise-when-down enable (for a VLAN)

least one interface; disabled disables it for all interfaces.

Syntax

- `default ip ospf advertise-when-down enable`
- `ip ospf advertise-when-down enable`
- `no ip ospf advertise-when-down enable`

Default

`The default is disabled.`

Command mode

VLAN Interface Configuration

ip ospf apply accept

The default is disabled.

Syntax

- `ip ospf apply accept`
- `ip ospf apply accept vrf WORD<0-16>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
[vrf WORD<0-16>]	Specifies the name of the VRF.
apply	Commits entered changes. Issue this command after modifying any policy configuration that affects an OSPF accept policy.

ip ospf apply accept adv-rtr

Apply the OSPF accept policy change to accept external routes from a specified advertising route.

Syntax

- `ip ospf apply accept adv-rtr {A.B.C.D}`
- `ip ospf apply accept adv-rtr {A.B.C.D} vrf WORD<0-16>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
{A.B.C.D}	Specifies the advertising router IP address.
{A.B.C.D} vrf WORD<0-16>	Specifies the configuration for a particular VRF. WORD<0-16> specifies the VRF name.
adv-rtr <A.B.C.D>	Specifies the advertising router IP address.
vrf WORD<0-16>	Specifies the configuration for a particular VRF. WORD<0-16> specifies the VRF name.
vrf WORD<0-16>	Specifies the configuration for a particular VRF. WORD<0-16> specifies the VRF name.

ip ospf apply redistribute

Apply the OSPF redistribution.

Syntax

- `ip ospf apply redistribute`
- `ip ospf apply redistribute`
- `ip ospf apply redistribute { direct | isis | ospf | rip | static }`
- `ip ospf apply redistribute { direct | isis | ospf | rip | static } vrf WORD<0-16>`
- `ip ospf apply redistribute { direct | isis | ospf | rip | static } vrf WORD<0-16> vrf-src WORD<0-16>`
- `ip ospf apply redistribute { direct | isis | ospf | rip | static } vrf-src WORD<0-16>`
- `ip ospf apply redistribute vrf WORD<0-16>`
- `ip ospf apply redistribute vrf WORD<0-16>`
- `ip ospf apply redistribute WORD<1-32>`
- `ip ospf apply redistribute WORD<1-32> vrf WORD<0-16>`
- `ip ospf apply redistribute WORD<1-32> vrf-src WORD<0-16>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`{ direct | isis | ospf | rip | static } vrf WORD<0-16>`	Specifies the VRF instance by name. When applying a redistribution instance that redistributes from a nonzero VRF to VRF 0 (the global router), do not specify the destination VRF; only specify the source VRF.
`{ direct | isis | ospf | rip | static } vrf WORD<0-16> vrf-src WORD<0-16>`	Specifies the source VRF instance. This parameter is not required for redistribution within the same VRF.

`{ direct | isis | ospf | rip | static } vrf-src WORD<0-16>`	Specifies the type of routes to be redistributed (the protocol source), including RIP, OSPF, ISIS, static, and direct.
`vrf WORD<0-16>`	Specifies the VRF instance by name. When applying a redistribution instance that redistributes from a nonzero VRF to VRF 0 (the global router), do not specify the destination VRF; only specify the source VRF.
`vrf-src WORD<0-16>`	Specifies the source VRF instance. This parameter is not required for redistribution within the same VRF.
`WORD<1-32>`	Specifies the type of routes to be redistributed (the protocol source), including RIP, OSPF, BGP, ISIS, static, and direct.

ip ospf area

Configure OSPF parameters on a port to control how OSPF behaves.

Syntax

- default ip ospf area {A.B.C.D}
- default ip ospf area {A.B.C.D} default-cost
- default ip ospf area {A.B.C.D} import
- default ip ospf area {A.B.C.D} import-summaries enable
- default ip ospf area {A.B.C.D} stub
- ip ospf area {A.B.C.D}
- ip ospf area {A.B.C.D} default-cost <0-16777215>
- ip ospf area {A.B.C.D} import external
- ip ospf area {A.B.C.D} import noexternal
- ip ospf area {A.B.C.D} import nssa
- ip ospf area {A.B.C.D} import-summaries enable
- ip ospf area {A.B.C.D} stub
- no ip ospf area {A.B.C.D}
- no ip ospf area {A.B.C.D} import-summaries enable

Default

None

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
default-cost <0-16777215>	Configure OSPF parameters on a port to control how OSPF behaves.

Avaya.com/support

ip ospf area (for a port)

Configure OSPF parameters on a port to control how OSPF behaves.

Syntax

- `default ip ospf area`
- `ip ospf area {A.B.C.D}`
- `ip ospf port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} area {A.B.C.D}`
- `no ip ospf area`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
<A.B.C.D>	Configures the OSPF identification number for the area, typically formatted as an IP address.
port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}	Identifies the slot and port.

ip ospf area (for a VLAN)

Configure OSPF parameters on a VLAN to control how OSPF behaves.

Syntax

- `default ip ospf area`
- `ip ospf area {A.B.C.D}`
- `no ip ospf area`

Default

None

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
<A.B.C.D>	Configures the OSPF identification number for the area, typically formatted as an IP address.

ip ospf area virtual-link

Enables or disables the automatic creation of virtual links.

Syntax

- default ip ospf area virtual-link {A.B.C.D} {A.B.C.D} authentication-type
- default ip ospf area virtual-link {A.B.C.D} {A.B.C.D} dead-interval
- default ip ospf area virtual-link {A.B.C.D} {A.B.C.D} hello-interval
- default ip ospf area virtual-link {A.B.C.D} {A.B.C.D} primary-md5-key
- default ip ospf area virtual-link {A.B.C.D} {A.B.C.D} retransmit-interval
- default ip ospf area virtual-link {A.B.C.D} {A.B.C.D} transit-delay
- default ip ospf area virtual-link message-digest-key {A.B.C.D} {A.B.C.D} <1-255>
- ip ospf area virtual-link {A.B.C.D} {A.B.C.D}
- ip ospf area virtual-link {A.B.C.D} {A.B.C.D} authentication-key WORD<0-8>
- ip ospf area virtual-link {A.B.C.D} {A.B.C.D} authentication-type message-digest
- ip ospf area virtual-link {A.B.C.D} {A.B.C.D} authentication-type none
- ip ospf area virtual-link {A.B.C.D} {A.B.C.D} authentication-type simple
- ip ospf area virtual-link {A.B.C.D} {A.B.C.D} dead-interval <0-2147483647>
- ip ospf area virtual-link {A.B.C.D} {A.B.C.D} hello-interval <1-65535>
- ip ospf area virtual-link {A.B.C.D} {A.B.C.D} primary-md5-key <1-255>
- ip ospf area virtual-link {A.B.C.D} {A.B.C.D} retransmit-interval <0-3600>
- ip ospf area virtual-link {A.B.C.D} {A.B.C.D} transit-delay <0-3600>
- ip ospf area virtual-link message-digest-key {A.B.C.D} {A.B.C.D} <1-255> md5-key WORD<1-16>
- no ip ospf area virtual-link {A.B.C.D} {A.B.C.D}
- no ip ospf area virtual-link message-digest-key {A.B.C.D} {A.B.C.D} <1-255>

Default

None

Command mode

VRF Router Configuration

VSP 8000 Series Release 4.2.1
NN47227-104 VSP 8000 Series Avaya Command Line Reference Guide
Version 05.01 June 2015

Avaya.com/support

ip ospf as-boundary-router

Specifies ASBR status, the router is an autonomous system boundary router (ASBR).

Syntax

- `default ip ospf as-boundary-router`
- `default ip ospf as-boundary-router enable`
- `ip ospf as-boundary-router enable`
- `no ip ospf as-boundary-router`
- `no ip ospf as-boundary-router enable`

Default

None

Command mode

VRF Router Configuration

ip ospf authentication-key WORD<0-8> (for a port)

Configure the eight-character simple password authentication key for the port.

Syntax

- `ip ospf authentication-key WORD<0-8>`
- `ip ospf port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} authentication-key WORD<0-8>`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.

ip ospf authentication-key WORD<0-8> (for a VLAN)

Configure the eight-character simple password authentication key for the VLAN.

Syntax

- `ip ospf authentication-key WORD<0-8>`

Default

None

Command mode

VLAN Interface Configuration

ip ospf authentication-type (for a port)

Configure the OSPF authentication type for the port. If simple, all OSPF updates the interface receives must contain the authentication key specified by the area authentication-key command. If MD5, they must contain the MD5 key.

Syntax

- `default ip ospf authentication-type`
- `ip ospf authentication-type message-digest`
- `ip ospf authentication-type none`
- `ip ospf authentication-type sha-1`
- `ip ospf authentication-type sha-2`
- `ip ospf authentication-type simple`
- `no ip ospf authentication-type`
- `ip ospf port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} authentication-type message-digest`
- `ip ospf port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} authentication-type none`
- `ip ospf port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} authentication-type simple`
- `ip ospf port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} authentication-type sha-1`
- `ip ospf port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} authentication-type sha-2`
- `no ip ospf authentication-type`

Default

`The default is none.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`none`	Configures the authentication-type to none.
`port {slot/port[/sub-port][-`	Identifies the slot and port.

slot/port[/sub-port]][,...]}	
sha-1	Configures the authentication-type to secure hash algorithm 1 (SHA-1). SHA-1 provides standards-based authentication using 128-bit encryption.
sha-2	Configures the authentication-type to secure hash algorithm 2 (SHA-2). Specifies SHA-2, which is an update of SHA-1, offering six hash functions that include SHA-224, SHA-256, SHA-384, SHA-512, SHA-512/224, SHA 512/256, with hash values that are 224, 256, 384, or 512 bits.
simple	Configures the authentication-type to simple, which is a simple-text password. Only routers that contain the same authentication ID in their LSA can communicate with each other. Avaya recommends that you do not use this security mechanism. If you choose simple, you must configure the password with the ip ospf authentiation-key WORD<0-8> command.

ip ospf authentication-type (for a VLAN)

Configure the OSPF authentication type for the VLAN. If you choose simple, you must configure the password with the ip ospf authentiation-key WORD<0-8> command. If you choose MD5, you must configure the MD5 key with the ip ospf message-digest-key <1-255> md5 WORD<0-16> command.

Syntax

- `default ip ospf authentication-type`
- `ip ospf authentication-type message-digest`
- `ip ospf authentication-type none`
- `ip ospf authentication-type sha-1`
- `ip ospf authentication-type sha-2`
- `ip ospf authentication-type simple`
- `no ip ospf authentication-type`

Default

`The default is none.`

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`message-digest`	Configures the authentication-type to message-digest. If you choose MD5, you must configure the MD5 key with the ip ospf message-digest-key <1-255> md5 WORD<0-16> command. Message Digest 5 (MD5) provides standards-based authentication using 128-bit encryption. If you use MD5, each OSPF packet has a message digest appended to it. The digest must match between sending and receiving routers, or the packet is discarded.
`none`	Configures the authentication-type to none.
`sha-1`	Configures the authentication-type to secure hash algorithm 1 (SHA-1). SHA-1 provides standards-based authentication using 128-bit encryption.
`sha-2`	Configures the authentication-type to secure hash algorithm 2 (SHA-2). Specifies SHA-2, which is an update of SHA-1, offering six hash functions that include SHA-224, SHA-256, SHA-384, SHA-512, SHA-512/224, SHA 512/256, with hash values that are 224, 256, 384, or 512 bits.
`simple`	Configures the authentication-type to simple, which is a simple-text password. Only routers that contain the same authentication ID in their LSA can communicate with each other. Avaya recommends that you do not use this security mechanism. If you choose

simple, you must configure the password with the ip ospf authentiation-key WORD<0-8> command.

ip ospf auto-vlink

Configures auto-vlink.

Syntax

- `default ip ospf auto-vlink`
- `ip ospf auto-vlink`
- `no ip ospf auto-vlink`

Default

None

Command mode

VRF Router Configuration

VSP 8000 Series Release 4.2.1
NN47227-104 VSP 8000 Series Avaya Command Line Reference Guide
Version 05.01 June 2015

Avaya.com/support

ip ospf bad-lsa-ignore

Configures the switch to accept bad LSAs, for example, with a hole in the mask. If you use the no operator with this command, the switch ignores bad LSAs.

Syntax

- `default ip ospf bad-lsa-ignore`
- `default ip ospf bad-lsa-ignore enable`
- `ip ospf bad-lsa-ignore enable`
- `no ip ospf bad-lsa-ignore`
- `no ip ospf bad-lsa-ignore enable`

Default

None

Command mode

VRF Router Configuration

ip ospf cost <1-65535> (for a port)

Configure the OSPF cost associated with this interface and advertised in router link advertisements.

Syntax

- `default ip ospf cost`
- `ip ospf cost <0-65535>`
- `ip ospf port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} cost <0-65535>`

Default

`The default is 0.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.

ip ospf cost <1-65535> (for a VLAN)

Configure the OSPF cost associated with this interface and advertised in router link advertisements.

Syntax

- `default ip ospf cost`
- `ip ospf cost <0-65535>`

Default

`The default is 0.`

Command mode

VLAN Interface Configuration

ip ospf dead-interval <0-2147483647> (for a port)

Configure the router OSPF dead interval-the number of seconds the OSPF neighbors of a switch must wait before assuming that the OSPF router is down. The value must be at least four times the Hello interval.

Syntax

- `default ip ospf dead-interval`
- `ip ospf dead-interval <0-2147483647>`
- `ip ospf port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} dead-interval <0-2147483647>`

Default

`The default is 40.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.

ip ospf dead-interval <0-2147483647> (for a VLAN)

Configure the router OSPF dead interval-the number of seconds the OSPF neighbors of a switch must wait before assuming that the OSPF router is down. The value must be at least four times the Hello interval.

Syntax

- `default ip ospf dead-interval`
- `ip ospf dead-interval <0-2147483647>`

Default

`The default is 40.`

Command mode

VLAN Interface Configuration

ip ospf default-cost

Specifies the stub area default metric for this stub area.

Syntax

- `default ip ospf default-cost ethernet`
- `default ip ospf default-cost fast-ethernet`
- `default ip ospf default-cost forty-gig-ethernet`
- `default ip ospf default-cost gig-ethernet`
- `default ip ospf default-cost ten-gig-ethernet`
- `ip ospf default-cost ethernet <1-65535>`
- `ip ospf default-cost fast-ethernet <1-65535>`
- `ip ospf default-cost forty-gig-ethernet <1-65535>`
- `ip ospf default-cost gig-ethernet <1-65535>`
- `ip ospf default-cost ten-gig-ethernet <1-65535>`

Default

None

Command mode

VRF Router Configuration

ip ospf digest-key <1-255> key <WORD> <0-16> (for a port)

Configure the Digest algorithm key which can be of type MD5, SHA-1 or SHA-2. At most, you can configure two digest keys for an interface.<1-255> is the ID for the digest key WORD<0-16> is an alphanumeric password of up to 16 bytes {string length 0 to 16}.

Syntax

- `default ip ospf digest-key <1-255>`
- `ip ospf digest-key <1-255> md5 WORD<0-16>`
- `no ip ospf digest-key <1-255>`

Default

None

Command mode

GigabitEthernet Interface Configuration

ip ospf digest-key <1-255> key <WORD><0-16> (for a VLAN)

Configure the Digest algorithm key which can be of type MD5, SHA-1 or SHA-2. At most, you can configure two digest keys for an interface.<1-255> is the ID for the digest key WORD<0-16> is an alphanumeric password of up to 16 bytes {string length 0 to 16}.

Syntax

- `default ip ospf digest-key <1-255>`
- `ip ospf digest-key <1-255> md5 WORD<0-16>`
- `no ip ospf digest-key <1-255>`

Default

None

Command mode

VLAN Interface Configuration

ip ospf enable (for a port)

Enable OSPF on the port.

Syntax

- `default ip ospf`
- `default ip ospf enable`
- `default ip ospf port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `ip ospf enable`
- `ip ospf port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} enable`
- `no ip ospf`
- `no ip ospf enable`
- `no ip ospf port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

`The default is disabled.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.

ip ospf enable (for a VLAN)

Enable OSPF on the VLAN.

Syntax

- `default ip ospf enable`
- `ip ospf enable`
- `no ip ospf`
- `no ip ospf enable`

Default

`The default is disabled.`

Command mode

VLAN Interface Configuration

ip ospf hello-interval <1-65535> (for a port)

Configure the OSPF Hello interval, which is the number of seconds between Hello packets sent on this interface.

Syntax

- `default ip ospf hello-interval`
- `ip ospf hello-interval <1-65535>`
- `ip ospf port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} hello-interval <1-65535>`

Default

`The default is 10.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.

ip ospf hello-interval <1-65535> (for a VLAN)

Configure the OSPF Hello interval, which is the number of seconds between Hello packets sent on this interface.

Syntax

- `default ip ospf hello-interval`
- `ip ospf hello-interval <1-65535>`

Default

`The default is 10.`

Command mode

VLAN Interface Configuration

ip ospf host-route

Creates a host route.

Syntax

- `default ip ospf host-route {A.B.C.D}`
- `default ip ospf host-route {A.B.C.D} metric`
- `ip ospf host-route {A.B.C.D}`
- `ip ospf host-route {A.B.C.D} metric <0-65535>`
- `no ip ospf host-route {A.B.C.D}`

Default

None

Command mode

VRF Router Configuration

ip ospf (loopback)

Enable OSPF for the circuitless IP (CLIP) interface.

Syntax

- `default ip ospf`
- `default ip ospf <1-256>`
- `default ip ospf vrf WORD<0-16>`
- `ip ospf`
- `ip ospf <1-256>`
- `ip ospf vrf WORD<0-16>`
- `no ip ospf`
- `no ip ospf <1-256>`
- `no ip ospf vrf WORD<0-16>`

Default

`The default is disabled.`

Command mode

Loopback Interface Configuration

Command parameters

Parameter	Description
`<1-256>`	Specifies the interface identification number for the CLIP.
`default`	Sets the OSPF status on the loopback interface to the default of disabled.
`no`	Disables the loopback OSPF for a particular value.
`vrf WORD<0-16>`	Specifies an associated VRF by name.

ip ospf mtu-ignore enable (for a port)

Enable maximum transmission unit (MTU) ignore. To allow the switch to accept OSPF database description (DBD) packets with a different MTU size, enable mtu-ignore. Incoming OSPF DBD packets are dropped if their MTU is greater than 1500 bytes.

Syntax

- `default ip ospf mtu-ignore enable`
- `ip ospf mtu-ignore enable`
- `ip ospf port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} mtu-ignore enable`
- `no ip ospf mtu-ignore enable`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.

ip ospf mtu-ignore enable (for a VLAN)

Enable maximum transmission unit (MTU) ignore. To allow the switch to accept OSPF database description (DBD) packets with a different MTU size, enable mtu-ignore. Incoming OSPF DBD packets are dropped if their MTU is greater than 1500 bytes.

Syntax

- `default ip ospf mtu-ignore enable`
- `ip ospf mtu-ignore enable`
- `no ip ospf mtu-ignore enable`

Default

None

Command mode

VLAN Interface Configuration

ip ospf neighbor

Specify the type of OSPF interface.

Syntax

- `default ip ospf neighbor {A.B.C.D}`
- `ip ospf neighbor {A.B.C.D} priority <0-255>`
- `no ip ospf neighbor {A.B.C.D}`

Default

None

Command mode

VRF Router Configuration

ip ospf network

Specify the type of OSPF interface.

Syntax

- `default ip ospf network {A.B.C.D}`
- `default ip ospf network {A.B.C.D} {A.B.C.D}`
- `ip ospf network {A.B.C.D}`
- `ip ospf network {A.B.C.D} {A.B.C.D}`
- `ip ospf network {A.B.C.D} area {A.B.C.D}`
- `no ip ospf network {A.B.C.D}`
- `no ip ospf network {A.B.C.D} {A.B.C.D}`

Default

None

Command mode

VRF Router Configuration

ip ospf network <broadcast|nbma|passive> (for a port)

Specify the type of OSPF interface.

Syntax

- `default ip ospf network`
- `ip ospf network { broadcast | nbma | passive }`
- `ip ospf port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} network { broadcast | nbma | passive }`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.

ip ospf network <broadcast|nbma|passive> (for a VLAN)

Specify the type of OSPF interface.

Syntax

- `default ip ospf network`
- `ip ospf network { broadcast | nbma | passive }`

Default

None

Command mode

VLAN Interface Configuration

ip ospf poll-interval <0-2147483647> (for a port)

Configure the OSPF poll interval in seconds.

Syntax

- `default ip ospf poll-interval`
- `ip ospf poll-interval <0-2147483647>`
- `ip ospf port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} poll-interval <0-2147483647>`

Default

`The default is 120.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.

ip ospf poll-interval <0-2147483647> (for a VLAN)

Configure the OSPF poll interval in seconds.

Syntax

- `default ip ospf poll-interval`
- `ip ospf poll-interval <0-2147483647>`

Default

`The default is 120.`

Command mode

VLAN Interface Configuration

ip ospf primary-digest-key <1-255> (for a port)

Changes the primary key used to encrypt outgoing packets. <1-255> is the ID for the new digest key.

Syntax

- `default ip ospf primary-digest-key`
- `ip ospf port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} primary-md5-key <1-255>`
- `ip ospf primary-digest-key <1-255>`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.

ip ospf primary-digest-key <1-255> (for a VLAN)

Changes the primary key used to encrypt outgoing packets. <1-255> is the ID for the new digest key.

Syntax

- `default ip ospf primary-digest-key`
- `ip ospf primary-digest-key <1-255>`

Default

None

Command mode

VLAN Interface Configuration

ip ospf priority <0-255> (for a port)

Configure the OSPF priority for the port during the election process for the designated router. The port with the highest priority number is the best candidate for the designated router. If you configure the priority to 0, the port cannot become either the designated router or a backup designated router.

Syntax

- `default ip ospf priority`
- `ip ospf port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} priority <0-255>`
- `ip ospf priority <0-255>`

Default

`The default is 1.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.

ip ospf priority <0-255> (for a VLAN)

Configure the OSPF priority for the VLAN during the election process for the designated router. The VLAN with the highest priority number is the best candidate for the designated router. If you configure the priority to 0, the VLAN cannot become either the designated router or a backup designated router.

Syntax

- `default ip ospf priority`
- `ip ospf priority <0-255>`

Default

`The default is 1.`

Command mode

VLAN Interface Configuration

ip ospf redistribute

Configure and enable redistribution entries to allow a protocol to announce routes of a certain source type, for example, static, RIP, or direct.

Syntax

- default ip ospf redistribute { direct | isis | ospf | rip | static }
- default ip ospf redistribute { direct | isis | ospf | rip | static } enable
- default ip ospf redistribute { direct | isis | ospf | rip | static } metric
- default ip ospf redistribute { direct | isis | ospf | rip | static } metric-type
- default ip ospf redistribute { direct | isis | ospf | rip | static } route-policy
- default ip ospf redistribute { direct | isis | ospf | rip | static } subnets
- default ip ospf redistribute { direct | isis | ospf | rip | static } subnets vrf-src WORD<0-16>
- default ip ospf redistribute { direct | isis | ospf | rip | static } vrf-src WORD<0-16>
- ip ospf redistribute { direct | isis | ospf | rip | static }
- ip ospf redistribute { direct | isis | ospf | rip | static } enable
- ip ospf redistribute { direct | isis | ospf | rip | static } metric <0-65535>
- ip ospf redistribute { direct | isis | ospf | rip | static } metric-type { type1 | type2 | any }
- ip ospf redistribute { direct | isis | ospf | rip | static } route-policy WORD<0-64>
- ip ospf redistribute { direct | isis | ospf | rip | static } subnets { allow | suppress }
- ip ospf redistribute { direct | isis | ospf | rip | static } subnets { allow | suppress } vrf-src WORD<0-16>
- ip ospf redistribute { direct | isis | ospf | rip | static } vrf-src WORD<0-16>
- ip ospf redistribute WORD<1-32>
- no ip ospf redistribute { direct | isis | ospf | rip | static }
- no ip ospf redistribute { direct | isis | ospf | rip | static } enable
- no ip ospf redistribute { direct | isis | ospf | rip | static } route-policy

```
no ip ospf redistribute { direct | isis | ospf | rip | static } route-policy vrf-src
WORD<0-16>
```

- `no ip ospf redistribute { direct | isis | ospf | rip | static } vrf-src WORD<0-16>`

Default

None

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
`enable`	Enables the route redistribution instance.
`enable`	Enables the route redistribution instance.
`metric <0-65535>`	Configures the metric to apply to redistributed routes.
`metric <0-65535>`	Configures the metric to apply to redistributed routes.
`metric-type { type1 | type2 | any }`	Specifies a type 1 or a type 2 metric. For metric type 1, the cost of the external routes is equal to the sum of all internal costs and the external cost. For metric type 2, the cost of the external routes is equal to the external cost alone.
`metric-type { type1 | type2 | any }`	Specifies a type 1 or a type 2 metric. For metric type 1, the cost of the external routes is equal to the sum of all internal costs and the external cost. For metric type 2, the cost of the external routes is equal to the external cost alone.
`route-policy WORD<0-64>`	Configures the route policy to apply to redistributed routes.
`route-policy WORD<0-64>`	Configures the route policy to apply to redistributed routes.
`subnets { allow | suppress }`	Indicates whether the subnets are advertised individually or aggregated to their classful subnet. Choose allow to advertise the subnets individually with the learned or configured mask of the subnet. The default is allow.
`subnets { allow | suppress }`	Indicates whether the subnets are advertised individually or aggregated to their classful subnet. Choose allow to advertise the subnets individually with the learned or configured mask of the subnet. The default is allow.
`vrf WORD <0-16>`	Specifies the VRF instance.
`vrf WORD <0-16>`	Specifies the VRF instance.
`vrf-src WORD<0-16>`	Specifies the source VRF instance. This parameter is not required for redistribution within the same VRF.
`vrf-src`	Specifies the source VRF instance. This parameter is not required for redistribution

WORD<0-16>	within the same VRF.
WORD<0-32>	Specifies the type of routes to redistribute-the protocol source.
WORD<0-32>	Specifies the type of routes to redistribute-the protocol source.

ip ospf retransmit-interval <0-3600> (for a port)

Configure the retransmit interval for the virtual interface, the number of seconds between link-state advertisement retransmissions.

Syntax

- `default ip ospf retransmit-interval`
- `ip ospf port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} retransmit-interval <0-3600>`
- `ip ospf retransmit-interval <0-3600>`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.

ip ospf retransmit-interval <0-3600> (for a VLAN)

Configure the retransmit interval for the virtual interface, the number of seconds between link-state advertisement retransmissions.

Syntax

- `default ip ospf retransmit-interval`
- `ip ospf retransmit-interval <0-3600>`

Default

None

Command mode

VLAN Interface Configuration

ip ospf rfc1583-compatibility

Controls the preference rules used when the router chooses among multiple autonomous system external (ASE) LSAs which advertise the same destination. If enabled, the preference rule is the same as that specified by RFC1583. If disabled, the preference rule is as described in RFC2328, which can prevent routing loops when ASE LSAs for the same destination originate from different areas.

Syntax

- `default ip ospf rfc1583-compatibility`
- `default ip ospf rfc1583-compatibility enable`
- `ip ospf rfc1583-compatibility enable`
- `no ip ospf rfc1583-compatibility`
- `no ip ospf rfc1583-compatibility enable`

Default

None

Command mode

VRF Router Configuration

ip ospf router-id

Configure the OSPF router ID.

Syntax

- `default ip ospf router-id`
- `ip ospf router-id {A.B.C.D}`
- `no ip ospf router-id`

Default

None

Command mode

VRF Router Configuration

ip ospf spf-run

Force the switch to update its shortest-path calculations so that the switch uses the latest OSPF routing information.

Syntax

- `ip ospf spf-run`
- `ip ospf spf-run vrf WORD<0-16>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`vrf WORD<0-16>`	Specifies a VRF instance by name.
`vrf WORD<0-16>`	Specifies a VRF instance by name.

ip ospf timers basic

Configures the basic OSPF timer value.

Syntax

- `default ip ospf timers basic`
- `default ip ospf timers basic holddown`
- `ip ospf timers basic holddown <3-60>`

Default

None

Command mode

VRF Router Configuration

ip ospf transit-delay <0-3600> (for a port)

Configure the transit delay for the virtual interface, which is the estimated number of seconds required to transmit a link-state update over the interface.

Syntax

- `default ip ospf transit-delay`
- `ip ospf port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} transit-delay <0-3600>`
- `ip ospf transit-delay <0-3600>`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.

ip ospf transit-delay <0-3600> (for a VLAN)

Configure the transit delay for the virtual interface, which is the estimated number of seconds required to transmit a link-state update over the interface.

Syntax

- `default ip ospf transit-delay`
- `ip ospf transit-delay <0-3600>`

Default

None

Command mode

VLAN Interface Configuration

ip ospf trap

Configures OSPF traps on the specified VRF.

Syntax

- `default ip ospf trap`
- `default ip ospf trap enable`
- `ip ospf trap enable`
- `no ip ospf trap`
- `no ip ospf trap enable`

Default

`None`

Command mode

VRF Router Configuration

ip ospf vlan (for a VLAN)

Configure OSPF on a VLAN.

Syntax

- default ip ospf vlan <1-4059>
- ip ospf vlan <1-4059> advertise-when-down enable
- ip ospf vlan <1-4059> area {A.B.C.D}
- ip ospf vlan <1-4059> authentication-key WORD<0-8>
- ip ospf vlan <1-4059> authentication-type message-digest
- ip ospf vlan <1-4059> authentication-type none
- ip ospf vlan <1-4059> authentication-type simple
- ip ospf vlan <1-4059> cost <0-65535>
- ip ospf vlan <1-4059> dead-interval <0-2147483647>
- ip ospf vlan <1-4059> enable
- ip ospf vlan <1-4059> hello-interval <1-65535>
- ip ospf vlan <1-4059> mtu-ignore enable
- ip ospf vlan <1-4059> network { broadcast | nbma | passive }
- ip ospf vlan <1-4059> poll-interval <0-2147483647>
- ip ospf vlan <1-4059> primary-md5-key <1-255>
- ip ospf vlan <1-4059> priority <0-255>
- ip ospf vlan <1-4059> retransmit-interval <0-3600>
- ip ospf vlan <1-4059> transit-delay <0-3600>
- no ip ospf vlan <1-4059>

Default

None

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
<1-4059>	Specifies the VLAN ID.
advertise-when-down enable	Enables or disables AdvertiseWhenDown. If enabled, the network on this interface is advertised as up, even if the port is down. When you configure a VLAN with no link and enable advertise-when-down, the route is not advertised until the VLAN is active. Then the route is advertised even when the link is down. To disable advertising based on link status, this parameter must be disabled. The default is disabled.
area {A.B.C.D}	Configures OSPF parameters on a VLAN to control how OSPF behaves.
authentication-key WORD<0-8>	Configures the eight-character simple password authentication key for the VLAN.
authentication-type	Configures the OSPF authentication type for the VLAN. If simple, all OSPF updates the interface receives must contain the authentication key specified by the area authentication-key command. If MD5, they must contain the MD5 key. The default is none.
cost <0-65535>	Configures the OSPF cost associated with this interface and advertised in router link advertisements. The default is 0.
dead-interval <0-2147483647>	Configures the router OSPF dead interval-the number of seconds the OSPF neighbors of a switch must wait before assuming that the OSPF router is down. The value must be at least four times the Hello interval. The default is 40.
enable	Enables OSPF on the VLAN. The default is disabled.
hello-interval <1-65535>	Configures the OSPF Hello interval, which is the number of seconds between Hello packets sent on this interface. The default is 10.
mtu-ignore enable	Enables maximum transmission unit (MTU) ignore. To allow the switch to accept OSPF database description (DBD) packets with a different MTU size, enable mtu-ignore. Incoming OSPF DBD packets are dropped if their MTU is greater than 1500 bytes.
network { broadcast | nbma | passive }	Specifies the type of OSPF interface.
poll-interval <0-2147483647>	Configures the OSPF poll interval in seconds. The default is 120.
primary-md5-key <1-255>	Changes the primary key used to encrypt outgoing packets. <1-255> is the ID for the new message digest key.
priority <0-255>	Configures the OSPF priority for the VLAN during the election process for the designated router. The VLAN with the highest priority number is the best candidate for the designated router. If you configure the priority to 0, the VLAN cannot become either the designated router or a backup designated router. The default is 1.
retransmit-interval <0-3600>	Configures the retransmit interval for the virtual interface, the number of seconds between link-state advertisement retransmissions.
transit-delay <0-3600>	Configures the transit delay for the virtual interface, which is the estimated number of seconds required to transmit a link-state update over the interface.

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ip pim bsr-candidate preference (for a port)

Configure additional routers as candidate BSRs (C-BSR) to provide backup protection in the event that the primary BSR fails.

Syntax

- `default ip pim bsr-candidate`
- `ip pim bsr-candidate preference <0-255>`
- `no ip pim bsr-candidate`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`preference <0-255>`	Enables the C-BSR on this interface and configures its preference value, from 0-255, to become a BootStrap Router (BSR). The C-BSR with the highest BSR preference and address is the preferred BSR.

ip pim bsr-candidate preference (for a VLAN)

Configure additional routers as candidate BSRs (C-BSR) to provide backup protection in the event that the primary BSR fails.

Syntax

- `default ip pim bsr-candidate`
- `ip pim bsr-candidate preference <0-255>`
- `no ip pim bsr-candidate`

Default

None

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`preference <0-255>`	Configure additional routers as candidate BSRs (C-BSR) to provide backup protection in the event that the primary BSR fails.

ip pim (for a port)

Enable PIM and configure to perform multicasting operations.

Syntax

- `default ip pim enable`
- `default ip pim join-prune-interval`
- `ip pim enable`
- `ip pim join-prune-interval <1-18724>`
- `ip pim passive`
- `no ip pim enable`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`active`	Enables PIM and sets interface type to active.
`enable`	Configure PIM for each interface to enable the interface to perform multicasting operations.
`hello-interval <0-18724>`	Specify how long to wait (in seconds) before the PIM switch sends out the next hello message to neighboring switches.
`join-prune-interval <1-18724>`	Specify how long to wait (in seconds) before the PIM router sends out the next join/prune message to its upstream neighbors.
`passive`	Enable PIM and configure the interface type to passive simultaneously. By default, an enabled interface is active.

ip pim (for a VLAN)

Enable PIM on the specified VLAN.

Syntax

- `default ip pim enable`
- `default ip pim hello-interval`
- `default ip pim join-prune-interval`
- `ip pim <active|passive>`
- `ip pim active`
- `ip pim enable`
- `ip pim hello-interval <0-18724>`
- `ip pim join-prune-interval <1-18724>`
- `ip pim passive`
- `no ip pim enable`

Default

None

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`active`	Enable PIM and configure the interface type to active or passive to perform multicasting operations.
`enable`	Configure PIM for each interface to enable the interface to perform multicasting operations.
`hello-interval <0-18724>`	Specify how long to wait (in seconds) before the PIM switch sends out the next hello message to neighboring switches.
`join-prune-interval <1-18724>`	Specify how long to wait (in seconds) before the PIM router sends out the next join/prune message to its upstream neighbors.
`passive`	Enable PIM and Configure the interface type to passive simultaneously. By default, an enabled interface is active.

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ip pim (globally)

Configure PIM to create a PIM instance, and enable or disable PIM globally on the switch and change default global parameters.

Syntax

- `default ip pim`
- `default ip pim enable`
- `ip pim`
- `ip pim enable`
- `no ip pim`
- `no ip pim enable`

Default

`The default is disabled.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`bootstrap-period <5-32757>`	Specify the interval (in seconds) that the elected bootstrap router (BSR) waits between originating bootstrap messages.
`disc-data-timeout <5-65535>`	Specify how long (in seconds) to discard data until the join is received from the rendezvous point (RP). An IP multicast discard record is created after a register packet is sent, until the the timer expires or a join is received.
`enable`	Activates PIM on the switch globally.
`fast-joinprune`	Enable the fast join prune interval.
`fwd-cache-timeout <10-86400>`	Specify the forward cache timeout value.
`join-prune-interval <1-18724>`	Specify how long to wait (in seconds) before the PIM router sends out the next join/prune message to its upstream neighbors.
`register-`	

suppression-timeout <6-65535>	Specify how long (in seconds) the designated router (DR) suppresses sending registers to the RP. The timer starts after the DR receives a register-stop message from the RP.
rp-c-adv-timeout <5-26214>	Specify how often (in seconds) a router configured as a candidate RP (C-RP) sends C-RP advertisement messages. After this timer expires, the C-RP router sends an advertisement message to the elected BSR.
unicast-route-change-timeout <2-65535>	Specify how often (in seconds) the switch polls the routing table manager (RTM) for unicast routing information updates for PIM. Lowering this value increases how often the switch polls the RTM. This can affect the performance of the switch, especially when a high volume of traffic flows through the switch.

ip pim interface-type (for a port)

Specify whether the selected interface is active or passive. You can change the state of a PIM interface after you create the interface but only if you disable PIM on the interface. An active interface accepts PIM control transmitted and received traffic. A passive interface prevents PIM control traffic from transmitting or receiving, thereby reducing the load on a system. Use this feature when a high number of PIM interfaces exist and connect to end users, not to other switches.

Syntax

- `default ip pim interface-type`
- `ip pim interface-type active`
- `ip pim interface-type passive`

Default

`The default is active.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<active|passive>`	Specifies the interface type.

ip pim interface-type (for a VLAN)

Specify whether the selected interface is active or passive. You can change the state of a PIM interface after you create the interface but only if you disable PIM on the interface. An active interface accepts PIM control transmitted and received traffic. A passive interface prevents PIM control traffic from transmitting or receiving, thereby reducing the load on a system. Use this feature when a high number of PIM interfaces exist and connect to end users, not to other switches.

Syntax

- `default ip pim interface-type`
- `ip pim interface-type active`
- `ip pim interface-type passive`

Default

`The default is active.`

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`<active|passive>`	Specifies the interface type.

ip pim (loopback)

Enable PIM for the circuitless IP (CLIP) interface.

Syntax

- default ip pim
- default ip pim <1-256>
- default ip pim <1-256> bsr-candidate vrf WORD<0-16>
- default ip pim bsr-candidate
- default ip pim bsr-candidate vrf WORD<0-16>
- default ip pim vrf WORD<0-16>
- ip pim
- ip pim <1-256>
- ip pim <1-256> bsr-candidate preference <0-255> vrf WORD<0-16>
- ip pim bsr-candidate preference <0-255>
- ip pim bsr-candidate preference <0-255> vrf WORD<0-16>
- ip pim vrf WORD<0-16>
- no ip pim
- no ip pim <1-256>
- no ip pim <1-256> bsr-candidate vrf WORD<0-16>
- no ip pim bsr-candidate
- no ip pim bsr-candidate vrf WORD<0-16>
- no ip pim vrf WORD<0-16>

Default

The default is -1, which indicates that the current interface is not a C-BSR.

Command mode

Loopback Interface Configuration

Command parameters

Parameter	Description
<0-255>	Specifies the preference value.
<1-256>	Specifies the interface ID.
bsr-candidate preference	Enables the CLIP interface as a candidate bootstrap router and configure a preference value. The C-BSR with the highest BSR preference and address is the preferred BootStrap Router (BSR).
vrf WORD<0-16>	Specifies the VRF name.

ip pim mode

Configure the mode of this interface globally. After you change from one mode to another, an information message appears to remind you that traffic does not stop immediately.

Syntax

- `default ip pim mode`
- `ip pim mode sparse`
- `ip pim mode ssm`

Default

`The default is sparse.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`<ssm|sparse>`	Specifies the mode. Configures Source Specific Multicast (SSM) to optimize PIM-SM by simplifying the many-to-many model (servers-to-receivers).

ip pim rp-candidate group

Configure a candidate rendezvous point (C-RP) to serve as backup to the RP router.

Syntax

- `default ip pim rp-candidate group <A.B.C.D> <A.B.C.D>`
- `ip pim rp-candidate group <A.B.C.D> <A.B.C.D> rp <A.B.C.D>`
- `no ip pim rp-candidate group <A.B.C.D> <A.B.C.D>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
{A.B.C.D} {A.B.C.D}	Specifies the IP address and group mask of the multicast group. When combined, they identify the prefix that the local router uses to advertise itself as a C-RP router.
rp {A.B.C.D}	Specifies the IP address of the C-RP router. This address must be one of the local PIM-SM enabled interfaces.

ip pim static-rp

Adds a static rendezvous point (RP) entry and activates static RP.

Syntax

- `default ip pim static-rp`
- `ip pim static-rp <A.B.C.D/X> <A.B.C.D>`
- `no ip pim static-rp`

Default

The default is disabled.

Command mode

Global Configuration

Command parameters

Parameter	Description
<A.B.C.D/X>	Specifies the IP address and address mask of the multicast group. When combined, the IP address and address mask identify the range of the multicast addresses that the RP handles.
<A.B.C.D>	Specifies the IP address of the static RP.

ip pim virtual-neighbor

Configure a virtual neighbor when the next hop for a static route cannot run PIM.

Syntax

- `ip pim virtual-neighbor <A.B.C.D> <A.B.C.D>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<A.B.C.D>	The first IP address indicates the IP address of the selected interface.
<A.B.C.D>	The second IP address Indicates the IP address of the neighbor.

ip prefix-list

Allows or denies specific route updates. A prefix list policy specifies route prefixes to match. When there is a match, the route is used. Configure a prefix list and apply the list to any IP route policy.

Syntax

- `ip prefix-list WORD<1-64> {A.B.C.D/X}`
- `ip prefix-list WORD<1-64> {A.B.C.D/X} ge <0-32>`
- `ip prefix-list WORD<1-64> {A.B.C.D/X} le <0-32>`
- `ip prefix-list WORD<1-64> name WORD<1-64>`
- `no ip prefix-list WORD<1-64>`
- `no ip prefix-list WORD<1-64> {A.B.C.D/X}`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`<A.B.C.D/X> [<ge|le> <0-32>]`	Adds a prefix entry to the prefix list. A.B.C.D/X is the IP address and mask. <ge|le> <0-32> Lower bound and higher bound mask lengths together can define a range of networks. Use the no operator to remove a prefix entry from the prefix list: no ip prefix-list WORD<1-64> <A.B.C.D/X>
`name WORD<1-64>`	Renames the specified prefix list. The name length is from 1 to 64 characters.

ip prefix-list (for a VRF)

Allows or denies specific route updates. A prefix list policy specifies route prefixes to match. When there is a match, the route is used. Configure a prefix list and apply the list to any IP route policy.

Syntax

- `ip prefix-list WORD<1-64> {A.B.C.D/X}`
- `ip prefix-list WORD<1-64> {A.B.C.D/X} ge <0-32>`
- `ip prefix-list WORD<1-64> {A.B.C.D/X} le <0-32>`
- `ip prefix-list WORD<1-64> name WORD<1-64>`
- `no ip prefix-list WORD<1-64>`
- `no ip prefix-list WORD<1-64> {A.B.C.D/X}`

Default

None

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
`<A.B.C.D/X> [<ge|le> <0-32>]`	Adds a prefix entry to the prefix list. A.B.C.D/X is the IP address and mask. <ge|le> <0-32> Lower bound and higher bound mask lengths together can define a range of networks. Use the no operator to remove a prefix entry from the prefix list: no ip prefix-list WORD<1-64> <A.B.C.D/X>
`name WORD<1-64>`	Renames the specified prefix list. The name length is from 1 to 64 characters.

ip rip

Configure RIP parameters.

Syntax

- `default ip rip default-metric`
- `default ip rip domain`
- `default ip rip enable`
- `ip rip`
- `ip rip default-metric <0-15>`
- `ip rip domain <0-39321>`
- `ip rip enable`
- `no ip rip`
- `no ip rip enable`

Default

`None`

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
`default-metric <0-15>`	Configures the value of default import metric to import a route into a RIP domain.
`domain <0-39321>`	Specifies the RIP domain.

ip rip advertise-when-down enable (for a port)

Enable or disable AdvertiseWhenDown. If enabled, the network on this interface is advertised as up, even if the port is down. The default is disabled. When you configure a port with no link and enable advertise-when-down, it does not advertise the route until the port is active. Then the route is advertised even when the link is down. To disable advertising based on link status, this parameter must be disabled.

Syntax

- `default ip rip advertise-when-down enable`
- `ip rip advertise-when-down enable`
- `no ip rip advertise-when-down enable`

Default

`The default is disabled.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<enable|disable>`	Enables or disables AdvertiseWhenDown. If enabled, the network on this interface is advertised as up, even if the port is down. The default is disabled. When you configure a port with no link and enable advertise-when-down, it does not advertise the route until the port is active. Then the route is advertised even when the link is down. To disable advertising based on link status, this parameter must be disabled.

ip rip advertise-when-down enable (for a VLAN)

Enable or disable AdvertiseWhenDown. If enabled, the network on this interface is advertised as up, even if the port is down. The default is disabled. When you configure a port with no link and enable advertise-when-down, it does not advertise the route until the port is active. Then the route is advertised even when the link is down. To disable advertising based on link status, this parameter must be disabled.

Syntax

- `default ip rip advertise-when-down enable`
- `ip rip advertise-when-down enable`
- `no ip rip advertise-when-down enable`

Default

`The default is disabled.`

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`<enable|disable>`	Enables or disables AdvertiseWhenDown. If enabled, the network on this interface is advertised as up, even if the port is down. The default is disabled. When you configure a port with no link and enable advertise-when-down, it does not advertise the route until the port is active. Then the route is advertised even when the link is down. To disable advertising based on link status, this parameter must be disabled.

ip rip apply redistribute

Apply the RIP redistribution.

Syntax

- `ip rip apply redistribute { direct | isis | ospf | rip | static }`
- `ip rip apply redistribute { direct | isis | ospf | rip | static } vrf WORD<0-16>`
- `ip rip apply redistribute { direct | isis | ospf | rip | static } vrf WORD<0-16> vrf-src WORD<0-16>`
- `ip rip apply redistribute { direct | isis | ospf | rip | static } vrf-src WORD<0-16>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`{ direct | isis | ospf | rip | static }`	Specifies the type of routes to be redistributed (the protocol source), including OSPF, static, direct, RIP.
`{ direct | isis | ospf | rip | static } vrf WORD<0-16>`	Specifies the VRF instance by name. When applying a redistribution instance that redistributes from a nonzero VRF to VRF 0 (the global router), do not specify the destination VRF; only specify the source VRF.
`{ direct | isis | ospf | rip | static } vrf WORD<0-16> vrf-src WORD<0-16>`	Specifies the source VRF instance. This parameter is not required for redistribution within the same VRF.
`{ direct | isis | ospf | rip | static } vrf-src WORD<0-16>`	Specifies the type of routes to be redistributed (the protocol source), including OSPF, static, direct, RIP.
`vrf WORD<0-16>`	Specifies the VRF instance by name. When applying a redistribution instance that redistributes from a nonzero VRF to VRF 0 (the global router), do not specify the destination VRF; only specify the source VRF.
`vrf WORD<0-16>`	Specifies the source VRF instance. This parameter is not required for redistribution within the same VRF.
	Specifies the source VRF instance. This parameter is not required for

`vrf-src WORD<0-16>`	redistribution within the same VRF.
`WORD<0-32>`	Specifies the type of routes to be redistributed (the protocol source), including OSPF, BGP, static, direct, RIP.

ip rip auto-aggregation enable (for a port)

Enable or disable automatic route aggregation on the port. When enabled, the router switch automatically aggregates routes to their natural mask when they are advertised on an interface in a different class network. The default is disabled.

Syntax

- `default ip rip auto-aggregation enable`
- `ip rip auto-aggregation enable`
- `no ip rip auto-aggregation enable`

Default

`The default is disabled.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`enable`	Enables or disables automatic route aggregation on the port. When enabled, the router switch automatically aggregates routes to their natural mask when they are advertised on an interface in a different class network. The default is disabled.

ip rip auto-aggregation enable (for a VLAN)

Enable or disable automatic route aggregation on the port. When enabled, the router switch automatically aggregates routes to their natural mask when they are advertised on an interface in a different class network. The default is disabled.

Syntax

- `default ip rip auto-aggregation enable`
- `ip rip auto-aggregation enable`
- `no ip rip auto-aggregation enable`

Default

`The default is disabled.`

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`enable`	Enables or disables automatic route aggregation on the port. When enabled, the router switch automatically aggregates routes to their natural mask when they are advertised on an interface in a different class network. The default is disabled.

ip rip cost (for a port)

Configure the RIP cost for this port (link).

Syntax

- `default ip rip cost`
- `ip rip cost <1-15>`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
<1-15>	Configures the RIP cost for this port (link).

ip rip cost (for a VLAN)

Configure the RIP cost for this port (link).

Syntax

- `ip rip cost <1-15>`

Default

None

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
<1-15>	Configures the RIP cost for this interface.

ip rip default-listen enable (for a port)

Enable default listen: the switch accepts the default route learned through RIP on this interface. The default is disabled.

Syntax

- `default ip rip default-listen enable`
- `ip rip default-listen enable`
- `no ip rip default-listen enable`

Default

`The default is disabled.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`enable`	Enables DefaultListen: the switch accepts the default route learned through RIP on this interface. The default is disabled.

ip rip default-listen enable (for a VLAN)

Enable default listen: the switch accepts the default route learned through RIP on this interface. The default is disabled.

Syntax

- `default ip rip default-listen enable`
- `ip rip default-listen enable`
- `no ip rip default-listen enable`

Default

`The default is disabled.`

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`enable`	Enables DefaultListen: the switch accepts the default route learned through RIP on this interface. The default is disabled.

ip rip default-supply enable (for a port)

Enable default supply. If enabled, a default route must be advertised from this interface. The default route is advertised only if it exists in the routing table. The default route will not be advertised on RIP interfaces by default. You need to redistribute the default route, and then configure the default-supply at the interface for the default route to be advertised to the neighbor.

Syntax

- `default ip rip default-supply enable`
- `ip rip default-supply enable`
- `no ip rip default-supply enable`

Default

`The default is false.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`enable`	Enables DefaultSupply. If enabled, a default route must be advertised from this interface. The default is false. The default route is advertised only if it exists in the routing table.

ip rip default-supply enable (for a VLAN)

Enable default supply. If enabled, a default route must be advertised from this interface. The default is false. The default route is advertised only if it exists in the routing table. The default route will not be advertised on RIP interfaces by default. You need to redistribute the default route, and then configure the default-supply at the interface for the default route to be advertised to the neighbor.

Syntax

- `default ip rip default-supply enable`
- `ip rip default-supply enable`
- `no ip rip default-supply enable`

Default

`The default is false.`

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`enable`	Enables DefaultSupply. If enabled, a default route must be advertised from this interface. The default is false. The default route is advertised only if it exists in the routing table.

ip rip enable (for a port)

Enable RIP routing on the interface.

Syntax

- `default ip rip enable`
- `ip rip enable`
- `no ip rip enable`

Default

`The default is disabled.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`enable`	Enables RIP routing on the interface.

ip rip enable (for a VLAN)

Enable RIP routing on the interface.

Syntax

- `ip rip enable`
- `no ip rip enable`

Default

`The default is disabled.`

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`enable`	Enables RIP routing on the interface.

ip rip holddown (for a port)

Configure the RIP holddown timer value, the length of time (in seconds) that RIP continues to advertise a network after determining that it is unreachable. The default is 120.

Syntax

- `default ip rip holddown`
- `ip rip holddown <0-360>`

Default

`The default is 120.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<0-360>`	Configures the RIP holddown timer value, the length of time (in seconds) that RIP continues to advertise a network after determining that it is unreachable. The default is 120.

ip rip holddown (for a VLAN)

Configure the RIP holddown timer value, the length of time (in seconds) that RIP continues to advertise a network after determining that it is unreachable. The default is 120.

Syntax

- `ip rip holddown <0-360>`

Default

`The default is 120.`

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`<0-360>`	Configures the RIP holddown timer value, the length of time (in seconds) that RIP continues to advertise a network after determining that it is unreachable. The default is 120.

ip rip in-policy (for a port)

Configure the port RIP in-policy. The policy name for inbound filtering on this RIP interface. This policy determines whether to learn a route on this interface. It also Specify the parameters of the route when it is added to the routing table.

Syntax

- `default ip rip in-policy`
- `ip rip in-policy WORD<0-64>`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
WORD<0-64>	Configures the port RIP in-policy. The policy name for inbound filtering on this RIP interface. This policy determines whether to learn a route on this interface. It also specifies the parameters of the route when it is added to the routing table.

ip rip in-policy (for a VLAN)

Configure the port RIP in-policy. The policy name for inbound filtering on this RIP interface. This policy determines whether to learn a route on this interface. It also Specify the parameters of the route when it is added to the routing table.

Syntax

- `ip rip in-policy WORD<0-64>`

Default

None

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
WORD<0-64>	Configures the port RIP in-policy. The policy name for inbound filtering on this RIP interface. This policy determines whether to learn a route on this interface. It also specifies the parameters of the route when it is added to the routing table.

ip rip listen (for a port)

If enabled, the switch listens for a default route without listening for all routes. Specify that the routing switch learns RIP routes through this interface. The default is enable.

Syntax

- `default ip rip listen enable`
- `ip rip listen enable`
- `no ip rip listen enable`

Default

`The default is enabled.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`enable`	If enabled, the switch listens for a default route without listening for all routes. Specifies that the routing switch learns RIP routes through this interface. The default is enable.

ip rip listen (for a VLAN)

If enabled, the switch listens for a default route without listening for all routes. Specify that the routing switch learns RIP routes through this interface. The default is enable.

Syntax

- `default ip rip listen enable`
- `ip rip listen enable`
- `no ip rip listen enable`

Default

`The default is enabled.`

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`enable`	If enabled, the switch listens for a default route without listening for all routes. Specifies that the routing switch learns RIP routes through this interface. The default is enable.

ip rip out-policy (for a port)

Configure the port RIP out-policy. The policy name for outbound filtering on this RIP interface. This policy determines whether to advertise a route from the routing table on this interface. This policy also Specify the parameters of the advertisement. policy name is a string of length 0 to 64 characters.

Syntax

- `default ip rip out-policy`
- `ip rip out-policy WORD<0-64>`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
WORD<0-64>	Configures the port RIP out-policy. The policy name for outbound filtering on this RIP interface. This policy determines whether to advertise a route from the routing table on this interface. This policy also specifies the parameters of the advertisement. policy name is a string of length 0 to 64 characters.

ip rip out-policy (for a VLAN)

Configure the port RIP out-policy. The policy name for outbound filtering on this RIP interface. This policy determines whether to advertise a route from the routing table on this interface. This policy also Specify the parameters of the advertisement. policy name is a string of length 0 to 64 characters.

Syntax

- `ip rip out-policy WORD<0-64>`

Default

None

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
WORD<0-64>	Configures the port RIP out-policy. The policy name for outbound filtering on this RIP interface. This policy determines whether to advertise a route from the routing table on this interface. This policy also specifies the parameters of the advertisement. policy name is a string of length 0 to 64 characters.

ip rip poison enable (for a port)

Enable Poison Reverse. If you disable Poison Reverse (no poison enable), Split Horizon is enabled. By default, Split Horizon is enabled. If Split Horizon is enabled, IP routes learned from an immediate neighbor are not advertised back to the neighbor. If Poison Reverse is enabled, the RIP updates sent to a neighbor from which a route is learned are poisoned with a metric of 16. Therefore, the receiver neighbor ignores this route because the metric 16 indicates infinite hops in the network. These mechanisms prevent routing loops.

Syntax

- `default ip rip poison enable`
- `ip rip poison enable`
- `no ip rip poison enable`

Default

`The default is disabled.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`enable`	Enables Poison Reverse. If you disable Poison Reverse (no poison enable), Split Horizon is enabled. By default, Split Horizon is enabled. If Split Horizon is enabled, IP routes learned from an immediate neighbor are not advertised back to the neighbor. If Poison Reverse is enabled, the RIP updates sent to a neighbor from which a route is learned are poisoned with a metric of 16. Therefore, the receiver neighbor ignores this route because the metric 16 indicates infinite hops in the network. These mechanisms prevent routing loops.

ip rip poison enable (for a VLAN)

Enable Poison Reverse. If you disable Poison Reverse (no poison enable), Split Horizon is enabled. By default, Split Horizon is enabled. If Split Horizon is enabled, IP routes learned from an immediate neighbor are not advertised back to the neighbor. If Poison Reverse is enabled, the RIP updates sent to a neighbor from which a route is learned are poisoned with a metric of 16. Therefore, the receiver neighbor ignores this route because the metric 16 indicates infinite hops in the network. These mechanisms prevent routing loops.

Syntax

- `default ip rip poison enable`
- `ip rip poison enable`
- `no ip rip poison enable`

Default

`The default is disabled.`

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`enable`	Enables Poison Reverse. If you disable Poison Reverse (no poison enable), Split Horizon is enabled. By default, Split Horizon is enabled. If Split Horizon is enabled, IP routes learned from an immediate neighbor are not advertised back to the neighbor. If Poison Reverse is enabled, the RIP updates sent to a neighbor from which a route is learned are poisoned with a metric of 16. Therefore, the receiver neighbor ignores this route because the metric 16 indicates infinite hops in the network. These mechanisms prevent routing loops.

ip rip port

Configure RIP for a port.

Syntax

- `default ip rip port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `ip rip port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `no ip rip port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`{slot/port [-slot/port][…]}`	Configures RIP for a port.

ip rip receive version (for a port)

Indicate which RIP update version is accepted on this interface. The default is rip1orrip2.

Syntax

- `default ip rip receive version`
- `ip rip receive version { rip1 | rip2 | rip1orrip2 }`

Default

`The default is rip1orrip 2.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<rip1|rip2|rip1orrip2>`	Indicates which RIP update version is accepted on this interface. The default is rip1orrip2.

ip rip receive version (for a VLAN)

Indicate which RIP update version is accepted on this interface. The default is rip1orrip2.

Syntax

- `ip rip receive version { rip1 | rip2 | rip1orrip2 }`

Default

`The default is rip1orrip 2.`

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`<rip1|rip2|rip1orrip2>`	Indicates which RIP update version is accepted on this interface. The default is rip1orrip2.

ip rip redistribute { direct | isis | ospf | rip | static }

Configure and enable redistribution entries to allow a protocol to announce routes of a certain source type, for example, static, RIP, or direct.

Syntax

- `default ip rip redistribute { direct | isis | ospf | rip | static }`
- `default ip rip redistribute { direct | isis | ospf | rip | static } enable`
- `default ip rip redistribute { direct | isis | ospf | rip | static } enable vrf-src WORD<0-16>`
- `default ip rip redistribute { direct | isis | ospf | rip | static } metric`
- `default ip rip redistribute { direct | isis | ospf | rip | static } metric vrf-src WORD<0-16>`
- `default ip rip redistribute { direct | isis | ospf | rip | static } route-map`
- `default ip rip redistribute { direct | isis | ospf | rip | static } route-map vrf-src WORD<0-16>`
- `default ip rip redistribute { direct | isis | ospf | rip | static } vrf-src WORD<0-16>`
- `ip rip redistribute { direct | isis | ospf | rip | static }`
- `ip rip redistribute { direct | isis | ospf | rip | static } enable`
- `ip rip redistribute { direct | isis | ospf | rip | static } enable vrf-src WORD<0-16>`
- `ip rip redistribute { direct | isis | ospf | rip | static } metric <0-65535>`
- `ip rip redistribute { direct | isis | ospf | rip | static } metric <0-65535> vrf-src WORD<0-16>`
- `ip rip redistribute { direct | isis | ospf | rip | static } route-map WORD<0-64>`
- `ip rip redistribute { direct | isis | ospf | rip | static } route-map WORD<0-64> vrf-src WORD<0-16>`
- `ip rip redistribute { direct | isis | ospf | rip | static } vrf-src WORD<0-16>`
- `no ip rip redistribute { direct | isis | ospf | rip | static }`
- `no ip rip redistribute { direct | isis | ospf | rip | static } enable`
- `no ip rip redistribute { direct | isis | ospf | rip | static } enable vrf-src WORD<0-16>`

- `no ip rip redistribute { direct | isis | ospf | rip | static } route-map`
- `no ip rip redistribute { direct | isis | ospf | rip | static } route-map vrf-src WORD<0-16>`
- `no ip rip redistribute { direct | isis | ospf | rip | static } vrf-src WORD<0-16>`

Default

None

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
`enable`	Enables the route redistribution instance.
`metric <0-65535>`	Configures the metric to apply to redistributed routes.
`route-map WORD<0-64>`	Configures the route map to apply to redistributed routes.
`vrf WORD <0-16>`	Specifies the VRF instance.
`vrf-src WORD<0-16>`	Specifies the source VRF instance. This parameter is not required for redistribution within the same VRF.
`WORD<0-32>`	Specifies the type of routes to redistribute-the protocol source.

ip rip send (for a port)

Indicate which RIP update version the router sends from this interface. ripVersion1 implies sending RIP updates that comply with RFC 1058. rip1Compatible implies broadcasting RIP2 updates using RFC 1058 route subassumption rules. The default is rip1Compatible

Syntax

- `default ip rip send version`
- `ip rip send version { notsend | rip1 | rip1comp | rip2 }`

Default

`The default is rip1Compatible.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<notsend|rip1|rip2|rip1comp|rip2>`	Indicates which RIP update version the router sends from this interface. ripVersion1 implies sending RIP updates that comply with RFC 1058. rip1Compatible implies broadcasting RIP2 updates using RFC 1058 route subassumption rules. The default is rip1Compatible

ip rip send (for a VLAN)

Indicate which RIP update version the router sends from this interface. ripVersion1 implies sending RIP updates that comply with RFC 1058. rip1Compatible implies broadcasting RIP2 updates using RFC 1058 route subassumption rules. The default is rip1Compatible

Syntax

- `ip rip send version { notsend | rip1 | rip1comp | rip2 }`
- `ip rip send version { notsend | rip1 | rip1comp | rip2 } timeout <15-259200>`

Default

`The default is rip1Compatible.`

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`<notsend|rip1|rip2|rip1comp|rip2>`	Indicates which RIP update version the router sends from this interface. ripVersion1 implies sending RIP updates that comply with RFC 1058. rip1Compatible implies broadcasting RIP2 updates using RFC 1058 route subassumption rules. The default is rip1Compatible

ip rip supply (for a port)

Specify that the switch advertises RIP routes through the port. The default is enable.

Syntax

- `default ip rip supply enable`
- `ip rip supply enable`
- `no ip rip supply enable`

Default

`The default is enabled.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`ip rip supply <enable|disable>`	Specifies that the switch advertises RIP routes through the port. The default is enable.

ip rip supply (for a VLAN)

Specify that the switch advertises RIP routes through the port. The default is enable.

Syntax

- `default ip rip supply enable`
- `ip rip supply enable`
- `no ip rip supply enable`

Default

`The default is enabled.`

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`<enable|disable>`	Specifies that the switch advertises RIP routes through the port. The default is enable.

ip rip timeout (for a port)

Configure the RIP timeout interval in seconds.

Syntax

- `default ip rip timeout`
- `ip rip timeout <15-259200>`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
<15-259200>	Configures the RIP timeout interval in seconds.

ip rip timeout (for a VLAN)

Configure the RIP timeout interval in seconds.

Syntax

- `ip rip timeout <15-259200>`

Default

None

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
<15-259200>	Configures the RIP timeout interval in seconds.

ip rip timers basic

Configures the basic RIP timer value.

Syntax

- `default ip rip timers basic holddown`
- `default ip rip timers basic timeout`
- `default ip rip timers basic update`
- `ip rip timers basic holddown <0-360>`
- `ip rip timers basic timeout <15-259200>`
- `ip rip timers basic update <1-360>`

Default

None

Command mode

VRF Router Configuration

ip rip triggered (for a port)

Enable automatic triggered updates for RIP.

Syntax

- `default ip rip triggered enable`
- `ip rip triggered enable`
- `no ip rip triggered enable`

Default

`The default is disabled.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<enable|disable>`	Enables automatic triggered updates for RIP.

ip rip triggered (for a VLAN)

Enable automatic triggered updates for RIP.

Syntax

- `default ip rip triggered enable`
- `ip rip triggered enable`
- `no ip rip triggered enable`

Default

`The default is disabled.`

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`<enable|disable>`	Enables automatically triggered updates for RIP.

ip route (for a VRF)

Configure a default route for a VRF. To assign a static route to specify a gateway address route for the management interface, configure the static route in the MgmtRouter VRF context. You can specify up to four static routes for the management interface.

Syntax

- `default ip route {A.B.C.D} {A.B.C.D} {A.B.C.D}`
- `default ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} dynamic`
- `default ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} enable`
- `default ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} local-next-hop enable`
- `default ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} preference`
- `ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} enable`
- `ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} enable next-hop-vrf WORD<0-16>`
- `ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} local-next-hop enable`
- `ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} preference <1-255>`
- `ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} preference <1-255> next-hop-vrf WORD<0-16>`
- `ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} weight <1-65535>`
- `ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} weight <1-65535> local-next-hop enable`
- `ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} weight <1-65535> next-hop-vrf WORD<0-16>`
- `ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} weight <1-65535> preference <1-255>`
- `no ip route {A.B.C.D} {A.B.C.D} {A.B.C.D}`
- `no ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} dynamic`
- `no ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} dynamic next-hop-vrf WORD<0-16>`
- `no ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} enable`
- `no ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} enable next-hop-vrf WORD<0-16>`
- `no ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} local-next-hop enable`
- `no ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} next-hop-vrf WORD<0-16>`
- `no ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} preference`

Default

None

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
{A.B.C.D} {A.B.C.D} {A.B.C.D}	Specifies the IP address, subnet mask, and next-hop address for the route. The first {A.B.C.D} configures the destination IP address of this route. An entry with a value of 0.0.0.0 is the default route. Multiple routes to a single destination can appear in the table, but access to such multiple entries depends on the network management protocol table access mechanisms. The second {A.B.C.D} configures the route network mask with the destination address before the switch compares the mask to the destination value. The third {A.B.C.D} configures the IP address of the next hop of this route. In the case of a route bound to an interface realized through a broadcast media, the value of this box is the agent IP address on that interface.
<1-255>	Indicates the route preference of this entry. If you can use more than one route to forward IP traffic, the switch uses the route with the highest preference. The higher the number, the higher the preference.
<1-65535>	Specifies the static route cost.
WORD<0-16>	Specifies the VRF ID in inter-VRF static-route configuration.

ip route (globally)

You can configure routing switches with a static default route, or they can learn it through a dynamic routing protocol.

Syntax

- default ip route {A.B.C.D} {A.B.C.D} {A.B.C.D}
- default ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} dynamic
- default ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} enable
- default ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} local-next-hop enable
- default ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} preference
- ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} enable
- ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} enable next-hop-vrf WORD<0-16>
- ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} local-next-hop enable
- ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} preference <1-255>
- ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} preference <1-255> next-hop-vrf WORD<0-16>
- ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} weight <1-65535>
- ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} weight <1-65535> local-next-hop enable
- ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} weight <1-65535> next-hop-vrf WORD<0-16>
- ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} weight <1-65535> preference <1-255>
- no ip route {A.B.C.D} {A.B.C.D} {A.B.C.D}
- no ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} dynamic
- no ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} dynamic next-hop-vrf WORD<0-16>
- no ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} enable
- no ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} enable next-hop-vrf WORD<0-16>
- no ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} local-next-hop enable
- no ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} next-hop-vrf WORD<0-16>
- no ip route {A.B.C.D} {A.B.C.D} {A.B.C.D} preference

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
{A.B.C.D}	The first and second <A.B.C.D> specify the IP address and mask for the route destination. 255.255.255.255 is the black hole route. Configures a black hole static route to the destination a router advertises to avoid routing loops when aggregating or injecting routes to other routers. The default route specifies a route to all networks for which there are no explicit routes in the Forwarding Information Base or the routing table. The default route has a prefix length of zero (RFC 1812).
enable	Adds a static or default route to the router or VRF.
local-next-hop enable	Enables the local next hop for this static route.
next-hop-vrf WORD<0-16>	Specifies the next-hop VRF instance by name.
preference <1-255>	Specifies the route preference.
weight <1-65535>	Specifies the static route cost.

ip route preference protocol

Specifies the route preference.

Syntax

- `default ip route preference protocol <static | ospf-intra | ospf-inter | ebgp | ibgp | rip | ospf-extern1 | ospf-extern2 | spbm-level1>`
- `ip route preference protocol <static | ospf-intra | ospf-inter | ebgp | ibgp | rip | ospf-extern1 | ospf-extern2 | spbm-level1> <0-255>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
{static | ospf-intra | ospf-inter | ebgp | ibgp | rip | ospf-extern1 | ospf-extern2 | spbm-level1}	Specifies the Protocol type.
<0-255>	Preference value (0 is reserved for Local routes).

ip route preference protocol (for VRF)

Specifies the route preference within a specific VRF context.

Syntax

- `default ip route preference protocol <static | ospf-intra | ospf-inter | ebgp | ibgp | rip | ospf-extern1 | ospf-extern2 | spbm-level1>`
- `ip route preference protocol <static | ospf-intra | ospf-inter | ebgp | ibgp | rip | ospf-extern1 | ospf-extern2 | spbm-level1> <0-255>`

Default

None

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
{static | ospf-intra | ospf-inter | ebgp | ibgp | rip | ospf-extern1 | ospf-extern2 | spbm-level1}	Specifies the Protocol type.
<0-255>	Preference value (0 is reserved for Local routes).

ip routing

Enable IP forwarding (routing) on a global level so that the router supports routing. You can use the IP address of any router interface for IP-based network management.

Syntax

- `default ip routing`
- `ip routing`
- `no ip routing`

Default

None

Command mode

VRF Router Configuration

ip rsmlt

Configure Routed Split MultiLink Trunking (RSMLT) on an IPv4 VLAN interface.

Syntax

- `default ip rsmlt holddown-timer holdup-timer`
- `ip rsmlt holddown-timer <0-3600> holdup-timer <0-9999>`
- `no ip rsmlt`

Default

None

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
holddown-timer	To set holddown timer.
holdup-timer	To set holdup timer.

ip rsmlt edge-support

Configure Routed Split MultiLink trunking (RSMLT)-edge to store the RSMLT peer MAC/IP address-pair in its local config file and restore the configuration if the peer does not restore after a simultaneous reboot of both RSMLT-peer switches. The configuration applies to both IPv4.

Syntax

- `default ip rsmlt edge-support`
- `ip rsmlt edge-support`
- `no ip rsmlt edge-support`
- `no ip rsmlt peer-address <1-4059>`

Default

`The default is disabled.`

Command mode

Global Configuration

ip-source-address

Configure the circuitless IP (CLIP) interface as the source address for SPBM IP Shortcuts. Assigns a source IP address for locally generated IP packets whose egress port is an SPBM NNI port. The source-address value must be a locally configured loopback IP address. The IS-IS automatically advertises the source-address to other SPBM edge routers when you enable IP shortcuts. You must first configure a valid source-address before you enable IP shortcuts.

Syntax

- `ip-source-address {A.B.C.D}`
- `no ip-source-address`

Default

None

Command mode

IS-IS Router Configuration

Command parameters

Parameter	Description
<A.B.C.D>	Specifies the circuitless IP (CLIP) interface as the source address for SPBM IP shortcuts.

ip spb-multicast enable (for a port)

Enables Layer 3 VSN IP multicast over SPBM.

Syntax

- `default ip spb-multicast enable`
- `ip spb-multicast enable`
- `no ip spb-multicast enable`

Default

`The default is disabled.`

Command mode

GigabitEthernet Interface Configuration

ip spb-multicast enable (for a VLAN)

Enables Layer 3 VSN IP multicast over SPBM.

Syntax

- `default ip spb-multicast enable`
- `ip spb-multicast enable`
- `no ip spb-multicast enable`

Default

`The default is disabled.`

Command mode

VLAN Interface Configuration

ip supernet

Enable or disable supernetting. If supernetting is globally enabled, the switch can learn routes with a route mask of less then eight bits. Routes with a mask length less than eight bits cannot have ECMP paths, even if the ECMP feature is globally enabled.

Syntax

- `default ip supernet`
- `ip supernet`
- `no ip supernet`

Default

None

Command mode

VRF Router Configuration

ip ttl

Configure the IP routing protocol stack to specify which routing features the switch can use.

Syntax

- `default ip ttl`
- `ip ttl <1-255>`
- `no ip ttl`

Default

`The default value is 255.`

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
`ttl<1-255>`	Configures the default time-to-live (TTL) value for a routed packet. The TTL is the maximum number of seconds before a packet is discarded. The default value of 255 is used whenever a time is not supplied in the datagram header.

ipv6 area

Create and configure an OSPFv3 IPv6 area.

Syntax

- `default ipv6 area {A.B.C.D}`
- `default ipv6 area {A.B.C.D} default-cost`
- `default ipv6 area {A.B.C.D} import`
- `default ipv6 area {A.B.C.D} import-summaries enable`
- `ipv6 area {A.B.C.D}`
- `ipv6 area {A.B.C.D} default-cost <0-16777215>`
- `ipv6 area {A.B.C.D} import external`
- `ipv6 area {A.B.C.D} import noexternal`
- `ipv6 area {A.B.C.D} import nssa`
- `ipv6 area {A.B.C.D} import-summaries enable`
- `ipv6 area {A.B.C.D} translator-role <1-2>`
- `ipv6 area {A.B.C.D} type nssa`
- `ipv6 area {A.B.C.D} type stub`
- `no ipv6 area {A.B.C.D}`
- `no ipv6 area {A.B.C.D} import-summaries enable`

Default

None

Command mode

OSPF Router Configuration

Command parameters

Parameter	Description
{A.B.C.D}	Specifies the area address.
default-cost <0-16777215>	Specifies the stub metric for the area. The default-cost default is 10.

import <external|noexternal|nssa>	Configures the area support for importing advertisements. The default is external.
import-summaries enable	Configures the area support for importing summary advertisements into a stub area. Use this entry only for a stub area. The default is enabled.
translator-role {1|2}	Indicates a Not-So-Stubby-Area (NSSA) border router ability to perform translation of type-7 LSAs into type-5 LSAs. Configure this value to 2 to make it a candidate. You can configure this parameter only when you first create the area. The default translator-role is 1.
type {nssa|stub}	Configures the type of area. A Not-So-Stubby-Area (NSSA) prevents flooding of normal route advertisements into the area by replacing them with a default route. A stub area uses only one exit point (router interface) out of the area. You can configure this parameter only when you first create the area. By default, the area is neither a stub area or NSSA (Not-So-Stubby Area).

ipv6 area range

Create and configure an area address range on the OSPF router to reduce the number of ABR advertisements into other OSPF areas.

Syntax

- `default ipv6 area range {A.B.C.D} WORD<0-255> inter-area-prefix-link [advertise-metric]`
- `default ipv6 area range {A.B.C.D} WORD<0-255> nssa-extlink [advertise-metric]`
- `ipv6 area range {A.B.C.D} WORD<0-255> advertise-mode advertise`
- `ipv6 area range {A.B.C.D} WORD<0-255> advertise-mode not-advertise`
- `ipv6 area range {A.B.C.D} WORD<0-255> inter-area-prefix-link advertise-metric <0-65535>`
- `ipv6 area range {A.B.C.D} WORD<0-255> inter-area-prefix-link advertise-mode advertise`
- `ipv6 area range {A.B.C.D} WORD<0-255> inter-area-prefix-link advertise-mode not-advertise`
- `ipv6 area range {A.B.C.D} WORD<0-255> nssa-extlink advertise-metric <0-65535>`
- `ipv6 area range {A.B.C.D} WORD<0-255> nssa-extlink advertise-mode advertise`
- `ipv6 area range {A.B.C.D} WORD<0-255> nssa-extlink advertise-mode not-advertise`
- `no ipv6 area range {A.B.C.D} WORD<0-255> inter-area-prefix-link`
- `no ipv6 area range {A.B.C.D} WORD<0-255> nssa-extlink`

Default

None

Command mode

OSPF Router Configuration

Command parameters

Parameter	Description
{A.B.C.D}	Specifies the area address.
advertise-metric <0-65535>	Specifies the advertise metric value and LSA type. The default advertise-metric is 0.
advertise-mode <advertise|not-advertise>	Configures if the area advertises into other OSPF areas. The default avertise-mode is advertise.
inter-area-prefix-link	Configures the area to use this LSA type.
nssa-extlink	Configures the area to use this LSA type.

WORD<0-255>	Specifies the IPv6 address and prefix.

ipv6 area virtual-link

Configure an OSPF virtual interface to the ABR if a remote OSPF ABR uses no connection to the backbone area but needs to be part of the same routing domain in which the switch resides.

Syntax

- `default ipv6 area virtual-link {A.B.C.D} {A.B.C.D}`
- `default ipv6 area virtual-link {A.B.C.D} {A.B.C.D} [dead-interval][retransmit-interval] [transit-delay]`
- `default ipv6 area virtual-link {A.B.C.D} {A.B.C.D} dead-interval`
- `default ipv6 area virtual-link {A.B.C.D} {A.B.C.D} hello-interval`
- `default ipv6 area virtual-link {A.B.C.D} {A.B.C.D} retransmit-interval`
- `default ipv6 area virtual-link {A.B.C.D} {A.B.C.D} transit-delay`
- `ipv6 area virtual-link {A.B.C.D} {A.B.C.D}`
- `ipv6 area virtual-link {A.B.C.D} {A.B.C.D} dead-interval <1-65535>`
- `ipv6 area virtual-link {A.B.C.D} {A.B.C.D} hello-interval <1-65535>`
- `ipv6 area virtual-link {A.B.C.D} {A.B.C.D} retransmit-interval <1-1800>`
- `ipv6 area virtual-link {A.B.C.D} {A.B.C.D} transit-delay <1-1800>`
- `no ipv6 area virtual-link {A.B.C.D} {A.B.C.D}`

Default

`The default is disabled.`

Command mode

OSPF Router Configuration

Command parameters

Parameter	Description
`{A.B.C.D} {A.B.C.D}`	Specifies the area address and the virtual link address.
`dead-interval <1-65535>`	Specifies the dead interval, as the number of seconds to wait before determining the OSPF router is down. The default dead-interval is 60.
`hello-interval`	Specifies the hello interval, in seconds, for hello packets sent between switches for a virtual interface in an OSPF area. The default hello interval is 10.

<1-65535>	
retransmit-interval <1-1800>	Specifies the retransmit interval, in seconds, for link-state advertisements. The default retransmit-interval is 5.
transit-delay <1-1800>	Specifies the transit-delay interval, in seconds, required to transmit a link-state update packet over the virtual interface. The default transit-delay is 1.

ipv6 area virtual-link ipsec

Create the Internet Protocol Security (IPsec) policy under the OSPF virtual link.

Syntax

- `ipv6 area virtual-link {A.B.C.D} {A.B.C.D} ipsec`
- `no ipv6 area virtual-link {A.B.C.D} {A.B.C.D} ipsec`

Default

None

Command mode

OSPF Router Configuration

Command parameters

Parameter	Description
{A.B.C.D} {A.B.C.D}	The first IP address specifies the area IP address, and the second IP address specifies the virtual-link IP address.

ipv6 area virtual-link ipsec action

Configure the action of the Internet Protocol Security (IPsec) policy under the OSPF virtual link.

Syntax

- `default ipv6 area virtual-link {A.B.C.D} {A.B.C.D} ipsec action`
- `ipv6 area virtual-link {A.B.C.D} {A.B.C.D} ipsec action drop`
- `ipv6 area virtual-link {A.B.C.D} {A.B.C.D} ipsec action permit`
- `no ipv6 area virtual-link {A.B.C.D} {A.B.C.D} ipsec action`

Default

`The default is permit.`

Command mode

OSPF Router Configuration

Command parameters

Parameter	Description
`{A.B.C.D} {A.B.C.D}`	The first IP address specifies the area IP address, and the second IP address specifies the virtual-link IP address.
`action <drop|permit>`	Specifies the action of the IPsec policy under the OSPF virtual link to permit or drop traffic. The default is permit.

ipv6 area virtual-link ipsec direction

Configure the direction of the Internet Protocol Security (IPsec) policy under the OSPF virtual link.

Syntax

- `default ipv6 area virtual-link {A.B.C.D} {A.B.C.D} ipsec direction`
- `ipv6 area virtual-link {A.B.C.D} {A.B.C.D} ipsec direction both`
- `ipv6 area virtual-link {A.B.C.D} {A.B.C.D} ipsec direction in`
- `ipv6 area virtual-link {A.B.C.D} {A.B.C.D} ipsec direction out`
- `no ipv6 area virtual-link {A.B.C.D} {A.B.C.D} ipsec direction`

Default

None

Command mode

OSPF Router Configuration

Command parameters

Parameter	Description
{A.B.C.D} {A.B.C.D}	The first IP address specifies the area IP address, and the second IP address specifies the virtual-link IP address.
<both|in|out>	Specifies the direction of the traffic of the IPsec policy under the OSPF virtual link.

ipv6 area virtual-link ipsec enable

Enable the Internet Protocol Security (IPsec) policy created under the OSPF virtual link.

Syntax

- `default ipv6 area virtual-link {A.B.C.D} {A.B.C.D} ipsec enable`
- `ipv6 area virtual-link {A.B.C.D} {A.B.C.D} ipsec enable`
- `no ipv6 area virtual-link {A.B.C.D} {A.B.C.D} ipsec enable`

Default

`The default is disabled.`

Command mode

OSPF Router Configuration

Command parameters

Parameter	Description
`{A.B.C.D} {A.B.C.D}`	The first IP address specifies the area IP address, and the second IP address specifies the virtual-link IP address.

ipv6 area virtual-link ipsec security-association

Link the Internet Protocol Security (IPsec) security association to the OSPF virtual link.

Syntax

- `default ipv6 area virtual-link {A.B.C.D} {A.B.C.D} ipsec security-association WORD<0-32>`
- `ipv6 area virtual-link {A.B.C.D} {A.B.C.D} ipsec security-association WORD<0-32>`
- `no ipv6 area virtual-link {A.B.C.D} {A.B.C.D} ipsec security-association WORD<0-32>`

Default

None

Command mode

OSPF Router Configuration

Command parameters

Parameter	Description
{A.B.C.D} {A.B.C.D}	The first IP address specifies the area IP address, and the second IP address specifies the virtual-link IP address.
WORD<0-32>	Specifies the name of the security association.

ipv6 as-boundary-router

Enable or disable the boundary-router on the router interface.

Syntax

- `default ipv6 as-boundary-router [enable]`
- `ipv6 as-boundary-router`
- `ipv6 as-boundary-router enable`
- `no ipv6 as-boundary-router [enable]`

Default

`The default is disabled.`

Command mode

OSPF Router Configuration

Command parameters

Parameter	Description
`enable`	Enables the boundary-router.

ipv6 dhcp-relay (for a port)

Configure Dynamic Host Configuration Protocol (DHCP) Relay on an interface. The command no ipv6 dhcp-relay disables DHCP on the interface, it does not delete the entry.

Syntax

- `default ipv6 dhcp-relay`
- `default ipv6 dhcp-relay fwd-path WORD<0-255>`
- `default ipv6 dhcp-relay max-hop`
- `default ipv6 dhcp-relay remote-id`
- `ipv6 dhcp-relay`
- `ipv6 dhcp-relay fwd-path WORD<0-255>`
- `ipv6 dhcp-relay fwd-path WORD<0-255> enable`
- `ipv6 dhcp-relay fwd-path WORD<0-255> vrid WORD<1-255>`
- `ipv6 dhcp-relay max-hop <1-32>`
- `ipv6 dhcp-relay remote-id`
- `no ipv6 dhcp-relay`
- `no ipv6 dhcp-relay fwd-path WORD<0-255>`
- `no ipv6 dhcp-relay fwd-path WORD<0-255> enable`
- `no ipv6 dhcp-relay remote-id`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`max-hop <1-32>`	Configures the maximum number of hops before a BootP/DHCP packet is discarded. The default is 32.
`remoteId`	Enables the Remote ID. The default is disabled.

vrid WORD<1-255>	Specifies the ID of the virtual router and is an integer from 1-255.
WORD<0-255>	Creates a forwarding path to the Dynamic Host Configuration Protocol (DHCP) server with a mode and a state. WORD<0-255> is the IPv6 address of the server. The default IP address of the relay is the address of the interface. If the relay is a Virtual Router configured on this interface, you must set the vrid. By default, the forwarding path is disabled.

ipv6 dhcp-relay (for a VLAN)

Configure Dynamic Host Configuration Protocol (DHCP) Relay on an interface. The command no ipv6 dhcp-relay disables DHCP on the interface, it does not delete the entry.

Syntax

- `default ipv6 dhcp-relay`
- `default ipv6 dhcp-relay fwd-path WORD<0-255>`
- `default ipv6 dhcp-relay max-hop`
- `default ipv6 dhcp-relay remote-id`
- `ipv6 dhcp-relay`
- `ipv6 dhcp-relay fwd-path WORD<0-255>`
- `ipv6 dhcp-relay fwd-path WORD<0-255> enable`
- `ipv6 dhcp-relay fwd-path WORD<0-255> vrid WORD<1-255>`
- `ipv6 dhcp-relay max-hop <1-32>`
- `ipv6 dhcp-relay remoteId`
- `no ipv6 dhcp-relay`
- `no ipv6 dhcp-relay fwd-path WORD<0-255>`
- `no ipv6 dhcp-relay fwd-path WORD<0-255> enable`
- `no ipv6 dhcp-relay remoteId`

Default

None

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`max-hop <1-32>`	Configures the maximum number of hops before a BootP/DHCP packet is discarded. The default is 32.
`remoteId`	Enables the Remote ID. The default is disabled.

vrid WORD<1-255>	Specifies the ID of the virtual router and is an integer from 1-255.
WORD<0-255>	Creates a forwarding path to the Dynamic Host Configuration Protocol (DHCP) server with a mode and a state. WORD<0-255> is the IPv6 address of the server. The default IP address of the relay is the address of the interface. If the relay is a Virtual Router configured on this interface, you must set the vrid. By default, the forwarding path is disabled.

ipv6 dhcp-relay fwd-path

Create the forwarding path from the client to the server.

Syntax

- `default ipv6 dhcp-relay fwd-path WORD<0-255> WORD<0-255>`
- `ipv6 dhcp-relay fwd-path WORD<0-255> WORD<0-255>`
- `ipv6 dhcp-relay fwd-path WORD<0-255> WORD<0-255> enable`
- `no ipv6 dhcp-relay fwd-path WORD<0-255> WORD<0-255>`
- `no ipv6 dhcp-relay fwd-path WORD<0-255> WORD<0-255> enable`

Default

`The default is disabled.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`enable`	Enables the forwarding path to the server.
`WORD<0-255>`	Configures the forwarding path from the client to the server. The first WORD<0-255> is the IP address configured on an interface (a locally configured IP address) to forward or relay BootP or DHCP. This address is the relay agent. The relay can be a VRRP address.
`WORD<0-255>`	The second WORD<0-255> is the IP address of the DHCP server in the network. If this IP address corresponds to the locally configured IP network the system generates an error because IPv6 does not include broadcast.

ipv6 forwarding (for a port)

Configure IPv6 forwarding. By default, IPv6 forwarding is globally disabled, which means you can only use local IPv6 connections, and traffic does not traverse an IPv6 network.

Syntax

- `default ipv6 forwarding`
- `ipv6 forwarding`
- `no ipv6 forwarding`

Default

`By default, forwarding is enabled on an interface. You must enable it globally before the interface configuration takes effect.`

Command mode

GigabitEthernet Interface Configuration

ipv6 forwarding (for a VLAN)

Configure IPv6 forwarding. By default, IPv6 forwarding is globally disabled, which means you can only use local IPv6 connections, and traffic does not traverse an IPv6 network.

Syntax

- `default ipv6 forwarding`
- `ipv6 forwarding`
- `no ipv6 forwarding`

Default

`By default, forwarding is enabled on an interface. You must enable it globally before the interface configuration takes effect.`

Command mode

VLAN Interface Configuration

ipv6 forwarding (globally)

Configure IPv6 forwarding. By default, IPv6 forwarding is globally disabled, which means you can only use local IPv6 connections, and traffic does not traverse an IPv6 network.

Syntax

- `default ipv6 forwarding`
- `ipv6 forwarding`
- `no ipv6 forwarding`

Default

`By default, forwarding is globally disabled. You must enable it globally before the interface configuration takes effect.`

Command mode

Global Configuration

ipv6 hop-limit

Insert a value into the hop-limit field of the IPv6 header.

Syntax

- `default ipv6 hop-limit <0-255>`
- `ipv6 hop-limit <0-255>`

Default

`The default hop limit is 64.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`<0-255>`	Inserts a value into the hop-limit field of IPv6 header in the range of 0 to 255.

ipv6 icmp error-interval

Configure the interval (in milliseconds) for sending ICMPv6 error messages.

Syntax

- `default ipv6 icmp error-interval`
- `ipv6 icmp error-interval <0-2147483647>`

Default

`The default error interval is 1000.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`<0-2147483647>`	Configures the interval (in milliseconds) for sending ICMPv6 error messages. An entry of 0 seconds results in no sent ICMPv6 error messages.

ipv6 icmp error-quota

Configure the number of Internet Control Message Protocol (ICMP) error messages that can be sent during the ICMP error interval.

Syntax

- `default ipv6 icmp error-quota`
- `ipv6 icmp error-quota <0-2000000>`

Default

`The default error quota is 50.`

Command mode

Global Configuration

Command parameters

Parameter	Description
<0-2000000>	Configures the number of internet Control Message Protocol (ICMP) error messages that the system can send during the ICMP error interval. A value of zero instructs the system not to send any ICMP error messages.

ipv6 icmp redirect-msg

Enable Internet Control Message Protocol (ICMP) redirect messages.

Syntax

- `default ipv6 icmp redirect-msg`
- `ipv6 icmp redirect-msg`
- `no ipv6 icmp redirect-msg`

Default

By default ICMP redirect messages are disabled.

Command mode

Global Configuration

ipv6 icmp unreach-msg

Enable Internet Control Message Protocol (ICMP) network unreachable messages.

Syntax

- `default ipv6 icmp unreach-msg`
- `ipv6 icmp unreach-msg`
- `no ipv6 icmp unreach-msg`

Default

`By default ICMP network unreachable messages are disabled.`

Command mode

Global Configuration

ipv6 interface address (for a port)

Configure the IPv6 address for a port.

Syntax

- `ipv6 interface address WORD<0-255>`
- `no ipv6 interface address`
- `no ipv6 interface address WORD<0-255>`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
WORD<0-255>	Assigns an IPv6 address to the port.

ipv6 interface address (for a VLAN)

Configure the IPv6 address for a VLAN.

Syntax

- `ipv6 interface address WORD<0-255>`
- `no ipv6 interface address WORD<0-255>`

Default

None

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
WORD<0-255>	Assigns an IPv6 address to the VLAN.

ipv6 interface address (for the management port)

Configure the IPv6 address for the Ethernet management port.

Syntax

- `ipv6 interface address WORD<0-255>`
- `no ipv6 interface address WORD<0-255>`

Default

None

Command mode

mgmtEthernet Interface Configuration

Command parameters

Parameter	Description
WORD<0-255>	Assigns an IPv6 address to the management port.

ipv6 interface address (loopback)

Create an ipv6 loopback interface address.

Syntax

- `no ipv6 interface address WORD<0-255>`
- `ipv6 interface address WORD<0-255>`

Default

None

Command mode

Loopback Interface Configuration

Command parameters

Parameter	Description
WORD<0-255>	Assigns an IPv6 address to the Loopback Interface.

ipv6 interface enable (for a port)

Enable IPv6 route advertisement on a port.

Syntax

- `default ipv6 interface enable`
- `ipv6 interface enable`
- `ipv6 interface enable vlan <1-4059>`
- `no ipv6 interface enable`

Default

`The default is disabled.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`vlan <1-4059>`	Specifies the VLAN ID.

ipv6 interface enable (for a VLAN)

Enable IPv6 route advertisement on a VLAN.

Syntax

- `default ipv6 interface enable`
- `ipv6 interface enable`
- `no ipv6 interface enable`

Default

`The default is disabled.`

Command mode

VLAN Interface Configuration

ipv6 interface enable (for the management port)

Enable IPv6 route advertisement on the Ethernet management port.

Syntax

- `default ipv6 interface enable`
- `ipv6 interface enable`
- `no ipv6 interface enable`

Default

`The default is disabled.`

Command mode

mgmtEthernet Interface Configuration

ipv6 interface (for a port)

Creates an IPv6 interface.

Syntax

- `default ipv6 interface`
- `ipv6 interface`
- `no ipv6 interface`

Default

None

Command mode

GigabitEthernet Interface Configuration

ipv6 interface hop-limit (for a port)

Configure the maximum number of hops before packets drop.

Syntax

- `default ipv6 interface hop-limit`
- `ipv6 interface hop-limit <1-255>`

Default

`The default is 64 hops.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<1-255>`	Configures the maximum hops.

ipv6 interface hop-limit (for a VLAN)

Configure the maximum number of hops before packets drop.

Syntax

- `default ipv6 interface hop-limit`
- `ipv6 interface hop-limit <1-255>`
- `ipv6 interface link-local WORD<0-19>`

Default

`The default is 64 hops.`

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`<1-255>`	Configures the maximum hops.

ipv6 interface hop-limit (for the management port)

Configure the maximum number of hops before packets drop.

Syntax

- `default ipv6 interface hop-limit`
- `ipv6 interface hop-limit <1-255>`

Default

`The default is 30 hops.`

Command mode

mgmtEthernet Interface Configuration

Command parameters

Parameter	Description
`<1-255>`	Configures the maximum hops.

ipv6 interface link-local (for a port)

Create a link-local address for the port.

Syntax

- `ipv6 interface link-local WORD<0-19>`
- `ipv6 interface link-local WORD<0-19> address WORD<0-46>`
- `ipv6 interface link-local WORD<0-19> enable`
- `ipv6 interface link-local WORD<0-19> mac-offset <0-1535>`
- `ipv6 interface link-local WORD<0-19> name WORD<0-255>`
- `ipv6 interface link-local WORD<0-19> vlan <1-4059>`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
address WORD<0-46>	Specifies the IPv6 address.
enable	Enables route advertisement.
mac-offset <0-1535>	Use mac-offset to request a particular MAC for an IPv6 VLAN. The system has 1536 MAC addresses. The last four addresses are reserved. You can specify a MAC offset when you configure IPv6 on a VLAN, or the system can assign a MAC address from within the available range.
name WORD<0-255>	Assigns a descriptive name. The network management system also configures this string.
vlan <1-4059>	Specifies the VLAN associated with this entry. This value corresponds to the lower 12 bits of the IEEE 802.1Q VLAN tag.
WORD<0-19>	Specifies the 64-bit interface ID used to calculate the actual link-local address.

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ipv6 interface link-local (for a VLAN)

Create a link-local address for the VLAN.

Syntax

- `ipv6 interface link-local WORD<0-19>`

Default

None

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
WORD<0-19>	Specifies the 64-bit interface ID used to calculate the actual link-local address.

ipv6 interface link-local (for the management port)

Create a link-local address for the Ethernet management port.

Syntax

- `ipv6 interface link-local WORD<0-19>`

Default

None

Command mode

mgmtEthernet Interface Configuration

Command parameters

Parameter	Description
WORD<0-19>	Specifies the link-local address for the management port.

ipv6 interface mac-offset

Request a MAC for an IPv6 VLAN.

Syntax

- `ipv6 interface mac-offset <0-1535>`

Default

None

Command mode

VLAN Interface Configuration

ipv6 interface mtu (for a port)

Configure the maximum transmission unit for the port.

Syntax

- `default ipv6 interface mtu`
- `ipv6 interface mtu <1280-9500>`

Default

`The default is 1500.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<1280-9500>`	Configures the maximum transmission unit for the interface: 1280-1500, 1850, or 9500.

ipv6 interface mtu (for a VLAN)

Configure the maximum transmission unit for the VLAN.

Syntax

- `default ipv6 interface mtu`
- `ipv6 interface mtu <1280-9500>`

Default

`The default is 1500.`

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`<1280-9500>`	Configures the maximum transmission unit for the interface: 1280-1500, 1850, or 9500.

ipv6 interface mtu (for the management port)

Configure the maximum transmission unit for the Ethernet management port.

Syntax

- `default ipv6 interface mtu`
- `ipv6 interface mtu <1280-1500>`

Default

`The default is 1500.`

Command mode

mgmtEthernet Interface Configuration

Command parameters

Parameter	Description
`<1280-1500>`	Configures the maximum transmission unit for the interface.

ipv6 interface name (for a port)

Configure an interface description for the port.

Syntax

- `ipv6 interface name WORD<0-255>`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
WORD<0-255>	Assigns a descriptive name to the port.

ipv6 interface name (for a VLAN)

Configure an interface description for the VLAN.

Syntax

- `ipv6 interface name WORD<0-255>`

Default

None

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
WORD<0-255>	Assigns a descriptive name to the VLAN.

ipv6 interface name (for the management port)

Configure an interface description for the Ethernet management port.

Syntax

- `ipv6 interface name WORD<0-255>`

Default

None

Command mode

mgmtEthernet Interface Configuration

Command parameters

Parameter	Description
WORD<0-255>	Assigns a descriptive name to the management port.

ipv6 interface reachable-time (for a port)

Configure the time a neighbor is considered reachable after receiving a reachability confirmation.

Syntax

- `default ipv6 interface reachable-time`
- `ipv6 interface reachable-time <1-3600000>`

Default

`The default is 30000.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<1-3600000>`	Configures the time, in milliseconds, a neighbor is considered reachable after receiving a reachability confirmation.

ipv6 interface reachable-time (for a VLAN)

Configure the time a neighbor is considered reachable after receiving a reachability confirmation.

Syntax

- `default ipv6 interface reachable-time`
- `ipv6 interface reachable-time <1-3600000>`

Default

`The default is 30000.`

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`<1-3600000>`	Configures the time, in milliseconds, a neighbor is considered reachable after receiving a reachability confirmation.

ipv6 interface reachable-time (for the management port)

Configure the time a neighbor is considered reachable after receiving a reachability confirmation.

Syntax

- `default ipv6 interface reachable-time`
- `ipv6 interface reachable-time <0-3600000>`

Default

The default is 30000.

Command mode

mgmtEthernet Interface Configuration

Command parameters

Parameter	Description
<0-3600000>	Configures the time, in milliseconds, a neighbor is considered reachable after receiving a reachability confirmation.

ipv6 interface retransmit-timer (for a port)

Configure the time, between retransmissions of Neighbor Solicitation messages to a neighbor when resolving the address or when probing the reachability of a neighbor.

Syntax

- `default ipv6 interface retransmit-timer`
- `ipv6 interface retransmit-timer <1-4294967295>`

Default

`The default is 1000.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<1-4294967295>`	Configures the time, in milliseconds, between retransmissions of Neighbor Solicitation messages to a neighbor when resolving the address or when probing the reachability of a neighbor.

ipv6 interface retransmit-timer (for a VLAN)

Configure the time, between retransmissions of Neighbor Solicitation messages to a neighbor when resolving the address or when probing the reachability of a neighbor.

Syntax

- `default ipv6 interface retransmit-timer`
- `ipv6 interface retransmit-timer <1-4294967295>`

Default

`The default is 1000.`

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`<1-4294967295>`	Configures the time, in milliseconds, between retransmissions of Neighbor Solicitation messages to a neighbor when resolving the address or when probing the reachability of a neighbor.

ipv6 interface retransmit-timer (for the management port)

Configure the time, between retransmissions of Neighbor Solicitation messages to a neighbor when resolving the address or when probing the reachability of a neighbor.

Syntax

- `default ipv6 interface retransmit-timer`
- `ipv6 interface retransmit-timer <0-3600000>`

Default

`The default is 1000.`

Command mode

mgmtEthernet Interface Configuration

Command parameters

Parameter	Description
`<0-3600000>`	Configures the time, in milliseconds, between retransmissions of Neighbor Solicitation messages to a neighbor when resolving the address or when probing the reachability of a neighbor.

ipv6 interface vlan (for a port)

Configure the interface as part of an IPv6 VLAN.

Syntax

- `ipv6 interface vlan <1-4059>`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
<1-4059>	Specifies the VLAN ID.

ipv6 ipsec enable (for a port)

Enable Internet Protocol Security (IPsec) on a port.

Syntax

- `default ipv6 ipsec enable`
- `ipv6 ipsec enable`
- `no ipv6 ipsec enable`

Default

`The default is disabled.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`enable`	Enables IPsec on the IPv6 interface.

ipv6 ipsec enable (for a VLAN)

Enable Internet Protocol Security (IPsec) on a VLAN.

Syntax

- `default ipv6 ipsec enable`
- `ipv6 ipsec enable`
- `no ipv6 ipsec enable`

Default

`The default is disabled.`

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`enable`	Enables IPsec on the IPv6 interface.

ipv6 ipsec policy

Create and configure an Internet Protocol Security (IPsec) policy.

Syntax

- default ipv6 ipsec policy WORD<1-32>
- ipv6 ipsec policy WORD<1-32>
- ipv6 ipsec policy WORD<1-32> admin enable
- ipv6 ipsec policy WORD<1-32> raddr WORD<1-32>
- ipv6 ipsec policy WORD<1-32> raddr WORD<1-32> action drop
- ipv6 ipsec policy WORD<1-32> raddr WORD<1-32> action permit
- ipv6 ipsec policy WORD<1-32> raddr WORD<1-32> laddr WORD<1-32>
- ipv6 ipsec policy WORD<1-32> raddr WORD<1-32> protocol icmpv6
- ipv6 ipsec policy WORD<1-32> raddr WORD<1-32> protocol ospfv3
- ipv6 ipsec policy WORD<1-32> raddr WORD<1-32> protocol tcp sport <1-65535> dport <1-65535>
- ipv6 ipsec policy WORD<1-32> raddr WORD<1-32> protocol tcp sport <1-65535> dport any
- ipv6 ipsec policy WORD<1-32> raddr WORD<1-32> protocol tcp sport any dport <1-65535>
- ipv6 ipsec policy WORD<1-32> raddr WORD<1-32> protocol tcp sport any dport any
- ipv6 ipsec policy WORD<1-32> raddr WORD<1-32> protocol udp sport <1-65535> dport <1-65535>
- ipv6 ipsec policy WORD<1-32> raddr WORD<1-32> protocol udp sport <1-65535> dport any
- ipv6 ipsec policy WORD<1-32> raddr WORD<1-32> protocol udp sport any dport <1-65535>
- ipv6 ipsec policy WORD<1-32> raddr WORD<1-32> protocol udp sport any dport any
- no ipv6 ipsec policy WORD<1-32>
- no ipv6 ipsec policy WORD<1-32> admin enable

Default

The default is disabled.

Command mode

Global Configuration

Command parameters

Parameter	Description
action <drop|permit>	Specifies the action the policy takes. The default is permit.
admin enable	Enables an IPsec policy. The default is disabled.
laddr WORD<1-32>	Specifies the local address. This field is optional. laddr is an optional parameter that allows you to have multiple local addresses for each remote address. If you do not configure this parameter, then the IPv6 address 0::0 is the default, which configures this parameter to any address.
protocol <icmpv6|ospfv3|tcp|udp>	Specifies the protocol, as one of the following: ICMPv6, OSPFv3, TCP, and UDP. The default is TCP.
raddr WORD<1-32>	Specifies the remote address. Use the address 0::0 to configure raddr to any, which allows the parameter to act as a wildcard entry with any destination acceptable.
security-association WORD<1-32>	Add IPsec Security Association with the policy for the specified SA ID.
WORD<1-32>	Specifies and creates the IPsec policy name.

ipv6 ipsec policy admin enable

Enable an Internet Protocol Security (IPsec) policy.

Syntax

- `ipv6 ipsec policy WORD<1-32> admin enable`
- `no ipv6 ipsec policy WORD<1-32> admin enable`

Default

`The default is disabled.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`admin enable`	Enables the IPsec policy name.
`WORD<1-32>`	Specifies the IPsec policy name.

ipv6 ipsec policy (for a port)

Link an Internet Protocol Security (IPsec) policy to an interface.

Syntax

- `default ipv6 ipsec policy WORD<1-32> dir both`
- `default ipv6 ipsec policy WORD<1-32> dir in`
- `default ipv6 ipsec policy WORD<1-32> dir out`
- `ipv6 ipsec policy WORD<1-32>`
- `ipv6 ipsec policy WORD<1-32> dir both`
- `ipv6 ipsec policy WORD<1-32> dir in`
- `ipv6 ipsec policy WORD<1-32> dir out`
- `no ipv6 ipsec policy WORD<1-32> dir both`
- `no ipv6 ipsec policy WORD<1-32> dir in`
- `no ipv6 ipsec policy WORD<1-32> dir out`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`dir <both|in|out>`	Specifies the direction to which IPsec applies. Both specifies both ingress and egress traffic, in specifies ingress traffic, and out specifies egress traffic. By default, the direction is both.
`WORD<1-32>`	Specifies the IPsec policy name.

ipv6 ipsec policy (for a VLAN)

Link an Internet Protocol Security (IPsec) policy to a VLAN.

Syntax

- `default ipv6 ipsec policy WORD<1-32> dir both`
- `default ipv6 ipsec policy WORD<1-32> dir in`
- `default ipv6 ipsec policy WORD<1-32> dir out`
- `ipv6 ipsec policy WORD<1-32> dir both`
- `ipv6 ipsec policy WORD<1-32> dir in`
- `ipv6 ipsec policy WORD<1-32> dir out`
- `no ipv6 ipsec policy WORD<1-32> dir both`
- `no ipv6 ipsec policy WORD<1-32> dir in`
- `no ipv6 ipsec policy WORD<1-32> dir out`

Default

None

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`dir <both|in|out>`	Specifies the direction to which IPsec applies. Both specifies both ingress and egress traffic, in specifies ingress traffic, and out specifies egress traffic. By default, the direction is both.
`WORD<1-32>`	Specifies the IPsec policy name.

ipv6 ipsec policy security-association

Link an Internet Protocol Security (IPsec) policy to an IPsec security association.

Syntax

- `default ipv6 ipsec policy WORD<1-32> security-association WORD<1-32>`
- `ipv6 ipsec policy WORD<1-32> security-association WORD<1-32>`
- `no ipv6 ipsec policy WORD<1-32> security-association WORD<1-32>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`policy WORD<1-32>`	Specifies the policy ID.
`security-association WORD<1-32>`	Specifies the security association.

ipv6 ipsec security-association

Create and configure an Internet Protocol Security (IPsec) security association.

Syntax

- default ipv6 ipsec security-association WORD<1-32>
- ipv6 ipsec security-association WORD<1-32>
- ipv6 ipsec security-association WORD<1-32> auth-algo AES-XCBC-MAC
- ipv6 ipsec security-association WORD<1-32> auth-algo AES-XCBC-MAC auth-key WORD<1-256> KeyLength <1-256>
- ipv6 ipsec security-association WORD<1-32> auth-algo MD5
- ipv6 ipsec security-association WORD<1-32> auth-algo MD5 auth-key WORD<1-256> KeyLength <1-256>
- ipv6 ipsec security-association WORD<1-32> auth-algo NULL
- ipv6 ipsec security-association WORD<1-32> auth-algo NULL auth-key WORD<1-256> KeyLength <1-256>
- ipv6 ipsec security-association WORD<1-32> auth-algo SHA1
- ipv6 ipsec security-association WORD<1-32> auth-algo SHA1 auth-key WORD<1-256> KeyLength <1-256>
- ipv6 ipsec security-association WORD<1-32> encap-proto AH
- ipv6 ipsec security-association WORD<1-32> encap-proto ESP
- ipv6 ipsec security-association WORD<1-32> Encrpt-algo 3DES
- ipv6 ipsec security-association WORD<1-32> Encrpt-algo 3DES EncrptKey WORD<1-256> KeyLength <1-256>
- ipv6 ipsec security-association WORD<1-32> Encrpt-algo AES-CBC
- ipv6 ipsec security-association WORD<1-32> Encrpt-algo AES-CBC EncrptKey WORD<1-256> KeyLength <1-256>
- ipv6 ipsec security-association WORD<1-32> Encrpt-algo AES-CTR
- ipv6 ipsec security-association WORD<1-32> Encrpt-algo AES-CTR EncrptKey WORD<1-256> KeyLength <1-256>
- ipv6 ipsec security-association WORD<1-32> Encrpt-algo NULL

- `ipv6 ipsec security-association WORD<1-32> Encrpt-algo NULL EncrptKey WORD<1-256> KeyLength <1-256>`
- `ipv6 ipsec security-association WORD<1-32> key-mode automatic`
- `ipv6 ipsec security-association WORD<1-32> key-mode manual`
- `ipv6 ipsec security-association WORD<1-32> lifetime Bytes <0-536870912>`
- `ipv6 ipsec security-association WORD<1-32> lifetime seconds <0-86400>`
- `ipv6 ipsec security-association WORD<1-32> mode transport`
- `ipv6 ipsec security-association WORD<1-32> spi <1-4294967295>`
- `no ipv6 ipsec security-association WORD<1-32>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`auth-algo <AES-XCBC-MAC| 32 MD5|NULL|SHA1>`	The authentication algorithm parameter specifies the authorization algorithm, which includes one of the following values: AES-XCBC-MAC, MD5, NULL, and SHA1. The default authentication algorithm name is MD5.
`auth-key WORD<1-256> [KeyLength WORD<1-256>]`	The parameter auth-key specifies the authentication key. KeyLength specifies the KeyLength value that can be a string of 1 to 256 characters. The default KeyLength is 128. The KeyLength values are as follows: 3DES is 48, AES-CBC is 32, 48, or 64, AES-CTR is 32.
`encap-proto <AH|ESP>`	Specifies the encapsulation protocol. AH specifies the authentication header and ESP specifies the encapsulation security payload. If you configure the encapsulation protocol as AH, you cannot configure the encryption algorithms and othe rencryption related attributes. You can only access the encryption algorithm parameters if you configure the encapsulation protocol to ESP. The default value is ESP.
`Encrpt-algo <3DES|AES24 CBC|AES-CTR|NULL>`	Specifies the encryption algorithm avlue as one of the following: 3DES-CBC, AES-CBC, AES-CTR, and NULL. The default encryption algorithm value is AES-CBC. You can only access the encryption algorithm parameters if you configure the encapsulation protocol to ESP.
`EncrptKey WORD<1-256> [KeyLength WORD<1-256>]`	EncrptKey specifies the encryption key. KeyLength specifies the KeyLength value that can be a string of 1 to 256 characters. The default KeyLength is 128. The KeyLength values are as follows: 3DES is 48, AES-CBC is 32, 48, or 64, AES-CTR is 32.
`key-mode <automatic|manual>`	Specifies the key-mode as one of the following: automatic or manual. The default is manual.
`lifetime <Bytes <0-536870912>|seconds <0-86400>`	Specifies the lifetime value in seconds or kilobytes. The default lifetime value in seconds or in bytes is 0, which is infinite.

mode <transport|tunnel>	Specifies the mode value in either transport or tunnel. Transport mode encapsulates the IP payload and provides a secure connection between two end points. This release only supports transport mode.Tunnel mode encapsulates the entire IP packet and provides a secure tunnel. This release does not support tunnel mode. The default is transport mode.
spi <1-4294967295>	Specifies the security parameters index (SPI) value,which is a unique value. SPI is a tag IPsec adds to the IP header. The tag enables the system that receives the IP packet to determine under which security association to process the received packet. For IPsec to function, each peer must have the same SPI value configured on both peers for a particular policy.
WORD<1-32>	Specifies the security association and creates the security association.

ipv6 nd dad-ns (for a port)

Configure the number of neighbor solicitation messages from duplicate address detection.

Syntax

- `default ipv6 nd dad-ns`
- `ipv6 nd dad-ns <0-600>`

Default

`The default is 1.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<0-600>`	Configures the number of neighbor solicitation messages from duplicate address detection. A value of 0 disables duplicate address detection on the specified interface. A value of 1 configures a single transmission without follow-up transmissions.

ipv6 nd dad-ns (for a VLAN)

Configure the number of neighbor solicitation messages from duplicate address detection.

Syntax

- `default ipv6 nd dad-ns`
- `ipv6 nd dad-ns <0-600>`
- `ipv6 nd dad-ns <0-600> other-config-flag`

Default

`The default is 1.`

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`<0-600>`	Configures the number of neighbor solicitation messages from duplicate address detection. A value of 0 disables duplicate address detection on the specified interface. A value of 1 configures a single transmission without follow-up transmissions.

ipv6 nd dad-ns (for the management port)

Configure the number of neighbor solicitation messages from duplicate address detection.

Syntax

- `default ipv6 nd dad-ns`
- `ipv6 nd dad-ns <0-600>`

Default

`The default is 1.`

Command mode

mgmtEthernet Interface Configuration

Command parameters

Parameter	Description
`<0-600>`	Configures the number of neighbor solicitation messages from duplicate address detection. A value of 0 disables duplicate address detection on the specified interface. A value of 1 configures a single transmission without follow-up transmissions.

ipv6 nd (for a port)

Configure the neighbor discovery parameters of the interface.

Syntax

- `default ipv6 nd`
- `default ipv6 nd hop-limit`
- `default ipv6 nd mtu`
- `default ipv6 nd reachable-time`
- `default ipv6 nd retransmit-timer`
- `ipv6 nd hop-limit <0-255>`
- `ipv6 nd mtu <0-9500>`
- `ipv6 nd reachable-time <0-3600000>`
- `ipv6 nd retransmit-timer <0-4294967295>`
- `no ipv6 nd`
- `no ipv6 nd hop-limit`
- `no ipv6 nd mtu`
- `no ipv6 nd reachable-time`
- `no ipv6 nd retransmit-timer`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`hop-limit <0-255>`	Sets the neighbor discovery hop-limit value for the interface.
`mtu <0-9500>`	Sets router advertisement MTU size.
`reachable-time <0-3600000>`	Sets router advertisement reachable time.

`retransmit-timer <0-4294967295>`	Sets router advertisement retransmit timer.

ipv6 nd hop-limit (for a port)

Configure the hop limit sent in router advertisements.

Syntax

- `ipv6 nd hop-limit <0-255>`

Default

`The default is 64.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`hoplimit <0-255>`	Specifies the current hop limit field sent in router advertisements from this interface. The value must be the current diameter of the Internet. A value of zero indicates that the advertisement does not specify a hop-limit value.

ipv6 nd managed-config-flag (for a port)

Enable M-bit (managed address configuration) on the router.

Syntax

- `default ipv6 nd managed-config-flag`
- `ipv6 nd managed-config-flag`
- `no ipv6 nd managed-config-flag`

Default

`The default is disabled.`

Command mode

GigabitEthernet Interface Configuration

ipv6 nd managed-config-flag (for a VLAN)

Enable M-bit (managed address configuration) on the router.

Syntax

- `default ipv6 nd managed-config-flag`
- `ipv6 nd managed-config-flag`
- `no ipv6 nd managed-config-flag`

Default

`The default is disabled.`

Command mode

VLAN Interface Configuration

ipv6 nd mtu (for a port)

Configure the maximum transmission unit (MTU) for router advertisements.

Syntax

- `ipv6 nd mtu <0-9500>`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`mtu <0-9500>`	Shows the MTU value sent in router advertisements on this interface. A value of zero indicates that the system sends no MTU options. Valid values are: 0, 1280-1500, 1850, or 9500.

ipv6 nd other-config-flag (for a port)

Enable the O-bit (other stateful configuration) in the router advertisement. Other stateful configuration autoConfigure received information without addresses.

Syntax

- `default ipv6 nd other-config-flag`
- `ipv6 nd other-config-flag`
- `no ipv6 nd other-config-flag`

Default

`The default is disabled.`

Command mode

GigabitEthernet Interface Configuration

ipv6 nd other-config-flag (for a VLAN)

Enable the O-bit (other stateful configuration) in the router advertisement. Other stateful configuration autoConfigure received information without addresses.

Syntax

- `default ipv6 nd other-config-flag`
- `ipv6 nd other-config-flag`
- `no ipv6 nd other-config-flag`

Default

`The default is disabled.`

Command mode

VLAN Interface Configuration

ipv6 nd prefix (for a port)

Configure neighbor discovery prefixes. IPv6 nodes on the same link use ND to discover link-layer addresses and to obtain and advertise various network parameters and reachability information. ND combines the services provided by ARP and router discovery for IPv4. IPv6 router advertisement includes discovery prefixes.

Syntax

- `default ipv6 nd prefix WORD<0-255>`
- `default ipv6 nd prefix WORD<0-255> no-advertise`
- `default ipv6 nd prefix WORD<0-255> preferred-life`
- `default ipv6 nd prefix WORD<0-255> valid-life`
- `ipv6 nd prefix WORD<0-255> infinite`
- `ipv6 nd prefix WORD<0-255> no-advertise`
- `ipv6 nd prefix WORD<0-255> preferred-life <0-4294967295>`
- `ipv6 nd prefix WORD<0-255> valid-life <0-4294967295>`
- `no ipv6 nd prefix WORD<0-255>`
- `no ipv6 nd prefix WORD<0-255> no-advertise`
- `no ipv6 nd prefix-interface WORD<0-255>`
- `no ipv6 nd prefix-interface WORD<0-255> no-advertise`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
infinite	Configures the prefix as infinite.
no-advertise	Removes the prefix from the neighbor advertisement. The default for noadvertise is disabled.
preferred-life <0-4294967295>	Configures the preferred life, in seconds. The valid range is 0-4294967295. The default preferred-life is 604800.
valid-life <0-	Configures the valid life, in seconds. The valid range is 0-4294967295. The

4294967295> default valid-life is 2592000.

ipv6 nd prefix (for a VLAN)

Configure neighbor discovery prefixes. IPv6 nodes on the same link use ND to discover link-layer addresses and to obtain and advertise various network parameters and reachability information. ND combines the services provided by ARP and router discovery for IPv4. IPv6 router advertisement includes discovery prefixes.

Syntax

- `default ipv6 nd prefix WORD<0-255> [no-advertise] [preferred-life] [valid-life]`
- `ipv6 nd prefix WORD<0-255> infinite`
- `ipv6 nd prefix WORD<0-255> no-advertise`
- `ipv6 nd prefix WORD<0-255> preferred-life <0-4294967295>`
- `ipv6 nd prefix WORD<0-255> valid-life <0-4294967295>`
- `no ipv6 nd prefix WORD<0-255> [no-advertise]`

Default

None

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
infinite	figures the prefix as infinite.
no-advertise	Removes the prefix from the neighbor advertisement. The default for noadvertise is disabled.
preferred-life <0-4294967295>	Configures the preferred life, in seconds. The valid range is 0-4294967295. The default preferred-life is 604800.
valid-life <0-4294967295>	Configures the valid life, in seconds. The valid range is 0-4294967295. The default valid-life is 2592000.

ipv6 nd prefix-interface (for a port)

Configure neighbor discovery prefixes IPv6 nodes on the same link use ND to discover link-layer addresses and to obtain and advertise various network parameters and reachability information. ND combines the services provided by Address Resolution Protocol (ARP) and router discovery for IPv4. IPv6 router advertisement includes discovery prefixes.

Syntax

- `default ipv6 nd prefix-interface WORD<0-255>`
- `default ipv6 nd prefix-interface WORD<0-255> no-advertise`
- `ipv6 nd prefix-interface WORD<0-255>`
- `ipv6 nd prefix-interface WORD<0-255> eui <1-3>`
- `ipv6 nd prefix-interface WORD<0-255> no-advertise`
- `ipv6 nd prefix-interface WORD<0-255> no-autoconfig`
- `ipv6 nd prefix-interface WORD<0-255> no-onlink`
- `no ipv6 nd prefix-interface WORD<0-255> [no-advertise]`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`eui <1-3>`	Specifies if extended unique identifier (EUI) is used. The values are:(1) EUI not used (2) EUI with Universal/Local bit (U/L) complement enabled (3) EUI used without U/L.
`no-advertise`	Removes the prefix from the neighbor advertisement. The default is disabled.
`no-autoconfig`	Configures if the prefix is used for autonomous address configuration.
`no-onlink`	Configures if onlink determination uses the prefix. This value is placed in the L-bit field in the prefix information option and is a 1-bit flag.
`WORD <0-255>`	Specifies the IPv6 address prefix.

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ipv6 nd ra-lifetime (for a port)

Configure the router lifetime included in router advertisement. Other devices use this information to determine if the router can be reached.

Syntax

- `default ipv6 nd ra-lifetime`
- `ipv6 nd ra-lifetime <0-9000>`

Default

`The default is 1800.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<0-9000>`	Configures the router lifetime included in router advertisement. The range is 0 or <4-9000>.

ipv6 nd ra-lifetime (for a VLAN)

Configure the router lifetime included in router advertisement. Other devices use this information to determine if the router can be reached.

Syntax

- `default ipv6 nd ra-lifetime`
- `ipv6 nd ra-lifetime <0-9000>`

Default

`The default is 1800.`

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`<0-9000>`	Configures the router lifetime included in router advertisement. The range is 0 or <4-9000>.

ipv6 nd reachable-time (for a port)

Configure the neighbor reachable time.

Syntax

- `ipv6 nd reachable-time <0-3600000>`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`reachable-time <0-3600000>`	Specifies a value (in milliseconds) placed in the router advertisement message sent by the router. The value zero means unspecified (by this system). Configure the amount of time that a remote IPv6 node is considered reachable after a reachability confirmation event.

ipv6 nd retransmit-timer (for a port)

Configure the time between neighbor solicitation messages.

Syntax

- `ipv6 nd retransmit-timer <0-4294967295>`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`retransmit-timer <0-4294967295>`	Specifies a value (in milliseconds) placed in the retransmit timer field in the router advertisement message sent from this interface. The value zero means unspecified (by this system). The value configures the amount of time the system waits for the transmission to occur.

ipv6 nd rtr-advert-max-interval (for a port)

Configure the maximum time allowed between sending unsolicited multicast router advertisements.

Syntax

- `default ipv6 nd rtr-advert-max-interval`
- `ipv6 nd rtr-advert-max-interval <4-1800>`

Default

`The default is 600.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<4-1800>`	Specifies the maximum interval value.

ipv6 nd rtr-advert-max-interval (for a VLAN)

Configure the maximum time allowed between sending unsolicited multicast router advertisements.

Syntax

- `default ipv6 nd rtr-advert-max-interval`
- `ipv6 nd rtr-advert-max-interval <4-1800>`

Default

`The default is 600.`

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`<4-1800>`	Specifies the maximum interval value.

ipv6 nd rtr-advert-min-interval (for a port)

Configure the minimum time allowed between sending unsolicited multicast router advertisements from the interface.

Syntax

- `default ipv6 nd rtr-advert-min-interval`
- `ipv6 nd rtr-advert-min-interval <3-1350>`

Default

`The default is 200.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<3-1350>`	Configures the minimum time, in seconds.

ipv6 nd rtr-advert-min-interval (for a VLAN)

Configure the minimum time allowed between sending unsolicited multicast router advertisements from the interface.

Syntax

- `default ipv6 nd rtr-advert-min-interval`
- `ipv6 nd rtr-advert-min-interval <3-1350>`

Default

`The default is 200.`

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`<3-1350>`	Configures the minimum time, in seconds.

ipv6 nd send-ra (for a port)

Enable or disables periodic router advertisement messages.

Syntax

- `default ipv6 nd send-ra`
- `ipv6 nd send-ra`
- `no ipv6 nd send-ra`

Default

`The default is enabled.`

Command mode

GigabitEthernet Interface Configuration

ipv6 nd send-ra (for a VLAN)

Enable or disables periodic router advertisement messages.

Syntax

- `default ipv6 nd send-ra`
- `ipv6 nd send-ra`
- `no ipv6 nd send-ra`

Default

`The default is enabled.`

Command mode

VLAN Interface Configuration

ipv6 nd valid-life (for a port)

Modify an existing neighbor discovery prefix. Configure the valid lifetime in seconds that indicates the length of time this prefix is advertised.

Syntax

- `ipv6 nd prefix WORD<0-255> valid-life <0-4294967295>`

Default

`The default is 2592000.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`valid-life <0-4294967295>`	Configures the valid lifetime in seconds that indicates the length of time this prefix is advertised. The default is 2592000. A valid lifetime is the length of time of the preferred and depreciated state of an auto configuration address.
`WORD<0-255>`	Specifies the IPv6 address and prefix.

ipv6 neighbor

Comands to configure IPv6 neighbors globally.

Syntax

- `ipv6 neighbor WORD<0-128> port {slot/port[sub-port]} mac 0x00:0x00:0x00:0x00:0x00:0x00 vlan <1-4059>`
- `no ipv6 neighbor WORD<0-128> port {slot/port[sub-port]}`
- `no ipv6 neighbor WORD<0-128> vlan <1-4059>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`mac 0x00:0x00:0x00:0x00:0x00:0x00`	Specifies the MAC address.
`port {slot/port[sub-port]}`	Specifies the port number.
`vlan <1-4059>`	Specifies the VLAN ID.
`WORD<0-128>`	Ipv6 address in hex colon format.

ipv6 ospf area (for a VLAN)

Configure an OSPFv3 area on an interface.

Syntax

- `ipv6 ospf area {A.B.C.D}`
- `ipv6 ospf area {A.B.C.D} cost <0-65535>`
- `ipv6 ospf area {A.B.C.D} dead-interval <1-65535>`
- `ipv6 ospf area {A.B.C.D} hello-interval <1-65535>`
- `ipv6 ospf area {A.B.C.D} network eth`
- `ipv6 ospf area {A.B.C.D} network nbma`
- `ipv6 ospf area {A.B.C.D} network p2mp`
- `ipv6 ospf area {A.B.C.D} network p2p`
- `ipv6 ospf area {A.B.C.D} network passive`
- `ipv6 ospf area {A.B.C.D} priority <0-255>`
- `ipv6 ospf area {A.B.C.D} retransmit-interval <1-1800>`
- `ipv6 ospf area {A.B.C.D} transit-delay <1-1800>`

Default

None

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`area {A.B.C.D}`	Creates an IPv6 OSPF area.
`cost <0-65535>`	Configures the OSPF metric for the interface. The switch advertises the metric in router link advertisements. The default is 1.
`dead-interval <1-65535>`	Specifies the dead interval, as the number of seconds to wait before determining the OSPF router is down. The default is 40.
`hello-interval <1-65535>`	Specifies the hello interval, in seconds, for hello packets sent between switches for a virtual interface in an OSPF area. The

	default is 10.
network <eth|nbma|p2mp|p2p|passive>	Configures the type of interface as one of the following: eth: broadcast, nbma: NBMA, p2mp: point-to-multipoint, p2p:pointto-point, or passive: passive interface.
priority <0-255>	Configures the OSPF priority for the interface during the election process for the designated router. The interface with the highest priority number is the designated router. The interface with the second-highest priority becomes the backup designated router. If the priority is 0, the interface cannot become either the designated router or a backup. The priority is used only during election of the designated router and backup designated router. The default is 1.
retransmit-interval <1-1800>	Specifies the retransmit interval, in seconds, for link-state advertisements. The default is 5.
transit-delay <1-1800>	Specifies the transit-delay interval, in seconds, required to transmit a link-state update packet over the virtual interface. The default is 1.

ipv6 ospf (for a VLAN)

Configure OSPFv3 on an interface.

Syntax

- default ipv6 ospf
- default ipv6 ospf cost
- default ipv6 ospf dead-interval
- default ipv6 ospf enable
- default ipv6 ospf hello-interval
- default ipv6 ospf nbma-nbr WORD<0-43>
- default ipv6 ospf poll-interval
- default ipv6 ospf priority
- default ipv6 ospf retransmit-interval
- default ipv6 ospf transit-delay
- ipv6 ospf cost <0-65535>
- ipv6 ospf dead-interval <1-65535>
- ipv6 ospf enable
- ipv6 ospf hello-interval <1-65535>
- ipv6 ospf nbma-nbr WORD<0-43> <0-255>
- ipv6 ospf nbma-nbr WORD<0-43> priority <0-255>
- ipv6 ospf poll-interval <0-65535>
- ipv6 ospf priority <0-255>
- ipv6 ospf retransmit-interval <1-1800>
- ipv6 ospf transit-delay <1-1800>
- no ipv6 ospf
- no ipv6 ospf enable
- no ipv6 ospf nbma-nbr WORD<0-43>

Default

None

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
cost <0-65535>	Configures the OSPF metric for the interface. The switch advertises the metric in router link advertisements. The default is 1.
dead-interval <1-65535>	Specifies the dead interval, as the number of seconds to wait before determining the OSPF router is down. The default is 40.
enable	Enables the OSPF on the IPv6 interface.
hello-interval <1-65535>	Specifies the hello interval, in seconds, for hello packets sent between switches for a virtual interface in an OSPF area. The default is 10.
nbma-nbr WORD<0-43>	Configures an NBMA neighbor. WORD<0-43> specifies the IPv6 address. Use priority <0-255> to change an existing priority value for an NBMA neighbor. Use <0-255> to assign the priority value when you create the neighbor.
network <eth | nbma | p2mp | p2p | passive>	Configures the type of interface as one of the following: eth: broadcast, nbma: NBMA, p2mp: point-to-multipoint, p2p:point-to-point, or passive: passive interface.
poll-interval <0-65535>	Configures the polling interval for the OSPF interface in seconds. The default is 120.
priority <0-255>	Configures the OSPF priority for the interface during the election process for the designated router. The interface with the highest priority number is the designated router. The interface with the second-highest priority becomes the backup designated router. If the priority is 0, the interface cannot become either the designated router or a backup. The priority is used only during election of the designated router and backup designated router. The default is 1.
retransmit-interval <1-1800>	Specifies the retransmit interval, in seconds, for link-state advertisements. The default is 5.
transit-delay <1-1800>	Specifies the transit-delay interval, in seconds, required to transmit a link-state update packet over the virtual interface. The default is 1.

ipv6 prefix-list

Use prefix lists to allow or deny specific route updates. A prefix list policy Specify route prefixes to match. When there is a match, the route is used. Configure a prefix list and apply the list to a route policy.

Syntax

- `ipv6 prefix-list WORD<1-64> name WORD<1-64>`
- `ipv6 prefix-list WORD<1-64> WORD<1-256> [ge <0- 128>] [le <0-128>]`
- `no ipv6 prefix-list WORD<1-64> [WORD<1-256>]`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`name WORD<1-64>`	Renames the specified prefix list. The name length is from 1 to 64 characters.
`WORD<1-64> WORD<1-256> ge <0-28> le <0-128>`	Adds a prefix entry to the prefix list. WORD<1-64> is the prefix-list name. WORD<1-256> is the IPv6 address and length. <ge|le><0- 128> is the minimum and maximum length to match. Lower bound and higher bound mask lengths together can define a range of networks.

ipv6 redistribute

Enable redistribution to redistribute IPv6 routes into an OSPFv3 routing domain.

Syntax

- `default ipv6 redistribute {bgp|direct|static} [enable]`
- `ipv6 redistribute bgp enable`
- `ipv6 redistribute direct enable`
- `ipv6 redistribute static enable`
- `no ipv6 redistribute {bgp|direct|static} [enable]`

Default

`The default is disabled.`

Command mode

OSPF Router Configuration

Command parameters

Parameter	Description
`{bgp|direct|static}`	Specifies the type of IPv6 route to redistribute to the OSPFv3 routing domain.
`enable`	Enables redistribution.

ipv6 redistribute (for GRT)

Ipv6 configurations.

Syntax

- `default ipv6 redistribute {bgp|direct|static} [enable]`
- `ipv6 redistribute bgp enable`
- `ipv6 redistribute direct enable`
- `ipv6 redistribute static enable`
- `no ipv6 redistribute {bgp|direct|static} [enable]`

Default

`None`

Command mode

IS-IS Router Configuration

Command parameters

Parameter	Description
`{direct|ospf|static>}`	Specifies the type of IPv6 route to redistribute to the IS-IS routing domain.
`enable`	Enables redistribution.

ipv6 route

Configure a static route to destination IPv6 address prefixes.

Syntax

- default ipv6 route WORD<0-46>
- default ipv6 route WORD<0-46> enable next-hop WORD<0-46>
- default ipv6 route WORD<0-46> enable port {slot/port}
- default ipv6 route WORD<0-46> enable tunnel <1-2000>
- default ipv6 route WORD<0-46> enable vlan <1-4059>
- default ipv6 route WORD<0-46> preference
- default ipv6 route WORD<0-46> preference next-hop WORD<0-46>
- default ipv6 route WORD<0-46> preference port {slot/port}
- default ipv6 route WORD<0-46> preference tunnel <1-2000>
- default ipv6 route WORD<0-46> preference vlan <1-4059>
- ipv6 route WORD<0-46> cost <1-65535>
- ipv6 route WORD<0-46> cost <1-65535> next-hop WORD<0-46>
- ipv6 route WORD<0-46> cost <1-65535> port {slot/port}
- ipv6 route WORD<0-46> cost <1-65535> preference <1-255>
- ipv6 route WORD<0-46> cost <1-65535> tunnel <1-2000>
- ipv6 route WORD<0-46> cost <1-65535> vlan <1-4059>
- ipv6 route WORD<0-46> enable
- ipv6 route WORD<0-46> enable next-hop WORD<0-46>
- ipv6 route WORD<0-46> enable port {slot/port}
- ipv6 route WORD<0-46> enable tunnel <1-2000>
- ipv6 route WORD<0-46> enable vlan <1-4059>
- ipv6 route WORD<0-46> preference <1-255>
- ipv6 route WORD<0-46> preference <1-255> next-hop WORD<0-46>

- `ipv6 route WORD<0-46> preference <1-255> port {slot/port}`
- `ipv6 route WORD<0-46> preference <1-255> tunnel <1-2000>`
- `ipv6 route WORD<0-46> preference <1-255> vlan <1-4059>`
- `no ipv6 route WORD<0-46>`
- `no ipv6 route WORD<0-46> enable`
- `no ipv6 route WORD<0-46> enable next-hop WORD<0-46>`
- `no ipv6 route WORD<0-46> enable port {slot/port}`
- `no ipv6 route WORD<0-46> enable tunnel <1-2000>`
- `no ipv6 route WORD<0-46> enable vlan <1-4059>`
- `no ipv6 route WORD<0-46> next-hop WORD<0-46>`
- `no ipv6 route WORD<0-46> port {slot/port}`
- `no ipv6 route WORD<0-46> tunnel <1-2000>`
- `no ipv6 route WORD<0-46> vlan <1-4059>`

Default

`The default state for a new static route is enable.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`cost <1-65535>`	Specifies the cost or distance ratio to reach the destination for this node. The default cost is 1.
`enable`	Enables the static route on the port. The default state for a new static route is enable.
`next-hop WORD<0-46>`	Specifies the IPv6 address of the next hop on this route. You do not need to specify the next hop if the devices directly connect to one another. Configure the next hop if the two nodes do not share the same network prefix but reside on the same link.
`port {slot/port}`	Specifies the port to which this entry applies. You must specify the port if the next hop is a link-local address.
`preference <1-255>`	Specifies the routing preference of the destination IPv6 address. The default preference is 5.
`tunnel <1-2000>`	Specifies the tunnel to which this entry applies.
`vlan <1-4059>`	Specifies the VLAN to which this entry applies. You must specify the VLAN if the next hop is a link-local address.
`WORD<0-46>`	Specifies the IPv6 destination network address.

ipv6 route preference protocol

Specifies the route preference.

Syntax

- `default ipv6 route preference protocol {static | ospfv3-intra | ospfv3-inter | ospfv3-extern1 | ospfv3-extern2 | spbm-level1}`
- `ipv6 route preference protocol {static | ospfv3-intra | ospfv3-inter | ospfv3-extern1 | ospfv3-extern2 | spbm-level1} <0-255>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`{static | ospfv3-intra | ospfv3-inter | ospfv3-extern1 | ospfv3-extern2 | spbm-level1}`	Specifies the Protocol type.
`<0-255>`	Preference value (0 is reserved for Local routes).

ipv6 router-id

Configure the OSPF router ID.

Syntax

- `default ipv6 router-id`
- `ipv6 router-id {A.B.C.D}`

Default

None

Command mode

OSPF Router Configuration

Command parameters

Parameter	Description
{A.B.C.D}	Specifies the IPv4 address for the router ID.

ipv6 route static

Enable static routes globally. If you disable static routes globally, the system removes all enabled static routes from the RTM and does not add new static routes to the RTM.

Syntax

- `default ipv6 route static enable`
- `ipv6 route static enable`
- `no ipv6 route static enable`

Default

`The default is enabled.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`enable`	Enables the static routes globally.
`static`	Modifies IPv6 static route parameters.

ipv6 send-trap enable

Configure Virtual Router Redundancy Protocol (VRRP) notification control.

Syntax

- `default ipv6 send-trap enable`
- `ipv6 send-trap enable`
- `no ipv6 send-trap enable`

Default

`Generation of SNMP traps for VRRP events is enabled.`

Command mode

VRRP Router Configuration

ipv6-source-address

Configure the circuitless IP (CLIP) interface as the source address for SPBM IPv6 Shortcuts. Assigns a source IPv6 address for locally generated IPv6 packets whose egress port is an SPBM NNI port. The source-address value must be a locally configured loopback IPv6 address. The IS-IS automatically advertises the source-address to other SPBM edge routers when you enable IPv6 shortcuts. You must first configure a valid source-address before you enable IPv6 shortcuts.

Syntax

- `ipv6-source-address WORD<0-46>`

Default

None

Command mode

IS-IS Router Configuration

Command parameters

Parameter	Description
WORD<0-46>	Enter isis ipv6 source address.

ipv6 tunnel

Configure a tunnel for IPv6 VLANs or brouter ports to communicate through an IPv4 network.

Syntax

- `default ipv6 tunnel <1-2000>`
- `default ipv6 tunnel <1-2000> hop-limit`
- `ipv6 tunnel <1-2000> hop-limit <0-255>`
- `ipv6 tunnel <1-2000> source {A.B.C.D} address WORD<0-46> destination {A.B.C.D}`
- `no ipv6 tunnel <1-2000>`

Default

`The default hop-limit is 255.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`<1-2000>`	Specifies the tunnel ID.
`address WORD<0-46>`	Specifies the IPv6 address and length for the local VLAN or brouter port.
`destination{A.B.C.D}`	Configures the address of the remote endpoint of the tunnel.
`hop-limit <0-255>`	Configures the maximum number of hops in the tunnel.
`source {A.B.C.D}`	Configures the address of the local endpoint of the tunnel, or 0.0.0.0 (for IPv4) or :: (for IPv6) if the device is free to choose its addresses at tunnel establishment.

ipv6 tunnel (for OSPF)

Configure OSPF parameters for an IPv6 tunnel.

Syntax

- `default ipv6 tunnel <1-2000>`
- `default ipv6 tunnel <1-2000> dead-interval`
- `default ipv6 tunnel <1-2000> hello-interval`
- `default ipv6 tunnel <1-2000> metric`
- `default ipv6 tunnel <1-2000> poll-interval`
- `default ipv6 tunnel <1-2000> priority`
- `default ipv6 tunnel <1-2000> retransmit-interval`
- `default ipv6 tunnel <1-2000> transmit-delay`
- `ipv6 tunnel <1-2000> area {A.B.C.D}`
- `ipv6 tunnel <1-2000> dead-interval <1-65535>`
- `ipv6 tunnel <1-2000> enable`
- `ipv6 tunnel <1-2000> hello-interval <1-65535>`
- `ipv6 tunnel <1-2000> metric <0-65535>`
- `ipv6 tunnel <1-2000> poll-interval <0-65535>`
- `ipv6 tunnel <1-2000> priority <0-255>`
- `ipv6 tunnel <1-2000> retransmit-interval <1-1800>`
- `ipv6 tunnel <1-2000> transmit-delay <1-1800>`
- `no ipv6 tunnel <1-2000>`
- `no ipv6 tunnel <1-2000> enable`

Default

None

Command mode

OSPF Router Configuration

Command parameters

Parameter	Description
{A.B.C.D}	Specifies the area address.
<1-2000>	Specifies the tunnel ID.
dead-interval <1-65535>	Specifies the dead interval, as the number of seconds to wait before determining the OSPF router is down. The default dead-interval is 40.
hello-interval <1-65535>	Specifies the hello interval, in seconds, for hello packets sent between switches for an interface in an OSPF area. The default hello-interval is 10.
metric <0-65535>	Configures the OSPF metric for the tunnel. The switch advertises the metric in router link advertisements. The default metric is 100.
poll-interval <0-65535>	Configures the polling interval, in seconds, for the OSPF tunnel. The default pollinterval is 120.
priority <0-255>	Configures the OSPF priority for the interface during the election process for the designated router. The interface with the highest priority number is the designated router. The interface with the second-highest priority becomes the backup designated router. If the priority is 0, the interface cannot become either the designated router or a backup. The default priority is 1.
retransmit-interval <1-1800>	Specifies the retransmit interval, in seconds, for link-state advertisements. The default retransmit-interval is 5.
transmit-delay <1-1800>	Specifies the transmit-delay interval, in seconds, required to transmit a link-state update packet over the virtual interface. The default transmit-delay is 1.

ipv6 vrrp address (for a port)

Specify a link-local address to associate with the virtual router. Optionally, you can also assign global unicast IPv6 addresses to associate with the virtual router. Network prefixes for the virtual router are derived from the global IPv6 addresses assigned to the virtual router.

Syntax

- `default ipv6 vrrp address <1-255>`
- `ipv6 vrrp address <1-255> global WORD<0-225>`
- `ipv6 vrrp address <1-255> link-local WORD<0-127>`
- `no ipv6 vrrp address <1-255>`
- `no ipv6 vrrp address <1-255> global WORD<0-225>`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
<1-255>	Specifies the virtual router ID. The virtual router acts as the default router for one or more associated addresses.
link-local WORD<0-127>	Specifies a link-local IPv6 address to associate with the virtual router.

ipv6 vrrp address (for a VLAN)

Specify a link-local address to associate with the virtual router. Optionally, you can also assign global unicast IPv6 addresses to associate with the virtual router. Network prefixes for the virtual router are derived from the global IPv6 addresses assigned to the virtual router.

Syntax

- `default ipv6 vrrp address <1-255>`
- `ipv6 vrrp address <1-255> link-local WORD<0-127>`
- `no ipv6 vrrp address <1-255>`

Default

None

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`<1-255>`	Specifies the virtual router ID. The virtual router acts as the default router for one or more associated addresses.
`link-local WORD<0-127>`	Specifies a link-local IPv6 address to associate with the virtual router.

ipv6 vrrp (for a port)

Configure Virtual Router Redundancy Protocol (VRRP) to provide fast failover of a default router for IPv6 LAN hosts. VRRP supports a virtual IPv6 address shared between two or more routers that connect the common subnet to the enterprise network. VRRP for IPv6 provides a faster switchover to an alternate default router than is possible using the ND protocol.

Syntax

- `default ipv6 vrrp <1-255>`
- `default ipv6 vrrp <1-255> accept-mode enable`
- `default ipv6 vrrp <1-255> action`
- `default ipv6 vrrp <1-255> adver-int`
- `default ipv6 vrrp <1-255> backup-master enable`
- `default ipv6 vrrp <1-255> critical-ipv6 enable`
- `default ipv6 vrrp <1-255> critical-ipv6-addr`
- `default ipv6 vrrp <1-255> enable`
- `default ipv6 vrrp <1-255> fast-adv enable`
- `default ipv6 vrrp <1-255> fast-adv-int`
- `default ipv6 vrrp <1-255> holddown-timer`
- `default ipv6 vrrp <1-255> priority`
- `ipv6 vrrp <1-255> accept-mode enable`
- `ipv6 vrrp <1-255> action none`
- `ipv6 vrrp <1-255> action preempt`
- `ipv6 vrrp <1-255> adver-int <1..40>`
- `ipv6 vrrp <1-255> backup-master enable`
- `ipv6 vrrp <1-255> critical-ipv6 enable`
- `ipv6 vrrp <1-255> critical-ipv6-addr WORD<0-46>`
- `ipv6 vrrp <1-255> enable`
- `ipv6 vrrp <1-255> fast-adv enable`
- `ipv6 vrrp <1-255> fast-adv-int <200-1000>`

- `ipv6 vrrp <1-255> holddown-timer <0-21600>`
- `ipv6 vrrp <1-255> priority <1-255>`
- `no ipv6 vrrp <1-255>`
- `no ipv6 vrrp <1-255> accept-mode enable`
- `no ipv6 vrrp <1-255> backup-master enable`
- `no ipv6 vrrp <1-255> critical-ipv6 enable`
- `no ipv6 vrrp <1-255> enable`
- `no ipv6 vrrp <1-255> fast-adv enable`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<1-255>`	Specifies a number that uniquely identifies a virtual router on an interface. The virtual router acts as the default router for one or more assigned addresses.
`accept-mode enable`	Controls whether a master router accepts packets addressed to the IPv6 address of the address owner as its own if it is not the IPv6 address owner. The default accept-mode enable is disabled.
`action <none|preempt>`	Lists options to override the holddown timer manually and force preemption. None does not override the timer. preempt preempts the timer. This parameter applies only if the holddown timer is active.
`adver-int <1-40>`	Specifies the time interval, in seconds, between sending advertisement messages. Only the master router sends advertisements. The default is 1.
`backup-master enable`	Uses the backup Virtual Router Redundancy Protocol (VRRP) switch for traffic forwarding. This option reduces the traffic on the IST link. The default backupmaster enable is disabled.
`critical-ip enable`	Enables or disables the use of critical IP. When disabled, the Virtual Router Redundancy Protocol (VRRP) ignores the availability of the address configured as critical IP. This address must be a local address.
`critical-ip-addr WORD<0-46>`	Specifies an IP interface on the local router configured so that a change in its state causes a role switch in the virtual router (for example, from master to backup) in case the interface stops responding. The default critical-ip enable is disabled.
`enable`	Enables IPv6 Virtual Router Redundancy Protocol (VRRP). The default is disabled.
`fast-adv enable`	Enables or disables the fast advertisement interval. When disabled, the regular advertisement interval is used. The default fast-adv-int is 200.
`fast-adv-int <200-1000>`	Configures the interval between Virtual Router Redundancy Protocol (VRRP) advertisement messages. You must configure the same value on all participating routers. This unit of measure must be in multiples of 200 milliseconds.
`holddown-timer<0-21600>`	Configures the amount of time, in seconds, to wait before preempting the current Virtual Router Redundancy Protocol (VRRP) master. The default holddown timer is 0.

priority <1-255>	Specifies the priority value used by this Virtual Router Redundancy Protocol (VRRP) router. The value 255 is reserved for the router that owns the IP addresses associated with the virtual router. The default priority is 100.

ipv6 vrrp (for a VLAN)

Configure Virtual Router Redundancy Protocol (VRRP) to provide fast failover of a default router for IPv6 LAN hosts. VRRP supports a virtual IPv6 address shared between two or more routers that connect the common subnet to the enterprise network. VRRP for IPv6 provides a faster switchover to an alternate default router than is possible using the ND protocol.

Syntax

- `default ipv6 vrrp <1-255> [enable]`
- `default ipv6 vrrp <1-255> accept-mode enable`
- `default ipv6 vrrp <1-255> action`
- `default ipv6 vrrp <1-255> adver-int`
- `default ipv6 vrrp <1-255> backup-master enable`
- `default ipv6 vrrp <1-255> critical-ipv6-addr [critical ipv6 enable]`
- `default ipv6 vrrp <1-255> fast-adv enable [fast-adv-int]`
- `default ipv6 vrrp <1-255> holddown-timer`
- `default ipv6 vrrp <1-255> priority`
- `ipv6 vrrp <1-255> accept-mode enable`
- `ipv6 vrrp <1-255> action none`
- `ipv6 vrrp <1-255> action preempt`
- `ipv6 vrrp <1-255> adver-int <1..40>`
- `ipv6 vrrp <1-255> backup-master enable`
- `ipv6 vrrp <1-255> critical-ipv6 enable`
- `ipv6 vrrp <1-255> critical-ipv6-addr WORD<0-46>`
- `ipv6 vrrp <1-255> enable`
- `ipv6 vrrp <1-255> fast-adv enable`
- `ipv6 vrrp <1-255> fast-adv-int <200-1000>`
- `ipv6 vrrp <1-255> holddown-timer <0-21600>`
- `ipv6 vrrp <1-255> priority <1-255>`
- `no ipv6 vrrp <1-255> [enable]`

- `no ipv6 vrrp <1-255> accept-mode enable`
- `no ipv6 vrrp <1-255> backup-master enable`
- `no ipv6 vrrp <1-255> critical ipv6 enable`
- `no ipv6 vrrp <1-255> fast-adv enable`

Default

None

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`<1-255>`	Specifies a number that uniquely identifies a virtual router on an interface. The virtual router acts as the default router for one or more assigned addresses.
`accept-mode enable`	Controls whether a master router accepts packets addressed to the IPv6 address of the address owner as its own if it is not the IPv6 address owner. The default accept-mode enable is disabled.
`action <none|preempt>`	Lists options to override the holddown timer manually and force preemption. None does not override the timer. preempt preempts the timer. This parameter applies only if the holddown timer is active.
`adver-int <1-40>`	Specifies the time interval, in seconds, between sending advertisement messages. Only the master router sends advertisements. The default is 1.
`backup-master enable`	Uses the backup Virtual Router Redundancy Protocol (VRRP) switch for traffic forwarding. This option reduces the traffic on the IST link. The default backupmaster enable is disabled.
`critical-ip enable`	Enables or disables the use of critical IP. When disabled, the Virtual Router Redundancy Protocol (VRRP) ignores the availability of the address configured as critical IP. This address must be a local address. The default critical-ip enable is disabled.
`critical-ip-addr WORD<0-46>`	Specifies an IP interface on the local router configured so that a change in its state causes a role switch in the virtual router (for example, from master to backup) in case the interface stops responding.
`enable`	Enables IPv6 Virtual Router Redundancy Protocol (VRRP). The default is disabled.
`fast-adv enable`	Enables or disables the fast advertisement interval. When disabled, the regular advertisement interval is used. The default is disabled.
`fast-adv-int <200-1000>`	Configures the interval between Virtual Router Redundancy Protocol (VRRP) advertisement messages. You must configure the same value on all participating routers. This unit of measure must be in multiples of 200 milliseconds. The default is 200.
`holddown-timer<0-21600>`	Configures the amount of time, in seconds, to wait before preempting the current Virtual Router Redundancy Protocol (VRRP) master.
`priority <1-255>`	Specifies the priority value used by this Virtual Router Redundancy Protocol (VRRP) router. The value 255 is reserved for the router that owns the IP addresses associated with the virtual router. The default priority is 100.

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ipvpn

Create an IP Virtual Private Network (VPN) instance on the Virtual Routing and Forwarding (VRF).

Syntax

- `default ipvpn`
- `ipvpn enable`
- `no ipvpn`

Default

`The default is disabled.`

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
`enable`	Enable IP Virtual Private Network (VPN) on the Virtual Routing and Forwarding (VRF).

ip vrf

Creates a VRF instance.

Syntax

- default ip vrf WORD<0-16> max-routes
- default ip vrf WORD<0-16> max-routes-trap enable
- default ip vrf WORD<0-16> vrf-trap enable
- ip vrf WORD<0-16>
- ip vrf WORD<0-16> max-routes <0-16000>
- ip vrf WORD<0-16> max-routes-trap enable
- ip vrf WORD<0-16> name WORD<0-16>
- ip vrf WORD<0-16> vrfid <1-511>
- ip vrf WORD<0-16> vrf-trap enable
- no ip rsmlt peer-address
- no ip vrf WORD<0-16>
- no ip vrf WORD<0-16> max-routes-trap enable
- no ip vrf WORD<0-16> vrf-trap enable

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
max-route <0-15488>	Specifies the maximum number of routes for the VRF.
max-routes-trap enable	Enables the sending of traps after the maximum number of routes is reached. The default is enabled.
name WORD<0-16>	Renames the VRF instance.

vrfid <1-511>	Specifies a VRF ID. The switch supports 512 VRFs.
vrf-trap enable	Enables the device to send VRF-related traps. The default is enabled.
WORD<0-16>	Specifies the name for the VRF.

ip vrrp address (for a port)

Specify an address to associate with the virtual router.

Syntax

- `default ip vrrp address <1-255>`
- `default ip vrrp address <1-255> {A.B.C.D}`
- `ip vrrp address <1-255> {A.B.C.D}`
- `no ip vrrp address <1-255>`
- `no ip vrrp address <1-255> {A.B.C.D}`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
{A.B.C.D}	Specifies an address to associate with the virtual router.
<1-255>	Specifies the virtual router ID. The virtual router acts as the default router for one or more associated addresses.

ip vrrp (for a port)

Configure Virtual Router Redundancy Protocol (VRRP) on a port.

Syntax

- default ip vrrp <1-255>
- default ip vrrp <1-255> action
- default ip vrrp <1-255> adver-int
- default ip vrrp <1-255> backup-master enable
- default ip vrrp <1-255> critical-ip enable
- default ip vrrp <1-255> critical-ip-addr
- default ip vrrp <1-255> enable
- default ip vrrp <1-255> fast-adv enable
- default ip vrrp <1-255> fast-adv-int
- default ip vrrp <1-255> holddown-timer
- default ip vrrp <1-255> priority
- ip vrrp <1-255> action none
- ip vrrp <1-255> action preempt
- ip vrrp <1-255> adver-int <1-255>
- ip vrrp <1-255> backup-master enable
- ip vrrp <1-255> critical-ip enable
- ip vrrp <1-255> critical-ip-addr {A.B.C.D}
- ip vrrp <1-255> enable
- ip vrrp <1-255> fast-adv enable
- ip vrrp <1-255> fast-adv-int <200-1000>
- ip vrrp <1-255> holddown-timer <0-21600>
- ip vrrp <1-255> priority <1-255>
- ip vrrp address <1-255> {A.B.C.D}

- `no ip vrrp <1-255>`
- `no ip vrrp <1-255> backup-master enable`
- `no ip vrrp <1-255> critical-ip enable`
- `no ip vrrp <1-255> enable`
- `no ip vrrp <1-255> fast-adv enable`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`action {none|preempt}`	Use the action choice option to manually override the hold-down timer and force preemption. none|preempt can be set to preempt the timer or set to none to allow the timer to keep working.
`address <1-255> <A.B.C.D>`	Sets the IP address of the Virtual Router Redundancy Protocol (VRRP) interface that forwards packets to the virtual IP addresses associated with the virtual router. A.B.C.D is the IP address of the master VRRP.
`adver-int <1-255>`	Sets the the time interval between sending Virtual Router Redundancy Protocol (VRRP) advertisement messages. The range is between 1 and 255 seconds. This value must be the same on all the participating routers. The default is 1.
`backup-master enable`	Enables the Virtual Router Redundancy Protocol (VRRP) backup master. This option is supported only on Split MultiLink Trunking (SMLT) ports. Do not enable Backup Master if Critical IP is enabled.
`critical-ip enable`	Enables the critical IP address option. Do not enable critical IP if Backup Master is enabled.
`critical-ip-addr <A.B.C.D>`	Sets the critical IP address for VRRP. A.B.C.D is the IP address on the local router, which is configured so that a change in its state causes a role switch in the virtual router (for example, from master to backup in case the interface goes down).
`enable`	Enables Virtual Router Redundancy Protocol (VRRP) on the interface.
`fast-adv enable`	Enables the Fast Advertisement Interval. The default is disabled.
`fast-adv-int <200-1000>`	Sets the Fast Advertisement Interval, in milliseconds, the time interval between sending VRRP advertisement messages. The range must be the same on all participating routers. The default is 200. You must enter values in multiples of 200 milliseconds.
`holddown-timer<0-21600>`	Modifies the behavior of the Virtual Router Redundancy Protocol (VRRP) failover mechanism by allowing the router enough time to detect the OSPF or RIP routes. 0-21600 is the time interval (in seconds) a router is delayed when changing to master state.
`priority <1-255>`	Sets the port Virtual Router Redundancy Protocol (VRRP) priority. 1-255 is the value used by the VRRP router. The default is 100. Assign the value 255 to the router that owns the IP address associated with the virtual router.

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ip vrrp (for a VLAN)

Configure Virtual Router Redundancy Protocol (VRRP) on a VLAN.

Syntax

- `default ip vrrp <1-255> enable`
- `ip vrrp <1-255> action none`
- `ip vrrp <1-255> action preempt`
- `ip vrrp <1-255> adver-int <1-255>`
- `ip vrrp <1-255> backup-master enable`
- `ip vrrp <1-255> critical-ip enable`
- `ip vrrp <1-255> critical-ip-addr {A.B.C.D}`
- `ip vrrp <1-255> fast-adv enable`
- `ip vrrp <1-255> fast-adv-int <200-1000>`
- `ip vrrp <1-255> holddown-timer <0-21600>`
- `ip vrrp <1-255> priority <1-255>`
- `ip vrrp <1-255> enable`
- `ip vrrp address <1-255> {A.B.C.D}`

Default

None

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
`action {none|preempt}`	Manually overrides the hold-down timer and force preemption. none|preempt can be set to preempt the timer or set to none to allow the timer to keep working.
`address <1-255> <A.B.C.D>`	Sets the IP address of the Virtual Router Redundancy Protocol (VRRP) interface that forwards packets to the virtual IP addresses associated with the virtual router. A.B.C.D is the IP address of the master VRRP.
	Sets the the time interval between sending Virtual Router Redundancy Protocol

adver-int <1-255>	(VRRP) advertisement messages. The range is between 1 and 255 seconds. This value must be the same on all of the participating routers. The default is 1.
backup-master enable	Enables the Virtual Router Redundancy Protocol (VRRP) backup master. This option is supported only on Split MultiLink Trunking (SMLT) ports. Do not enable Backup Master if Critical IP is enabled.
critical-ip enable	Enables the critical IP address option. Do not enable Critical IP if Backup Master is enabled.
critical-ip-addr <A.B.C.D>	Sets the critical IP address for Virtual Router Redundancy Protocol (VRRP). A.B.C.D is the IP address on the local router, which is configured so that a change in its state causes a role switch in the virtual router (for example, from master to backup in case the interface goes down).
enable	Enables Virtual Router Redundancy Protocol (VRRP) on the interface.
fast-adv enable	Enables the Fast Advertisement Interval. The default is disabled.
fast-adv-int <200-1000>	Sets the Fast Advertisement Interval, in milliseconds, the time interval between sending Virtual Router Redundancy Protocol (VRRP) advertisement messages. The range must be the same on all participating routers. The default is 200. You must enter values in multiples of 200 milliseconds.
holddown-timer<0-21600>	Modifies the behavior of the Virtual Router Redundancy Protocol (VRRP) failover mechanism by allowing the router enough time to detect the OSPF or RIP routes. 0-21600 is the time interval (in seconds) a router is delayed when changing to master state.
priority <1-255>	Sets the port Virtual Router Redundancy Protocol (VRRP) priority. 1-255 is the value used by the VRRP router. The default is 100. Assign the value 255 to the router that owns the IP address associated with the virtual router.

i-sid

Service Instance Identifier commands.

Syntax

- `i-sid <1-16777215> elan-transparent`
- `no i-sid <1-16777215>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`<1-16777215>`	Specifies the Transparent UNI based service instance identifier (I-SID).
`elan-transparent`	Specifies the elan-transparent (Transparent UNI) based service.

i-sid (for a VRF)

Assign an service instance identifier (I-SID) to the VRF.

Syntax

- `default i-sid`
- `i-sid <0-16777215>`
- `no i-sid`

Default

`The default is disabled.`

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
`<0-16777215>`	Specifies the service instance identifier (I-SID).

i-sid mac-address-entry

Service Instance Identifier FDB commands.

Syntax

- `i-sid mac-address-entry <1-16777215> flush`
- `i-sid mac-address-entry <1-16777215> sync`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<1-16777215>	Specifies the FDB based service instance identifier (I-SID).
flush	Flushes MAC address on an i-sid
sync	Sync forwarding database with the other aggregation switch

i-sid (T-UNI based)

Create a Transparent UNI based service instance identifier (I-SID).

Syntax

- `i-sid <1-16777215> elan-transparent`
- `no i-sid <1-16777215>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`<1-16777215>`	Specifies the Transparent UNI based service instance identifier (I-SID).
`elan-transparent`	Specifies the elan-transparent (Transparent UNI) based service.

isis accept adv-rtr (for a VRF)

Configure an Intermediate-System-to-Intermediate-System (IS-IS) accept policy instance to apply to all routes for a specific Backbone Edge Bridge (BEB) for a Virtual Routing and Forwarding (VRF) instance.

Syntax

- `isis accept adv-rtr <x.xx.xx>`
- `isis accept adv-rtr <x.xx.xx> enable`
- `isis accept adv-rtr <x.xx.xx> i-sid <0-16777215>`
- `isis accept adv-rtr <x.xx.xx> i-sid <0-16777215> enable`
- `isis accept adv-rtr <x.xx.xx> i-sid <0-16777215> route-map WORD<1-64>`
- `isis accept adv-rtr <x.xx.xx> isid-list WORD<1-32>`
- `isis accept adv-rtr <x.xx.xx> isid-list WORD<1-32> enable`
- `isis accept adv-rtr <x.xx.xx> isid-list WORD<1-32> route-map WORD<1-64>`
- `isis accept adv-rtr <x.xx.xx> route-map WORD<1-64>`
- `no isis accept adv-rtr <x.xx.xx>`
- `no isis accept adv-rtr <x.xx.xx> enable`
- `no isis accept adv-rtr <x.xx.xx> i-sid <0-16777215>`
- `no isis accept adv-rtr <x.xx.xx> i-sid <0-16777215> enable`
- `no isis accept adv-rtr <x.xx.xx> i-sid <0-16777215> route-map`
- `no isis accept adv-rtr <x.xx.xx> isid-list WORD<1-32>`
- `no isis accept adv-rtr <x.xx.xx> isid-list WORD<1-32> enable`
- `no isis accept adv-rtr <x.xx.xx> isid-list WORD<1-32> route-map`
- `no isis accept adv-rtr <x.xx.xx> route-map`

Default

`The default is disabled.`

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
adv-rtr <x.xx.xx>	Specifies a specific advertising BEB for the IS-IS accept policy. The x.xx.xx variable specifies an SPBM nickname.
enable	Enables the IS-IS accept policy.
i-sid <0-16777215>	Configures the service instance identifier (I-SID) to which the IS-IS accept policy applies. The number 0 represents the GRT.
isid-list WORD <1-32>	Configures a list of I-SIDs to which the IS-IS accept policy applies.
route-map WORD<1-64>	Specifies an IS-IS route policy.

isis accept (for a VRF)

Configure an Intermediate-System-to-Intermediate-System (IS-IS) accept policy instance to apply to all routes from all Backbone Edge Bridges (BEBs) for a Virtual Routing and Forwarding (VRF) instance.

Syntax

- `isis accept i-sid <0-16777215>`
- `isis accept i-sid <0-16777215> enable`
- `isis accept i-sid <0-16777215> route-map WORD<1-64>`
- `isis accept isid-list WORD<1-32>`
- `isis accept isid-list WORD<1-32> enable`
- `isis accept isid-list WORD<1-32> route-map WORD<1-64>`
- `isis accept route-map WORD<1-64>`
- `no isis accept i-sid <0-16777215>`
- `no isis accept i-sid <0-16777215> enable`
- `no isis accept i-sid <0-16777215> route-map`
- `no isis accept isid-list WORD<1-32>`
- `no isis accept isid-list WORD<1-32> enable`
- `no isis accept isid-list WORD<1-32> route-map`
- `no isis accept route-map`

Default

`The default is disabled.`

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
`enable`	Enables the IS-IS accept policy.
`i-sid <0-16777215>`	Specifies a service instance identifier (I-SID) number representing a local or remote Layer 3 VSN. The number 0 represents the GRT.

isid-list WORD <1-32>	Specifies a list of I-SID numbers representing local or remote Layer 3 VSNs.
route-map WORD<1-64>	Specifies an IS-IS route policy.

isis apply redistribute

Apply the redistribution of the specified protocol into the Shortest Path Bridging MAC (SPBM) network.

Syntax

- `isis apply redistribute`
- `isis apply redistribute direct`
- `isis apply redistribute direct vrf WORD<0-16>`
- `isis apply redistribute ospf`
- `isis apply redistribute ospf vrf WORD<0-16>`
- `isis apply redistribute rip`
- `isis apply redistribute rip vrf WORD<0-16>`
- `isis apply redistribute static`
- `isis apply redistribute static vrf WORD<0-16>`
- `isis apply redistribute vrf WORD<0-16>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`vrf WORD<0-16>`	Specifies the VRF name.
`direct vrf WORD<0-16>`	Isis redistribute direct command.
`ospf vrf WORD<0-16>`	Isis redistribute ospf command.
`rip vrf WORD<0-16>`	Isis redistribute rip command.
`static vrf WORD<0-16>`	Isis redistribute static command.
`vrf WORD<0-16>`	Specifies the VRF name.

isis hello-auth (on an MLT)

Configure the authentication type used for Intermediate-System-to-Intermediate-System (IS-IS) hello packets on the interface.

Syntax

- `default isis hello-auth`
- `isis hello-auth type { none | simple | hmac-md5 }`
- `isis hello-auth type { none | simple | hmac-md5 } key WORD<1-16>`
- `isis hello-auth type { none | simple | hmac-md5 } key WORD<1-16> key-id <1-255>`
- `no isis hello-auth`

Default

The default is none.

Command mode

MLT Interface Configuration

Command parameters

Parameter	Description
key WORD<1-16>	Specifies the authentication key (password) used by the receiving router to verify the packet.
key-id <1-255>	Specifies the optional key ID.
type { none | simple | hmac-md5 }	Specifies the authentication type used for IS-IS hello packets on the interface. The type can be one of the following: none, simple or hmac-md5. If simple is selected, you can also specify a key value. Simple password authentication uses a text password in the transmitted packet. The receiving router uses an authentication key (password) to verify the packet. If hmac-md5 is selected, you can also specify a key value and key-id. MD5 authentication creates an encoded checksum in the transmitted packet. The receiving router uses an authentication key (password) to verify the MD5 checksum of the packet. There is an optional key ID. The default type is none. Use the no or default options to set the hello-auth type to none.

isis hello-auth (on a port)

Specify the authentication type used for Intermediate-System-to-Intermediate-System (IS-IS) hello packets on the interface. The type can be one of the following: none, simple or hmac-md5.

Syntax

- `default isis hello-auth`
- `isis hello-auth type { none | simple | hmac-md5 }`
- `isis hello-auth type { none | simple | hmac-md5 } key WORD<1-16>`
- `isis hello-auth type { none | simple | hmac-md5 } key WORD<1-16> key-id <1-255>`
- `no isis hello-auth`

Default

`The default hello-auth type is none.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`key WORD<1-16>`	Specifies the authentication key (password) used by the receiving router to verify the packet.
`key-id <1-255>`	Specifies the optional key ID.
`type { none | simple | hmac-md5 }`	Specifies the authentication type used for IS-IS hello packets on the interface. The type can be one of the following: none, simple or hmac-md5. If simple is selected, you can also specify a key value. Simple password authentication uses a text password in the transmitted packet. The receiving router uses an authentication key (password) to verify the packet. If hmac-md5 is selected, you can also specify a key value and key-id. MD5 authentication creates an encoded checksum in the transmitted packet. The receiving router uses an authentication key (password) to verify the MD5 checksum of the packet. There is an optional key ID. The default type is none. Use the no or default options to set the hello-auth type to none.

isis l1-dr-priority (on an MLT)

Configure the Level 1 Intermediate-System-to-Intermediate-System (IS-IS) designated router priority to the specified value.

Syntax

- `default isis l1-dr-priority`
- `isis l1-dr-priority <0-127>`
- `no isis l1-dr-priority`

Default

`The default Level 1 designated router priority value is 64.`

Command mode

MLT Interface Configuration

Command parameters

Parameter	Description
`<0-127>`	Configures the Level 1 Intermediate-System-to-Intermediate-System (IS-IS) designated router priority to the specified value.

isis l1-dr-priority (on a port)

Configure the Level 1 Intermediate-System-to-Intermediate-System (IS-IS) designated router priority to the specified value.

Syntax

- `default isis l1-dr-priority`
- `isis l1-dr-priority <0-127>`
- `no isis l1-dr-priority`

Default

`The default Level 1 designated router priority value is 64.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<0-127>`	Configures the Level 1 Intermediate-System-to-Intermediate-System (IS-IS) designated router priority to the specified value.

isis l1-hello-interval (on an MLT)

Configure the hello interval to change how often hello packets are sent out from an interface level.

Syntax

- `default isis l1-hello-interval`
- `isis l1-hello-interval <1-600>`
- `no isis l1-hello-interval`

Default

`The default Level 1 hello interval value is 9 seconds.`

Command mode

MLT Interface Configuration

Command parameters

Parameter	Description
`<1-600>`	Configures the Level 1 hello interval.

isis l1-hello-interval (on a port)

Configure the hello interval to change how often hello packets are sent out from an interface level.

Syntax

- `default isis l1-hello-interval`
- `isis l1-hello-interval <1-600>`
- `no isis l1-hello-interval`

Default

`The default Level 1 hello interval value is 9 seconds.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<1-600>`	Configures the Level 1 hello interval.

isis l1-hello-multiplier (on an MLT)

Configure the hello multiplier to specify how many hellos the switch must miss before it considers the adjacency with a neighboring switch down.

Syntax

- `default isis l1-hello-multiplier`
- `isis l1-hello-multiplier <1-600>`
- `no isis l1-hello-multiplier`

Default

`The default Level 1 hello-multiplier value is 3 seconds.`

Command mode

MLT Interface Configuration

Command parameters

Parameter	Description
`<1-600>`	Configures the Level 1 hello multiplier.

isis l1-hello-multiplier (on a port)

Configure the hello multiplier to specify how many hellos the switch must miss before it considers the adjacency with a neighboring switch down.

Syntax

- `default isis l1-hello-multiplier`
- `isis l1-hello-multiplier <1-600>`
- `no isis l1-hello-multiplier`

Default

`The default Level 1 hello-multiplier value is 3 seconds.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<1-600>`	Configures the Level 1 hello multiplier.

isis (on an MLT)

Create an Intermediate-System-to-Intermediate-System (IS-IS) circuit and interface on the selected MultiLink Trunking (MLT) instance.

Syntax

- `default isis enable`
- `isis`
- `isis enable`
- `no isis`
- `no isis enable`

Default

None

Command mode

MLT Interface Configuration

Command parameters

Parameter	Description
`enable`	Enables the Intermediate-System-to-Intermediate-System (IS-IS) circuit and interface on the selected MLT.

isis (on a port)

Create an Intermediate-System-to-Intermediate-System (IS-IS) circuit and interface on the selected ports.

Syntax

- `default isis enable`
- `isis`
- `isis enable`
- `no isis`
- `no isis enable`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`enable`	Enables the Intermediate-System-to-Intermediate-System (IS-IS) circuit and interface on the selected ports.

isis redistribute bgp

Identify routes on the local switch to be announced into the Shortest Path Bridging MAC (SPBM) network.

Syntax

- default isis redistribute bgp enable
- default isis redistribute bgp metric
- default isis redistribute bgp metric-type
- default isis redistribute bgp route-map
- default isis redistribute bgp subnets
- isis redistribute bgp
- isis redistribute bgp enable
- isis redistribute bgp metric <0-65535>
- isis redistribute bgp metric-type external
- isis redistribute bgp metric-type internal
- isis redistribute bgp route-map WORD<0-64>
- isis redistribute bgp subnets allow
- isis redistribute bgp subnets suppress
- no isis redistribute bgp
- no isis redistribute bgp enable
- no isis redistribute bgp metric
- no isis redistribute bgp metric-type
- no isis redistribute bgp route-map
- no isis redistribute bgp subnets

Default

By default, redistribution is disabled.

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
enable	Enables Border Gateway Protocol (BGP) route redistribution.
metric <0-65535>	Specifies the metric for the redistributed route. Avaya recommends that you use a value that is consistent with the destination protocol. The default is 1.
metric-type external	Specifies the metric type. Specifies a type 1 or a type 2 metric. For metric type 1, the cost of the external routes is equal to the sum of all internal costs and the external cost. For metric type 2, the cost of the external routes is equal to the external cost alone. The default is internal.
metric-type internal	Specifies the metric type. Specifies a type 1 or a type 2 metric. For metric type 1, the cost of the external routes is equal to the sum of all internal costs and the external cost. For metric type 2, the cost of the external routes is equal to the external cost alone. The default is internal.
route-map WORD<0-64>	Configures the route policy to apply to redistributed routes. Specifies a name.
subnets allow	Indicates whether the subnets are advertised individually or aggregated to their classful subnet. Choose allow to advertise the subnets individually with the learned or configured mask of the subnet. The default is allow.
subnets suppress	Indicates whether the subnets are advertised individually or aggregated to their classful subnet. Choose suppress to advertise subnets aggregated to their classful subnet. The default is allow.

isis redistribute direct

Identify routes on the local switch to be announced into the Shortest Path Bridging MAC (SPBM) network.

Syntax

- default isis redistribute direct enable
- default isis redistribute direct metric
- default isis redistribute direct metric-type
- default isis redistribute direct route-map
- default isis redistribute direct subnets
- isis redistribute direct
- isis redistribute direct enable
- isis redistribute direct metric <0-65535>
- isis redistribute direct metric-type external
- isis redistribute direct metric-type internal
- isis redistribute direct route-map WORD<0-64>
- isis redistribute direct subnets allow
- isis redistribute direct subnets suppress
- no isis redistribute direct
- no isis redistribute direct enable
- no isis redistribute direct metric
- no isis redistribute direct metric-type
- no isis redistribute direct route-map
- no isis redistribute direct subnets

Default

By default, redistribution is disabled.

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
enable	Enables route redistribution.
enable	Enables route redistribution.
metric <0-65535>	Configures the metric (cost) to apply to redistributed routes. The default is 1.
metric <0-65535>	Configures the metric (cost) to apply to redistributed routes. The default is 1.
metric-type external	Configures the type of route to import into the protocol. The default is internal.
metric-type external	Configures the type of route to import into the protocol. The default is internal.
metric-type internal	Configures the type of route to import into the protocol. The default is internal.
metric-type internal	Configures the type of route to import into the protocol. The default is internal.
route-map WORD<0-64>	Configures the route policy to apply to redistributed routes. Specifies a name.
route-map WORD<0-64>	Configures the route policy to apply to redistributed routes. Specifies a name.
subnets allow	Indicates whether the subnets are advertised individually or aggregated to their classful subnet. Choose allow to advertise the subnets individually with the learned or configured mask of the subnet. The default is allow.
subnets allow	Indicates whether the subnets are advertised individually or aggregated to their classful subnet. Choose allow to advertise the subnets individually with the learned or configured mask of the subnet. The default is allow.
subnets suppress	Indicates whether the subnets are advertised individually or aggregated to their classful subnet. Choose suppress to advertise subnets aggregated to their classful subnet. The default is allow.
subnets suppress	Indicates whether the subnets are advertised individually or aggregated to their classful subnet. Choose suppress to advertise subnets aggregated to their classful subnet. The default is allow.

isis redistribute ospf

Identify routes on the local switch to be announced into the Shortest Path Bridging MAC (SPBM) network.

Syntax

- default isis redistribute ospf enable
- default isis redistribute ospf metric
- default isis redistribute ospf metric-type
- default isis redistribute ospf route-map
- default isis redistribute ospf subnets
- isis redistribute ospf
- isis redistribute ospf enable
- isis redistribute ospf metric <0-65535>
- isis redistribute ospf metric-type external
- isis redistribute ospf metric-type internal
- isis redistribute ospf route-map WORD<0-64>
- isis redistribute ospf subnets allow
- isis redistribute ospf subnets suppress
- no isis redistribute ospf
- no isis redistribute ospf enable
- no isis redistribute ospf metric
- no isis redistribute ospf metric-type
- no isis redistribute ospf route-map
- no isis redistribute ospf subnets

Default

By default, redistribution is disabled.

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
enable	Enables route redistribution.
enable	Enables route redistribution.
metric <0-65535>	Configures the metric (cost) to apply to redistributed routes. The default is 1.
metric <0-65535>	Configures the metric (cost) to apply to redistributed routes. The default is 1.
metric-type external	Configures the type of route to import into the protocol. The default is internal.
metric-type external	Configures the type of route to import into the protocol. The default is internal.
metric-type internal	Configures the type of route to import into the protocol. The default is internal.
metric-type internal	Configures the type of route to import into the protocol. The default is internal.
route-map WORD<0-64>	Configures the route policy to apply to redistributed routes. Specifies a name.
route-map WORD<0-64>	Configures the route policy to apply to redistributed routes. Specifies a name.
subnets allow	Indicates whether the subnets are advertised individually or aggregated to their classful subnet. Choose allow to advertise the subnets individually with the learned or configured mask of the subnet. The default is allow.
subnets allow	Indicates whether the subnets are advertised individually or aggregated to their classful subnet. Choose allow to advertise the subnets individually with the learned or configured mask of the subnet. The default is allow.
subnets suppress	Indicates whether the subnets are advertised individually or aggregated to their classful subnet. Choose suppress to advertise subnets aggregated to their classful subnet. The default is allow.
subnets suppress	Indicates whether the subnets are advertised individually or aggregated to their classful subnet. Choose suppress to advertise subnets aggregated to their classful subnet. The default is allow.

isis redistribute rip

Identify routes on the local switch to be announced into the Shortest Path Bridging MAC (SPBM) network.

Syntax

- default isis redistribute rip enable
- default isis redistribute rip metric
- default isis redistribute rip metric-type
- default isis redistribute rip route-map
- default isis redistribute rip subnets
- isis redistribute rip
- isis redistribute rip enable
- isis redistribute rip metric <0-65535>
- isis redistribute rip metric-type external
- isis redistribute rip metric-type internal
- isis redistribute rip route-map WORD<0-64>
- isis redistribute rip subnets allow
- isis redistribute rip subnets suppress
- no isis redistribute rip
- no isis redistribute rip enable
- no isis redistribute rip metric
- no isis redistribute rip metric-type
- no isis redistribute rip route-map
- no isis redistribute rip subnets

Default

By default, redistribution is disabled.

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
enable	Enables route redistribution.
enable	Enables route redistribution.
metric <0-65535>	Configures the metric (cost) to apply to redistributed routes. The default is 1.
metric <0-65535>	Configures the metric (cost) to apply to redistributed routes. The default is 1.
metric-type external	Configures the type of route to import into the protocol. The default is internal.
metric-type external	Configures the type of route to import into the protocol. The default is internal.
metric-type internal	Configures the type of route to import into the protocol. The default is internal.
metric-type internal	Configures the type of route to import into the protocol. The default is internal.
route-map WORD<0-64>	Configures the route policy to apply to redistributed routes. Specifies a name.
route-map WORD<0-64>	Configures the route policy to apply to redistributed routes. Specifies a name.
subnets allow	Indicates whether the subnets are advertised individually or aggregated to their classful subnet. Choose allow to advertise the subnets individually with the learned or configured mask of the subnet. The default is allow.
subnets allow	Indicates whether the subnets are advertised individually or aggregated to their classful subnet. Choose allow to advertise the subnets individually with the learned or configured mask of the subnet. The default is allow.
subnets suppress	Indicates whether the subnets are advertised individually or aggregated to their classful subnet. Choose suppress to advertise subnets aggregated to their classful subnet. The default is allow.
subnets suppress	Indicates whether the subnets are advertised individually or aggregated to their classful subnet. Choose suppress to advertise subnets aggregated to their classful subnet. The default is allow.

isis redistribute static

Identify routes on the local switch to be announced into the Shortest Path Bridging MAC (SPBM) network.

Syntax

- default isis redistribute static enable
- default isis redistribute static metric
- default isis redistribute static metric-type
- default isis redistribute static route-map
- default isis redistribute static subnets
- isis redistribute static
- isis redistribute static enable
- isis redistribute static metric <0-65535>
- isis redistribute static metric-type external
- isis redistribute static metric-type internal
- isis redistribute static route-map WORD<0-64>
- isis redistribute static subnets allow
- isis redistribute static subnets suppress
- no isis redistribute static
- no isis redistribute static enable
- no isis redistribute static metric
- no isis redistribute static metric-type
- no isis redistribute static route-map
- no isis redistribute static subnets

Default

By default, redistribution is disabled.

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
enable	Enables route redistribution.
enable	Enables route redistribution.
metric <0-65535>	Configures the metric (cost) to apply to redistributed routes. The default is 1.
metric <0-65535>	Configures the metric (cost) to apply to redistributed routes. The default is 1.
metric-type external	Configures the type of route to import into the protocol. The default is internal.
metric-type external	Configures the type of route to import into the protocol. The default is internal.
metric-type internal	Configures the type of route to import into the protocol. The default is internal.
metric-type internal	Configures the type of route to import into the protocol. The default is internal.
route-map WORD<0-64>	Configures the route policy to apply to redistributed routes. Specifies a name.
route-map WORD<0-64>	Configures the route policy to apply to redistributed routes. Specifies a name.
subnets allow	Indicates whether the subnets are advertised individually or aggregated to their classful subnet. Choose allow to advertise the subnets individually with the learned or configured mask of the subnet. The default is allow.
subnets allow	Indicates whether the subnets are advertised individually or aggregated to their classful subnet. Choose allow to advertise the subnets individually with the learned or configured mask of the subnet. The default is allow.
subnets suppress	Indicates whether the subnets are advertised individually or aggregated to their classful subnet. Choose suppress to advertise subnets aggregated to their classful subnet. The default is allow.
subnets suppress	Indicates whether the subnets are advertised individually or aggregated to their classful subnet. Choose suppress to advertise subnets aggregated to their classful subnet. The default is allow.

isis spbm (on an MLT)

Configure Shortest Path Bridging MAC (SPBM) on an Intermediate-System-to-Intermediate-System (IS-IS) interface on a MultiLink Trunking (MLT) instance.

Syntax

- `default isis spbm <1-100> interface-type`
- `default isis spbm <1-100> l1-metric`
- `isis spbm <1-100>`
- `no isis spbm <1-100> l1-metric`

Default

None

Command mode

MLT Interface Configuration

Command parameters

Parameter	Description
`<1-100>`	Specifies the Shortest Path Bridging MAC (SPBM) instance ID.
`interface-type { broadcast | pt-pt }`	Configures the Shortest Path Bridging MAC (SPBM) instance interface type.
`l1-metric <1-16777215>`	Configures the cost for the Shortest Path Bridging MAC (SPBM) instance.

isis spbm (on a port)

Enable the Shortest Path Bridging MAC (SPBM) instance on the Intermediate-System-to-Intermediate-System (IS-IS) interfaces.

Syntax

- `default isis spbm <1-100> interface-type`
- `default isis spbm <1-100> l1-metric`
- `isis spbm <1-100>`
- `isis spbm <1-100> interface-type { broadcast | pt-pt }`
- `isis spbm <1-100> l1-metric <1-16777215>`
- `no Isis spbm <1-100>`
- `no isis spbm <1-100> interface-type`
- `no Isis spbm <1-100> l1-metric`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<1-100>`	Specifies the Shortest Path Bridging MAC (SPBM) instance ID.
`interface-type { broadcast | pt-pt }`	Configures the Shortest Path Bridging MAC (SPBM) instance interface type.
`l1-metric <1-16777215>`	Configures the cost for the Shortest Path Bridging MAC (SPBM) instance.

is-type

Configure the router type globally. This release supports only Level 1 (l1) Intermediate-System-to-Intermediate-System (IS-IS).

Syntax

- `default is-type`
- `is-type l1`
- `is-type l12`
- `no is-type`

Default

`The default router type is Level 1 (l1).`

Command mode

IS-IS Router Configuration

Command parameters

Parameter	Description
`l1`	Configures the router type as Level 1 Intermediate-System-to-Intermediate-System (IS-IS).
`l12`	Configures the router type as Level 1 and Level 2 Intermediate-System-to-Intermediate-System (IS-IS). You cannot use this parameter in this release.

l2 ping ip-address

Trigger a Layer 2 ping, which acts like a native ping. Enable Connectivity Fault Management (CFM) to debug Layer 2. It can also help you debug ARP problems by providing the ability to troubleshoot next hop ARP records.

Syntax

- `l2 ping ip-address WORD<0-255>`
- `l2 ping ip-address WORD<0-255> burst-count <1-200>`
- `l2 ping ip-address WORD<0-255> burst-count  <1-200> priority  <0-7>`
- `l2 ping ip-address WORD<0-255> burst-count  <1-200> source-mode nodal`
- `l2 ping ip-address WORD<0-255> burst-count  <1-200> source-mode smltVirtual`
- `l2 ping ip-address WORD<0-255> burst-count  <1-200> testfill-pattern all-zero`
- `l2 ping ip-address WORD<0-255> burst-count  <1-200> testfill-pattern all-zero-crc`
- `l2 ping ip-address WORD<0-255> burst-count  <1-200> testfill-pattern pseudo-random-bit-sequence`
- `l2 ping ip-address WORD<0-255> burst-count  <1-200> testfill-pattern pseudo-random-bit-sequence-crc`
- `l2 ping ip-address WORD<0-255> data-tlv-size <0-400>`
- `l2 ping ip-address WORD<0-255> frame-size  <64-1500>`
- `l2 ping ip-address WORD<0-255> time-out  <1-10>`
- `l2 ping ip-address WORD<0-255> vrf WORD<0-16>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
WORD<0-255>	
frame-size <64-1500>	Specifies the frame size. The default is 0.

WORD<0-255>	Trigger a Layer 2 ping, which acts like a native ping. Enable Connectivity Fault Management (CFM) to debug Layer 2. It can also help you debug ARP problems by providing the ability to troubleshoot next hop ARP records.
WORD<0-255> burst-count <1-200>	Specifies the burst count.
WORD<0-255> data-tlv-size <0-400>	Specifies the data Type-Length-Value (TLV) size. The default is 0.
WORD<0-255> priority <0-7>	Specifies the priority. The default is 7.
WORD<0-255> source-mode nodal	Specifies the source mode of nodal or smltVirtual. Nodal MPs provide both MEP and MIP functionality for SPBM deployments. Nodal MPs are associated with a B-VLAN and are VLAN encapsulated packets. The default is nodal.
WORD<0-255> source-mode smltVirtual	Specifies the source mode of nodal or smltVirtual. The switch supports SMLT interaction with SPBM. The platform uses two B-VIDs into the core from each pair of SMLT terminating nodes. Both nodes advertise the Nodal B-MAC into the core on both B-VIDS. In addition each node advertises the SMLT virtual B-MAC on one of the two B-VLANs. The default is nodal.
WORD<0-255> testfill-pattern all-zero	Specifies the testfill pattern. Range is: all-zero: null signal without cyclic redundancy check; all-zero-crc: null signal with cyclic redundancy check with 32-bit polynomial; pseudo-random-bit-sequence: PRBS without cyclic redundancy check; or pseudo-random-bit-sequence-crc: PBRS with cyclic redundancy check with 32-bit polynomial. A cyclic redundancy check is a code that detects errors. The default is all-zero.
WORD<0-255> testfill-pattern all-zero-crc	Specifies the testfill pattern. Range is: all-zero: null signal without cyclic redundancy check; all-zero-crc: null signal with cyclic redundancy check with 32-bit polynomial; pseudo-random-bit-sequence: PRBS without cyclic redundancy check; or pseudo-random-bit-sequence-crc: PBRS with cyclic redundancy check with 32-bit polynomial. A cyclic redundancy check is a code that detects errors. The default is all-zero.
WORD<0-255> testfill-pattern pseudo-random-bit-sequence	Specifies the testfill pattern. Range is: all-zero: null signal without cyclic redundancy check; all-zero-crc: null signal with cyclic redundancy check with 32-bit polynomial; pseudo-random-bit-sequence: PRBS without cyclic redundancy check; or pseudo-random-bit-sequence-crc: PBRS with cyclic redundancy check with 32-bit polynomial. A cyclic redundancy check is a code that detects errors. The default is all-zero.
WORD<0-255> testfill-pattern pseudo-random-bit-sequence-crc	Specifies the testfill pattern. Range is: all-zero: null signal without cyclic redundancy check; all-zero-crc: null signal with cyclic redundancy check with 32-bit polynomial; pseudo-random-bit-sequence: PRBS without cyclic redundancy check; or pseudo-random-bit-sequence-crc: PBRS with cyclic redundancy check with 32-bit polynomial. A cyclic redundancy check is a code that detects errors. The default is all-zero.
WORD<0-255> time-out <1-10>	Specifies the interval in seconds. The default is 3.

WORD<0-255>	
vrf WORD<0-16>	Specifies the VRF name.

l2 ping vlan

Trigger a Layer 2 ping, which acts like a native ping. Enable Connectivity Fault Management (CFM) to debug Layer 2. It can also help you debug ARP problems by providing the ability to troubleshoot next hop ARP records.

Syntax

- `l2 ping vlan <1-4059> mac 0x00:0x00:0x00:0x00:0x00:0x00`
- `l2 ping vlan <1-4059> routernodename WORD<0-255>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`<1-4059> mac 0x00:0x00:0x00:0x00:0x00:0x00`	Specifies the MAC address.
`<1-4059> routernodename WORD<0-255>`	Specifies the router node name.

l2 traceroute ip-address

Trigger a Layer 2 traceroute, which acts like native traceroute. Enable Connectivity Fault Management (CFM) to debug Layer 2. It can also help you debug ARP problems by providing the ability to troubleshoot next hop ARP records.

Syntax

- `l2 traceroute ip-address WORD<0-255>`
- `l2 traceroute ip-address WORD<0-255> ttl-value  <1-255>`
- `l2 traceroute ip-address WORD<0-255> vrf WORD<0-16>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`WORD<0-255>`	Specifies the IP address.
`WORD<0-255> priority <0-7>`	Specifies the priority. The default is 7.
`WORD<0-255> source-mode nodal`	Specifies the source mode of nodal. Nodal MPs provide both MEP and MIP functionality for SPBM deployments. Nodal MPs are associated with a B-VLAN and are VLAN encapsulated packets. The default is nodal.
`WORD<0-255> source-mode smltVirtual`	Specifies the source mode of smltVirtual. The switch supports SMLT interaction with SPBM. The platform uses two B-VIDs into the core from each pair of SMLT terminating nodes. Both nodes advertise the Nodal B-MAC into the core on both B-VIDS. In addition each node advertises the SMLT virtual B-MAC on one of the two B-VLANs. The default is nodal.
`WORD<0-255> ttl-value <1-255>`	Specifies the time-to-live (TTL) value. The default is 64.

WORD<0-255> vrf WORD<0-16>	Specifies the VRF name.

l2 traceroute vlan

Trigger a Layer 2 traceroute, which acts like native traceroute. Enable Connectivity Fault Management (CFM) to debug Layer 2. It can also help you debug ARP problems by providing the ability to troubleshoot next hop ARP records.

Syntax

- `l2 traceroute vlan <1-4059> mac 0x00:0x00:0x00:0x00:0x00:0x00`
- `l2 traceroute vlan <1-4059> routernodename WORD<0-255>`
- `l2 traceroute vlan  <1-4059> mac 0x00:0x00:0x00:0x00:0x00:0x00 priority  <0-7>`
- `l2 traceroute vlan  <1-4059> mac 0x00:0x00:0x00:0x00:0x00:0x00 priority  <0-7> source-mode nodal`
- `l2 traceroute vlan  <1-4059> mac 0x00:0x00:0x00:0x00:0x00:0x00 priority  <0-7> source-mode smltVirtual`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`<1-4059> mac 0x00:0x00:0x00:0x00:0x00:0x00`	Specifies the MAC address.
`<1-4059> routernodename WORD<0-255>`	Specifies the router node name.

l2 tracetree

Trigger a Layer 2 tracetree. Layer 2 tracetree allows a user to trigger a multicast link trace message (LTM) by specifying the Backbone VLAN (B-VLAN) and service instance identifier (I-SID). The command allows the user to view a multicast tree on the SPBM B-VLAN from the source node to the destination nodes for a particular I-SID.

Syntax

- `l2 tracetree <1-4059> <1-16777215>`
- `l2 tracetree <1-4059> <1-16777215> mac 0x00:0x00:0x00:0x00:0x00:0x00`
- `l2 tracetree <1-4059> <1-16777215> priority <0-7>`
- `l2 tracetree <1-4059> <1-16777215> routernodename WORD<0-255>`
- `l2 tracetree <1-4059> <1-16777215> source-mode nodal`
- `l2 tracetree <1-4059> <1-16777215> source-mode smltVirtual`
- `l2 tracetree <1-4059> <1-16777215> ttl-value <1-255>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`<1-4059> <1-16777215>`	Specifies the time-to-live (TTL) value. The default is 64.
`<1-4059> <1-16777215> mac 0x00:0x00:0x00:0x00:0x00:0x00`	Specifies the MAC address.
`<1-4059> <1-16777215> priority <0-7>`	Specifies the priority value. The default is 7.
`<1-4059> <1-16777215> routernodename WORD<0-255>`	Specifies the router node name.
`<1-4059> <1-16777215> source-mode nodal`	Specifies the source mode of nodal or smltVirtual. The default is nodal.
`<1-4059> <1-16777215> source-mode smltVirtual`	Specifies the source mode of nodal or smltVirtual. The default is nodal.
`<1-4059> <1-16777215> ttl-value <1-255>`	Specifies the time-to-live (TTL) value. The default is 64.

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lacp aggregation enable

Configures the port as aggregatable. Use the no operator to remove this configuration.

Syntax

- `default lacp aggregation enable`
- `lacp aggregation enable`
- `no lacp aggregation enable`

Default

`The default is disabled.`

Command mode

GigabitEthernet Interface Configuration

lacp aggr-wait-time <200-2000>

Configure the aggregation wait time (in milliseconds) for the port.

Syntax

- `default lacp aggr-wait-time`
- `lacp aggr-wait-time <200-2000>`

Default

`The default value is 2000.`

Command mode

GigabitEthernet Interface Configuration

lacp enable (for a port)

Enable LACP for the port.

Syntax

- `default lacp`
- `default lacp enable`
- `lacp enable`
- `no lacp`
- `no lacp enable`

Default

`The default is disabled.`

Command mode

GigabitEthernet Interface Configuration

lacp fast-periodic-time <200-20000>

Configure the fast-periodic time (in milliseconds) for the port.

Syntax

- `default lacp fast-periodic-time`
- `lacp fast-periodic-time <200-20000>`

Default

`The default is 20000 ms.`

Command mode

GigabitEthernet Interface Configuration

lacp (globally)

Configure Link Aggregation Control Protocol (LACP) parameters globally. When the LACP system priority is set globally, it applies to all LACP-enabled aggregators and ports.

Syntax

- `default lacp`
- `default lacp aggr-wait-time`
- `default lacp enable`
- `default lacp fast-periodic-time`
- `default lacp slow-periodic-time`
- `default lacp system-priority`
- `default lacp timeout-scale`
- `lacp aggr-wait-time <200-2000>`
- `lacp enable`
- `lacp fast-periodic-time <200-20000>`
- `lacp slow-periodic-time <10000-30000>`
- `lacp smlt-sys-id 0x00:0x00:0x00:0x00:0x00:0x00`
- `lacp system-priority <0-65535>`
- `lacp timeout-scale <2-10>`

Default

`The default is disabled.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`aggr-wait-time <200-2000>`	Sets the aggregation wait time (in milliseconds) globally. The default value is 2000.
`aggr-wait-time <200-2000>`	Sets the aggregation wait time (in milliseconds) globally. The default value is 2000.

`enable`	Enables the Link Aggregation Control Protocol (LACP) globally.
`enable`	Enables the Link Aggregation Control Protocol (LACP) globally.
`fast-periodic-time <200-20000>`	Sets the fast-periodic time (in milliseconds) globally. The default is 20000 ms.
`fast-periodic-time <200-20000>`	Sets the fast-periodic time (in milliseconds) globally. The default is 20000 ms.
`slow-periodic-time <10000-30000>`	Sets the slow periodic time globally. The default value is 1000 ms.
`slow-periodic-time <10000-30000>`	Sets the slow periodic time globally. The default value is 1000 ms.
`smlt-sys-id <0x00:0x00:0x00:0x00:0x00:0x00>`	Sets the LACP system ID globally. Enter a MAC address in the following format: 0x00:0x00:0x00:0x00:0x00:0x00.
`smlt-sys-id <0x00:0x00:0x00:0x00:0x00:0x00>`	Sets the LACP system ID globally. Enter a MAC address in the following format: 0x00:0x00:0x00:0x00:0x00:0x00.
`system-priority <0-65535>`	Sets the global LACP system priority. The default value is 32768.
`system-priority <0-65535>`	Sets the global LACP system priority. The default value is 32768.
`timeout-scale <2-10>`	Sets the timeout scale globally. The default value is 3.
`timeout-scale <2-10>`	Sets the timeout scale globally. The default value is 3.

lacp key <1-512,defVal>

Configure the aggregation key for the port.

Syntax

- `default lacp key`
- `lacp key <0-65535>`

Default

`The default is 0.`

Command mode

GigabitEthernet Interface Configuration

lacp mode

Configure the Link Aggregation Control Protocol (LACP) mode to be active or passive.

Syntax

- `default lacp mode`
- `lacp mode active`
- `lacp mode passive`

Default

`The default is passive.`

Command mode

GigabitEthernet Interface Configuration

lacp (on an MLT)

Configure a MultiLink Trunking (MLT) with Link Aggregation Control Protocol (LACP) to use the dynamic link aggregation function.

Syntax

- `default lacp`
- `default lacp enable`
- `lacp enable key <0-512> system-priority <0-65535>`
- `no lacp`
- `no lacp enable`

Default

None

Command mode

MLT Interface Configuration

Command parameters

Parameter	Description
`enable`	Enables Link Aggregation Control Protocol (LACP) on the MLT interface. The default is disabled.
`key <0-512>`	Sets the Link Aggregation Control Protocol (LACP) aggregator key for a specific MLT. <0-512> specifies the Link Aggregation Control Protocol (LACP) actor admin key. The default key value is 0
`system-priority <0-65535>`	Sets the Link Aggregation Control Protocol (LACP) system priority for a specific MLT. <0-65535> specifies the system priority. The default system-priority is 32768.

lacp partner-key <0-65535>

Configure the partner administrative key.

Syntax

- `default lacp partner-key`
- `lacp partner-key <0-65535>`

Default

`The default is 0.`

Command mode

GigabitEthernet Interface Configuration

lacp partner-port <0-65535>

Configure the partner administrative port value.

Syntax

- `default lacp partner-port`
- `lacp partner-port <0-65535>`

Default

None

Command mode

GigabitEthernet Interface Configuration

lacp partner-port-priority <0-65535>

Configure the partner administrative port priority value.

Syntax

- `default lacp partner-port-priority`
- `lacp partner-port-priority <0-65535>`

Default

`The default is 0.`

Command mode

GigabitEthernet Interface Configuration

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lacp partner-state <0-255 | 0x0-0xff>

Configure the partner administrative state bitmask. Specify the partner administrative state bitmap in the range 0x0-0xff. The bit to state mapping is Exp, Def, Dis, Col, Syn, Agg, Time, and Act. For example, to set the two partner-state parameters Act = true Agg = true specify a value of 0x05 (bitmap = 00000101).

Syntax

- `default lacp partner-state`
- `lacp partner-state <0-255 | 0x0-0xff>`

Default

None

Command mode

GigabitEthernet Interface Configuration

lacp partner-system-id

Configure the partner administrative system ID.

Syntax

- `default lacp partner-system-id`
- `lacp partner-system-id 0x00:0x00:0x00:0x00:0x00:0x00`

Default

None

Command mode

GigabitEthernet Interface Configuration

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lacp partner-system-priority <0-65535>

Configure the partner administrative system priority value.

Syntax

- `default lacp partner-system-priority`
- `lacp partner-system-priority <0-65535>`

Default

`The default value is 32768.`

Command mode

GigabitEthernet Interface Configuration

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lacp priority <0-65535>

Configure the port priority.

Syntax

- `default lacp priority`
- `lacp priority <0-65535>`

Default

`The default value is 32768.`

Command mode

GigabitEthernet Interface Configuration

lacp slow-periodic-time <10000-30000>

Configure the slow periodic time.

Syntax

- `default lacp slow-periodic-time`
- `lacp slow-periodic-time <10000-30000>`

Default

The default value is 1000 ms.

Command mode

GigabitEthernet Interface Configuration

lacp system-priority <0-65535>

Configure the LACP system priority.

Syntax

- `default lacp system-priority`
- `lacp system-priority <0-65535>`

Default

The default value is 32768.

Command mode

GigabitEthernet Interface Configuration

lacp timeout-scale <2-10>

Configure the timeout scale.

Syntax

- `default lacp timeout-scale`
- `lacp timeout-scale <2-10>`

Default

The default is 3.

Command mode

GigabitEthernet Interface Configuration

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lacp timeout-time

Configure the timeout to either long or short.

Syntax

- `default lacp timeout-time`
- `lacp timeout-time long`
- `lacp timeout-time short`

Default

`The default is long.`

Command mode

GigabitEthernet Interface Configuration

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line-card

Perform trace commands for input/output and switch fabric cards.

Syntax

- `line-card trace grep`
- `line-card trace grep WORD<0-1024>`
- `line-card trace level`
- `line-card trace level <67-179> <0-4>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`trace grep WORD<0-1024>`	Greps the string in the range of 0 to 1024.
`trace level <67-179> <0-4>`	Sets the trace level.

link-flap-detect

Configure link flap detection to control link state changes on a physical port.

Syntax

- `default link-flap-detect`
- `default link-flap-detect auto-port-down`
- `default link-flap-detect frequency`
- `default link-flap-detect interval`
- `default link-flap-detect send-trap`
- `link-flap-detect auto-port-down`
- `link-flap-detect frequency <1-9999>`
- `link-flap-detect interval <2-600>`
- `link-flap-detect send-trap`
- `no link-flap-detect auto-port-down`
- `no link-flap-detect send-trap`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`auto-port-down`	Activates automatic disabling of the port if the link-flap threshold is exceeded. The default is disabled.
`frequency <1-9999>`	Configures the number of changes that are allowed during the time specified by the interval command. The default is 20.
`interval <2-600>`	Configures the link-flap-detect interval in seconds. The default is 60.
`send-trap`	Activates sending traps. The default is enabled.

Version 05.01 June 2015

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linktrace

Trigger a linktrace. The linktrace message is often compared to traceroute. A MEP transmits the Linktrace Message packet to a maintenance endpoint with intermediate points responding to indicate the path of the traffic within a domain for the purpose of fault isolation. The packet specifies the target MAC address of a MP, which is the SPBM system ID or the virtual SMLT MAC. MPs on the path to the target address respond with an LTR.

Syntax

- `linktrace WORD<1-22> WORD<1-22> <1-8191> 0x00:0x00:0x00:0x00:0x00:0x00`
- `linktrace WORD<1-22> WORD<1-22> <1-8191> 0x00:0x00:0x00:0x00:0x00:0x00 detail`
- `linktrace WORD<1-22> WORD<1-22> <1-8191> 0x00:0x00:0x00:0x00:0x00:0x00 priority <0-7>`
- `linktrace WORD<1-22> WORD<1-22> <1-8191> 0x00:0x00:0x00:0x00:0x00:0x00 source-mode nodal`
- `linktrace WORD<1-22> WORD<1-22> <1-8191> 0x00:0x00:0x00:0x00:0x00:0x00 source-mode smltVirtual`
- `linktrace WORD<1-22> WORD<1-22> <1-8191> 0x00:0x00:0x00:0x00:0x00:0x00 ttl-value <1-255>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`WORD<1-22> WORD<1-22> <1-8191> 0x00:0x00:0x00:0x00:0x00:0x00`	The second parameter, specifies the MA name.
`WORD<1-22> WORD<1-22> <1-8191> 0x00:0x00:0x00:0x00:0x00:0x00 detail`	Displays linktrace result details.
`WORD<1-22> WORD<1-22> <1-8191> 0x00:0x00:0x00:0x00:0x00:0x00 priority <0-7>`	Specifies the priority. The default is 7.
`WORD<1-22> WORD<1-22> <1-8191>`	Specifies the source mode as nodal, noVlanMac, or

0x00:0x00:0x00:0x00:0x00:0x00 source-mode nodal	smltVirtual. Use the smltVirtual value with B-VLANs only. Use the noVlanMac value with C-VLANs only. The default is nodal.
WORD<1-22> WORD<1-22> <1-8191> 0x00:0x00:0x00:0x00:0x00:0x00 source-mode smltVirtual	Specifies the time-to-live (TTL) value. The default is 64.
WORD<1-22> WORD<1-22> <1-8191> 0x00:0x00:0x00:0x00:0x00:0x00 ttl-value <1-255>	The first parameter, specifies the MD name.

load-license

Load a license file to unlock the licensed features.

Syntax

- `default loadlicense`
- `load-license`
- `no loadlicense`

Default

None

Command mode

Global Configuration

lock

Lock a port to prevent other users from changing port parameters or modifying port action.

Syntax

- `default lock`
- `default lock enable`
- `default lock port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `lock`
- `lock enable`
- `lock port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `no lock`
- `no lock enable`
- `no lock port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `no lock port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} enable`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Specifies the slot and the port number to be locked.

logging level

Determine what messages the system records in the log.

Syntax

- `logging level <0-4>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`level <0-4>`	Shows and configures the logging level. The level is one of the following values: 0 = Information; all messages are recorded. 1 = Warning; only warning and more serious messages are recorded. 2 = Error; only error and more serious messages are recorded. 3 = Manufacturing; this parameter is not available for customer use. 4 = Fatal; only fatal messages are recorded.

logging screen

Configure the system to display log messages on screen.

Syntax

- `default logging screen`
- `logging screen`
- `no logging screen`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
screen	Configures the system to display the log messages on screen.

logging transferFile

Configure the remote host address for log transfer. The system transfers the current log file to a remote host when the log file size reaches the configured maximum size.

Syntax

- `default logging transferFile <1-10> filename-prefix`
- `logging transferFile <1-10> address {A.B.C.D}`
- `logging transferFile <1-10> filename-prefix WORD<0-200>`
- `no logging transferFile <1-10> address {A.B.C.D}`
- `no logging transferFile <1-10> filename-prefix`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<1-10>	Specifies the file ID to transfer.
address <A.B.C.D>	Specifies the IP address of the host to which to transfer the log file. The remote host must be reachable or the configuration fails.

logging write

Write to the log file automatically created by the system.

Syntax

- `logging write WORD<1-1536>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`write WORD<1-1536>`	Writes the designated string to the log file. WORD<1-1536> is the string or command that you append to the log file. If the string contains spaces, you must enclose the string in quotation marks (").

login

Login to a different user access level.

Syntax

- `login`

Default

None

Command mode

Privileged EXEC

login-message

Change the login prompt for ACLI.

Syntax

- `default login-message`
- `login-message WORD<1-1513>`
- `no login-message`

Default

`The default is Login.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`WORD<1-1513>`	Changes the ACLI logon prompt. WORD<1-1513> is an American Standard Code for Information Interchange (ASCII) string from 1-1513 characters.

logout

Ends the current session.

Syntax

- `logout`

Default

None

Command mode

Privileged EXEC

loopback

Trigger the loopback test. The LBM packet is often compared to ping. A MEP transmits the loopback message to an intermediate or endpoint within a domain for the purpose of fault verification. This can be used to check the ability of the network to forward different sized frames.

Syntax

- `loopback WORD<1-22> WORD<1-22> <1-8191> 0x00:0x00:0x00:0x00:0x00:0x00`
- `loopback WORD<1-22> WORD<1-22> <1-8191> 0x00:0x00:0x00:0x00:0x00:0x00 burst-count <1-200>`
- `loopback WORD<1-22> WORD<1-22> <1-8191> 0x00:0x00:0x00:0x00:0x00:0x00 data-tlv-size <0-400>`
- `loopback WORD<1-22> WORD<1-22> <1-8191> 0x00:0x00:0x00:0x00:0x00:0x00 testfill-pattern all-zero-crc`
- `loopback WORD<1-22> WORD<1-22> <1-8191> 0x00:0x00:0x00:0x00:0x00:0x00 time-out <1-10>`
- `loopback WORD<1-22> WORD<1-22>  <1-8191>`
- `loopback WORD<1-22> WORD<1-22>  <1-8191> 0x00:0x00:0x00:0x00:0x00:0x00 frame-size  <64-1500>`
- `loopback WORD<1-22> WORD<1-22>  <1-8191> 0x00:0x00:0x00:0x00:0x00:0x00 interframe-interval <0-1000>`
- `loopback WORD<1-22> WORD<1-22>  <1-8191> 0x00:0x00:0x00:0x00:0x00:0x00 priority  <0-7>`
- `loopback WORD<1-22> WORD<1-22>  <1-8191> 0x00:0x00:0x00:0x00:0x00:0x00 source-mode nodal`
- `loopback WORD<1-22> WORD<1-22>  <1-8191> 0x00:0x00:0x00:0x00:0x00:0x00 source-mode smltVirtual`
- `loopback WORD<1-22> WORD<1-22>  <1-8191> 0x00:0x00:0x00:0x00:0x00:0x00 testfill-pattern all-zero`
- `loopback WORD<1-22> WORD<1-22>  <1-8191> 0x00:0x00:0x00:0x00:0x00:0x00 testfill-pattern pseudo-random-bit-sequence`
- `loopback WORD<1-22> WORD<1-22>  <1-8191> 0x00:0x00:0x00:0x00:0x00:0x00 testfill-pattern pseudo-random-bit-sequence-crc`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
<0x00:0x00:0x00:0x00:0x00:0x00>	Specifies the remote MAC address to reach the MEP/MIP.
<1-8191>	Specifies the MEP ID.
burst-count <1-200>	Specifies the burst count.
data-tlv-size <0-400>	Specifies the data Type-Length-Value (TLV) size.
frame-size <64-1500>	Specifies the frame size. The default is 0.
interframe-interval <0-1000>	Specifies the interval between LBM frames in msecs. A value of 0 msecs indicates to send the frames as fast as possible. The default is 500.
priority <0-7>	Specifies the priority. The default is 7.
source-mode {nodal|noVlanMac|smltVirtual}	Specifies the source mode as nodal, noVlanMac, or smltVirtual. Use the smltVirtual value with B-VLANs only. Use the noVlanMac value with C-VLANs only. The default is nodal.
test-fill-pattern {all-zero|all-zero-crc|pseudo-random-bit-sequence|pseudo-random-bit-sequence-crc}	Specifies the testfill pattern: all-zero: null signal without cyclic redundancy check; all-zero-crc: null signal with cyclic redundancy check with 32-bit polynomial; pseudo-random-bit-sequence: PRBS without cyclic redundancy check; or pseudo-random-bit-sequence-crc: pseudo-random-bit-sequence with cyclic redundancy check with 32-bit polynomial. A cyclic redundancy check is a code that detects errors. The default is 1:all-zero.
time-out <1-10>	Specifies the time-out interval in seconds. The default is 3.
WORD<0-22>	The first parameter, specifies the MD name.
WORD<0-22>	The second parameter, specifies the MA name.

ls

Lists files in a directory.

Syntax

- `ls`
- `ls -r`
- `ls WORD<1-99>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`-r`	Recurse into directories.
`WORD<1-99>`	Directory path name.

mac-address-table

Configure MAC address table settings

Syntax

- `default mac-address-table aging-time`
- `mac-address-table aging-time <10-1000000>`

Default

`The default is 600.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`aging-time <10-1000000>`	Configure MAC address table aging time.

macsec confidentiality-offset

Encrypts the data following the Ethernet header based on the provided offset.

Syntax

- `macsec confidentiality-offset <30-50>`
- `no macsec confidentiality-offset`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
<30-50>	Enter the value of confidentiality offset to be achieved. Only 30 and 50 are valid values.

macsec connectivity-association (globally)

Create and configure a connectivity-association (CA).

Syntax

- `macsec connectivity-association WORD<5-15> connectivity-association-key WORD<10-32>`
- `no macsec connectivity-association WORD<5-15> connectivity-association-key WORD<10-32>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
WORD<10-32>	Specifies the value of the connectivity-association key (CAK). A 10 - 32 character hexadecimal string representing the 16 byte CAK.
WORD<5-15>	Specifies a new connectivity-association name. A 5 - 15 character alphanumeric string.

macsec connectivity-association (to a port)

Associate a port with a connectivity-association (CA).

Syntax

- `macsec connectivity-association WORD<5-15>`
- `no macsec connectivity-association WORD<5-15>`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
WORD<5-15>	Specifies an existing connectivity-association name. A 5 - 15 character alphanumeric string.

macsec enable

Enable MACsec on the specified port.

Syntax

- `macsec enable`
- `no macsec enable`

Default

None

Command mode

GigabitEthernet Interface Configuration

macsec encryption

Enable encryption for the frames transmitted on MACsec enabled port.

Syntax

- `macsec encryption`
- `no macsec encryption`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`encryption`	Enables Encryption for the frames transmitted on MACsec enabled port.

macsec replay-protect enable window-size

Enable replay protect option on MACsec port.

Syntax

- `macsec replay-protect enable window-size <5-500>`
- `no macsec replay-protect enable window-size <5-500>`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
<5-500>	Enter the size of window for replay protect.

mac-security (T-UNI based)

Set maximum MAC learning limit for Transparent UNI service instance identifier (I-SID).

Syntax

- `default mac-security limit-learning max-addrs`
- `mac-security limit-learning enable`
- `mac-security limit-learning max-addrs <1-32000>`
- `no mac-security limit-learning enable`

Default

None

Command mode

Elan-Transparent Configuration

Command parameters

Parameter	Description
`limit-learning enable`	Enables (or disables) the maximum MAC learning limit for the Transparent UNI based service instance identifier (I-SID).
`limit-learning max-addrs <1-32000>`	Sets the maximum MAC learning limit in the range of 1-32000 for the Transparent UNI based service instance identifier (I-SID).

manual-area

Configure an Intermediate-System-to-Intermediate-System (IS-IS) manual area, 1-13 bytes in the format <xx.xxx.xxx...xxxx>. You must configure a manual area to use IS-IS. In this release, only one manual area is supported. Use the no format of this command to remove the area.

Syntax

- `manual-area xx.xxxx.xxxx...xxxx - 1...13 bytes`
- `no manual-area xx.xxxx.xxxx...xxxx - 1...13 bytes`

Default

None

Command mode

IS-IS Router Configuration

Command parameters

Parameter	Description
`xx.xxxx.xxxx...xxxx - 1...13 bytes`	Configures the manual area in a size up to 13 octets. The current release supports one area. For Intermediate-System-to-Intermediate-System (IS-IS) to operate, you must configure at least one area.

manualtrigger ip rip interface

Sends a triggered update.

Syntax

- `manualtrigger ip rip interface vlan <1-4059>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`vlan <1-4059>`	Specifies the VLAN ID.

match as-path

If configured, the switch Match the as-path attribute of the Border Gateway Protocol (BGP) routes against the contents of the specified AS-lists. This command is used only for BGP routes and ignored for all other route types.

Syntax

- `default match as-path WORD<0-256>`
- `match as-path WORD<0-256>`
- `no match as-path WORD<0-256>`

Default

None

Command mode

Route-Map Configuration

Command parameters

Parameter	Description
WORD<0-256>	Specifies the list IDs of AS-lists, separated by a comma.

match community

If configured, the switch Match the community attribute of the BGP routes against the contents of the specified community lists. This command is used only for BGP routes and ignored for all other route types.

Syntax

- `default match community WORD<0-256>`
- `match community WORD<0-256>`
- `no match community WORD<0-256>`

Default

None

Command mode

Route-Map Configuration

Command parameters

Parameter	Description
WORD<0-256>	Specifies the list IDs of up to four defined community lists, separated by a comma.

match community-exact

When disabled, match community-exact results in a match when the community attribute of the BGP routes match any entry of any community-list specified in match community. When enabled, match community-exact results in a match when the community attribute of the BGP routes Match all of the entries of all the community lists specified in match community.

Syntax

- `default match community-exact`
- `default match community-exact enable`
- `match community-exact`
- `match community-exact enable`
- `no match community-exact`
- `no match community-exact enable`

Default

`The default is disable.`

Command mode

Route-Map Configuration

Command parameters

Parameter	Description
`enable`	Enables match community-exact.

match interface

Match the IP address of the interface by which the RIP route was learned against the contents of the specified prefix list. This command is used only for RIP routes and ignored for all other route types.

Syntax

- `default match interface WORD<0-259>`
- `match interface WORD<0-259>`
- `no match interface WORD<0-259>`

Default

None

Command mode

Route-Map Configuration

Command parameters

Parameter	Description
WORD<0-259>	Specifies the name of up to four defined prefix lists, separated by a comma.

match local-preference

Match the preference value from 0-2147483647.

Syntax

- `default match local-preference`
- `match local-preference <0-2147483647>`

Default

The default is 0.

Command mode

Route-Map Configuration

Command parameters

Parameter	Description
<0-2147483647>	Specifies the preference value.

match metric

Match the metric of the incoming advertisement or existing route against the specified value. If 0, this field is ignored.

Syntax

- `default match metric`
- `match metric <0-65535>`

Default

`The default is 0.`

Command mode

Route-Map Configuration

Command parameters

Parameter	Description
`<0-65535>`	Specifies the metric to match.

match network

Match the destination network against the contents of the specified prefix lists.

Syntax

- `default match network WORD<0-259>`
- `match network WORD<0-259>`
- `no match network WORD<0-259>`

Default

None

Command mode

Route-Map Configuration

Command parameters

Parameter	Description
WORD<0-259>	Specifies the name of up to four defined prefix lists, separated by a comma.

match next-hop

Match the next-hop IP address of the route against the contents of the specified prefix list. This command applies only to nonlocal routes.

Syntax

- `default match next-hop WORD<0-259>`
- `match next-hop WORD<0-259>`
- `no match next-hop WORD<0-259>`

Default

None

Command mode

Route-Map Configuration

Command parameters

Parameter	Description
WORD<0-259>	Specifies the name of up to four defined prefix lists, separated by a comma.

match protocol

Match the protocol through which the route is learned.

Syntax

- `default match protocol`
- `match protocol WORD<0-60>`
- `no match protocol`
- `no match protocol WORD<0-60>`

Default

`The default is any.`

Command mode

Route-Map Configuration

Command parameters

Parameter	Description
`WORD<0-60>`	Specifies the protocol as any|xxx, where xxx is local, OSPF, External BGP (EBGP), Internal BGP (IBGP), RIP, static, or any combination, in a string length 0 to 60.

match route-source

Match the next-hop IP address for RIP routes and advertising router IDs for OSPF routes against the contents of the specified prefix list. This option is ignored for all other route types.

Syntax

- `default match route-source WORD<0-259>`
- `match route-source WORD<0-259>`
- `no match route-source WORD<0-259>`

Default

None

Command mode

Route-Map Configuration

Command parameters

Parameter	Description
WORD<0-259>	Specifies the name of up to four defined prefix lists, separated by a comma.

match route-type

Configure a specific route type to match. This command applies only to OSPF routes.

Syntax

- `default match route-type`
- `match route-type { any | local | internal | external | external-1 | external-2 }`

Default

`The default is any.`

Command mode

Route-Map Configuration

Command parameters

Parameter	Description
`{ any | local | internal | external | external-1 | external-2 }`	Specifies OSPF routes of the specified type only (External-1 or External-2). Any other value is ignored.

match vrf

Configure a specific VRF to match.

Syntax

- `default match vrf WORD<0-16>`
- `match vrf WORD<0-16>`
- `no match vrf WORD<0-16>`

Default

None

Command mode

Route-Map Configuration

Command parameters

Parameter	Description
WORD<0-16>	Specifies the VRF name.

match vrfids

Configure a specific VRF to match.

Syntax

- `default match vrfids WORD<0-511>`
- `match vrfids WORD<0-511>`
- `no match vrfids WORD<0-511>`

Default

None

Command mode

Route-Map Configuration

Command parameters

Parameter	Description
WORD<0-511>	Specifies the VRF ID.

max-logins

Configure the number of supported rlogin sessions.

Syntax

- `default max-logins`
- `max-logins <0-8>`

Default

`The default is 8.`

Command mode

Global Configuration

Command parameters

Parameter	Description
<0-8>	Configures the maximum number of inbound remote ACLI logon sessions.

max-lsp-gen-interval

Configure the maximum level, in seconds, between generated Link State Packets (LSPs) by this Intermediate System.

Syntax

- `default max-lsp-gen-interval`
- `max-lsp-gen-interval <30-900>`
- `no max-lsp-gen-interval`

Default

`The default maximum interval value is 900.`

Command mode

IS-IS Router Configuration

Command parameters

Parameter	Description
`<30-900>`	Specifies the time interval at which the generated Link State Packet (LSP) is refreshed.

md5

Calculate the Message Digest 5 algorithm (MD5) digest to verify the MD5 checksum. The md5 command calculates the MD5 digest for files on the internal or external flash and either Display the output on screen or stores the output in a file that you specify.

Syntax

- `md5 WORD<1-99>`
- `md5 WORD<1-99> -a`
- `md5 WORD<1-99> -c`
- `md5 WORD<1-99> -f WORD<1-99>`
- `md5 WORD<1-99> -r`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
WORD<1-99> -a	Adds data to the output file instead of overwriting it. You cannot use the -a option with the -c option.
WORD<1-99> -c	Compares the checksum of the specified file by WORD<1-99> with the MD5 checksum present in the checksum file name. You can specify the checksum file name using the -f option. If the checksum filename is not specified, the file /intflash/checksum.md5 is used for comparison. If the supplied checksum filename and the default file are not available on flash, the following error message appears: Error: Checksum file <filename> not present The -c option also calculates the checksum of files specified by WORD<1-99> compares the checksum with all keys in the checksum file, even if filenames do not match displays the output of comparison
WORD<1-99> -f WORD<1-99>	Stores the result of MD5 checksum to a file on internal or external flash. If the output file specified with the -f option is one of the reserved filenames on the switch, the command fails with the error message: Error: Invalid operation. If the output file specified with the -f option is one of the files for which MD5 checksum is to be computed, the command fails with the error message: md5 *.cfg -f config.cfg Error: Invalid operation on file <filename>. If the checksum filename specified by the -f option exists on the switch (and is not one of the reserved filenames), the following message appears on the switch: File exists. Do you wish to overwrite? (y/n)
WORD<1-99> -r	Reverses the output. Use with the -f option to store the output to a file. You cannot use the -r option with the -c option.

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metric

Configure the metric type that you can configure on an Intermediate-System-to-Intermediate-System (IS-IS) interface.

Syntax

- `default metric`
- `metric { narrow | wide }`
- `no metric`

Default

`The default IS-IS metric type is wide.`

Command mode

IS-IS Router Configuration

Command parameters

Parameter	Description
`narrow`	Configures the metric type as narrow. Only wide is supported in this release.
`wide`	Configures the metric type as wide. Only wide is supported in this release.

mirror-by-port

Use port mirroring to aid in diagnostic and security operations.

Syntax

- default mirror-by-port <1-479>
- default mirror-by-port <1-479> enable
- default mirror-by-port <1-479> mode
- default mirror-by-port mirror-port <1-479> {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- default mirror-by-port monitor-mlt <1-479> <1-512>
- default mirror-by-port monitor-port <1-479> {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- mirror-by-port <1-479> enable
- mirror-by-port <1-479> in-port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} monitor-mlt <1-512>
- mirror-by-port <1-479> in-port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} monitor-mlt <1-512> enable
- mirror-by-port <1-479> in-port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} monitor-mlt <1-512> enable remote-mirror-vlan-id <1-4059>
- mirror-by-port <1-479> in-port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} monitor-mlt <1-512> mode both
- mirror-by-port <1-479> in-port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} monitor-mlt <1-512> mode rx
- mirror-by-port <1-479> in-port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} monitor-mlt <1-512> mode tx
- mirror-by-port <1-479> in-port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} monitor-mlt <1-512> remote-mirror-vlan-id <1-4059>
- mirror-by-port <1-479> in-port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} monitor-mlt <1-512> remote-mirror-vlan-id <1-4059> enable
- mirror-by-port <1-479> in-port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} out-port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}

- `mirror-by-port <1-479> in-port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} out-port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} enable`
- `mirror-by-port <1-479> in-port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} out-port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} mode both`
- `mirror-by-port <1-479> in-port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} out-port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} mode rx`
- `mirror-by-port <1-479> in-port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} out-port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} mode tx`
- `mirror-by-port <1-479> mode both`
- `mirror-by-port <1-479> mode rx`
- `mirror-by-port <1-479> mode tx`
- `mirror-by-port mirror-port <1-479> {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `mirror-by-port monitor-mlt <1-479> <1-512>`
- `mirror-by-port monitor-port <1-479> {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `no mirror-by-port <1-479>`
- `no mirror-by-port <1-479> enable`
- `no mirror-by-port mirror-port <1-479> {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `no mirror-by-port monitor-mlt <1-479> <1-512>`
- `no mirror-by-port monitor-port <1-479> {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

`The default DSCP is 0. The default TTL is 64.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`[in-port {{slot/port[/sub-port][-slot/port[/sub-port]][,...]}} {monitorip {A.B.C.D} [dscp <0-63>] [ <2-255>]|monitor-mlt <1-512>|monitor-vlan <1-4059>|out-port {{slot/port[/sub-port][-slot/port[/sub-port]][,...]}}}]`	Creates a new mirror-by-port table entry. in-port {{slot/port[/sub-port][-slot/port[/sub-port]][,...]}} specifies the mirrored port. monitor-ip {A.B.C.D} [dscp <0-63>] [<2-255> specifies the destination IP address for Layer 3 remote mirroring. You can optionally configure the DSCP and time-to-live values, or accept the defaults. monitor-mlt <1-512> specifies the mirroring MLT ID from 1 to 512. monitor-vlan <1-4059> specifies the mirroring VLAN ID from 1 to 4084. out-port {{slot/port[/sub-port][-slot/port[/sub-port]][,...]}} specifies the mirroring port.
`<1-479>`	Specifies the mirror-by-port entry ID in the range of 1 to 479.

`enable`	Enables or disables a mirroring instance already created in the mirror-by-port table.
`mirror-port <1-479> {{slot/port[/sub-port][-slot/port[/sub-port]][,...]}}`	Modifies the mirrored port. Before you can modify an existing entry, you must disable the entry: no mirror-by-port <1-479> enable.
`mode <both|tx|rx>`	Sets the mirroring mode. The default is rx. both mirrors both egress and ingress packets. tx mirrors egress packets. rx mirrors ingress packets.
`monitor-ip <1-479> {A.B.C.D} [dscp <0-63>] [<2-255>][ttl<2-255>]`	Creates a mirroring instance for Layer 3 remote mirroring. The destination must be an IP address {A.B.C.D}. The default DSCP is 0 and the default is 64. TTL sets the time-to-live value between 2 to 255 seconds.
`monitor-mlt <1-479> <1-512>`	Modifies the monitoring MLT; <1-479> <1-512> specifies the port mirroring entry id and the MLT ID. Before you can modify an existing entry, you must disable the entry: no mirror-by-port <1-479> enable .
`monitor-port <1-479> {{slot/port[/sub-port][-slot/port[/sub-port]][,...]}}`	Modifies the monitoring ports. Before you can modify an existing entry, you must disable the entry: no mirror-by-port <1-479> enable .
`monitor-vlan <1-479> <1-4059>`	Modifies the monitoring VLAN. Before you can modify an existing entry, you must disable the entry: no mirror-by-port <1-479> enable .
`remote-mirror-vlan-id <1-4059>`	Sets the remote mirror VLAN ID.

mkdir

Make directory on filesystem

Syntax

- `mkdir WORD<1-99>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
WORD<1-99>	Directory path name.

mlt

Configure a MultiLink Trunking (MLT) to set up MLTs on the switch.

Syntax

- `mlt <1-512>`
- `mlt <1-512> enable`
- `mlt <1-512> encapsulation dot1q`
- `mlt <1-512> member {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `mlt <1-512> name WORD<0-20>`
- `mlt <1-512> vlan <1-4059>`
- `no mlt <1-512>`
- `no mlt <1-512> encapsulation dot1q`
- `no mlt <1-512> member {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `no mlt <1-512> name`
- `no mlt <1-512> vlan <1-4059>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`<1-512>`	Specifies the MLT ID in the range of 1-512.
`enable`	Creates and enables a new MLT.
`encapsulation dot1q`	Sets encapsulation. dot1q enables trunking on the MLT.
`member{{slot/port[/sub-port][-slot/port[/sub-port]][,...]}}`	Adds ports to this MLT.
`name <0-20>`	Changes the name for this MLT in the range of 0-20 characters.
`vlan <1-4059>`	Specifies a VLAN ID to add to this MLT.

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mlt (T-UNI based)

Add MLT to elan-transparent (Transparent UNI) based service instance identifier (I-SID).

Syntax

- `mlt <1-512>`
- `no mlt <1-512>`

Default

None

Command mode

Elan-Transparent Configuration

Command parameters

Parameter	Description
<1-512>	Specifies the MLT ID in the range of 1-512 of the mlt being added to (or removed from) the Transparent UNI based service instance identifier (I-SID).

monitor mlt error collision

Monitor MultiLink Trunking (MLT) collision error information.

Syntax

- `monitor mlt error collision`
- `monitor mlt error collision <1-512>`

Default

None

Command mode

User EXEC

monitor mlt error main

Monitor MultiLink Trunking (MLT) general error information.

Syntax

- `monitor mlt error main`
- `monitor mlt error main <1-512>`

Default

None

Command mode

User EXEC

monitor mlt stats interface main

Show MultiLink Trunking (MLT) interface statistics.

Syntax

- `monitor mlt stats interface main`
- `monitor mlt stats interface main <1-512>`

Default

None

Command mode

User EXEC

monitor mlt stats interface utilization

Show MultiLink Trunking (MLT) interface statistics utilization.

Syntax

- `monitor mlt stats interface utilization`
- `monitor mlt stats interface utilization <1-512>`

Default

None

Command mode

User EXEC

monitor ports error

Monitor port error information.

Syntax

- monitor ports error {slot/port[/sub-port][-slot/port[/sub-port]][,...]} collision
- monitor ports error {slot/port[/sub-port][-slot/port[/sub-port]][,...]} collision from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- monitor ports error {slot/port[/sub-port][-slot/port[/sub-port]][,...]} main
- monitor ports error {slot/port[/sub-port][-slot/port[/sub-port]][,...]} main from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- monitor ports error {slot/port[/sub-port][-slot/port[/sub-port]][,...]} ospf
- monitor ports error {slot/port[/sub-port][-slot/port[/sub-port]][,...]} ospf from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- monitor ports error {slot/port[/sub-port][-slot/port[/sub-port]][,...]} verbose
- monitor ports error {slot/port[/sub-port][-slot/port[/sub-port]][,...]} verbose from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- monitor ports error collision
- monitor ports error collision from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- monitor ports error main
- monitor ports error main from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- monitor ports error ospf
- monitor ports error ospf from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- monitor ports error verbose
- monitor ports error verbose from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
{{slot/port[/sub-port][-slot/port[/sub-port]][,...]}} collision	Monitors general error information on a particular slot and port or particular slots and ports.
{{slot/port[/sub-port][-slot/port[/sub-port]][,...]}} collision from {{slot/port[/sub-port][-slot/port[/sub-port]][,...]}}	Monitors port general error information.
{{slot/port[/sub-port][-slot/port[/sub-port]][,...]}} main	Monitors ports general OSPF information on a particular slot and port or particular slots and ports.
{{slot/port[/sub-port][-slot/port[/sub-port]][,...]}} main from {{slot/port[/sub-port][-slot/port[/sub-port]][,...]}}	Monitors ports general Open Shortest Path First (OSPF) information.
{{slot/port[/sub-port][-slot/port[/sub-port]][,...]}} ospf	Monitors port extended error information on a particular slot and port or particular slots and ports.
{{slot/port[/sub-port][-slot/port[/sub-port]][,...]}} ospf from {{slot/port[/sub-port][-slot/port[/sub-port]][,...]}}	Monitors port extended error information.
{{slot/port[/sub-port][-slot/port[/sub-port]][,...]}} verbose	Monitors port extended error information on a particular slot and port or particular slots and ports.
{slot/port[/sub-port][-slot/port[/sub-port]][,...]} verbose from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}	Monitors port extended error information on a particular slot and port or particular slots and ports.
verbose	Monitors port extended error information on a particular slot and port or particular slots and ports.
verbose from {{slot/port[/sub-port][-slot/port[/sub-port]][,...]}][,...]}	Monitors port extended error information on a particular slot and port or particular slots and ports.

monitor ports statistics

Monitor port statistics.

Syntax

- monitor ports statistics {slot/port[/sub-port][-slot/port[/sub-port]][,...]} bridging
- monitor ports statistics {slot/port[/sub-port][-slot/port[/sub-port]][,...]} bridging from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- monitor ports statistics {slot/port[/sub-port][-slot/port[/sub-port]][,...]} dhcp-relay
- monitor ports statistics {slot/port[/sub-port][-slot/port[/sub-port]][,...]} dhcp-relay from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- monitor ports statistics {slot/port[/sub-port][-slot/port[/sub-port]][,...]} interface main
- monitor ports statistics {slot/port[/sub-port][-slot/port[/sub-port]][,...]} interface main from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- monitor ports statistics {slot/port[/sub-port][-slot/port[/sub-port]][,...]} interface utilization
- monitor ports statistics {slot/port[/sub-port][-slot/port[/sub-port]][,...]} interface utilization from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- monitor ports statistics {slot/port[/sub-port][-slot/port[/sub-port]][,...]} interface verbose
- monitor ports statistics {slot/port[/sub-port][-slot/port[/sub-port]][,...]} interface verbose from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- monitor ports statistics {slot/port[/sub-port][-slot/port[/sub-port]][,...]} ospf main
- monitor ports statistics {slot/port[/sub-port][-slot/port[/sub-port]][,...]} ospf main from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- monitor ports statistics {slot/port[/sub-port][-slot/port[/sub-port]][,...]} ospf verbose
- monitor ports statistics {slot/port[/sub-port][-slot/port[/sub-port]][,...]} ospf verbose from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- monitor ports statistics {slot/port[/sub-port][-slot/port[/sub-port]][,...]} rmon
- monitor ports statistics {slot/port[/sub-port][-slot/port[/sub-port]][,...]} rmon from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- monitor ports statistics {slot/port[/sub-port][-slot/port[/sub-port]][,...]} routing

- `monitor ports statistics {slot/port[/sub-port][-slot/port[/sub-port]][,...]} routing from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

User EXEC

monitor ports statistics bridging

Monitor port bridging statistics.

Syntax

- `monitor ports statistics bridging`
- `monitor ports statistics bridging from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Monitors port bridging statistics.

monitor ports statistics dhcp-relay

Monitor port dhcp-relay statistics.

Syntax

- `monitor ports statistics dhcp-relay`
- `monitor ports statistics dhcp-relay from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Monitors port bridging statistics from a particular starting port. Identifies the slot and port in one of the following formats: a single slot and port (3/1),a range of slots and ports (3/2-3/4), or a series of slots and ports (3/2,5/3,6/2).

monitor ports statistics interface

Monitor port interface statistics.

Syntax

- `monitor ports statistics interface main`
- `monitor ports statistics interface main from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `monitor ports statistics interface utilization`
- `monitor ports statistics interface utilization from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `monitor ports statistics interface verbose`
- `monitor ports statistics interface verbose from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Monitors port DHCP-relay statistics.
`utilization from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Monitors port DHCP-relay statistics from a particular starting port. Identifies the slot and port in one of the following formats: a single slot and port (3/1),a range of slots and ports (3/2-3/4), or a series of slots and ports (3/2,5/3,6/2).
`verbose from {slot/port[/sub-port][-`	Specifies the slot and port. Identifies the slot and port in one of the following formats: a single slot and port (3/1),a range of slots and ports (3/2-3/4), or a series of slots and ports (3/2,5/3,6/2).

```
slot/port[/sub-
port]][,...]}
```

monitor ports statistics ospf main

Monitor ports statistics for open shortest path first (OSPF) performance.

Syntax

- `monitor ports statistics ospf main`
- `monitor ports statistics ospf main from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `monitor ports statistics ospf verbose`
- `monitor ports statistics ospf verbose from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`main from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Monitors port interface statistics.
`verbose from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Monitors port interface statistics from a particular starting port. Identifies the slot and port in one of the following formats: a single slot and port (3/1),a range of slots and ports (3/2-3/4), or a series of slots and ports (3/2,5/3,6/2).

monitor ports statistics rmon

Monitor port remote monitoring (RMON) statistics.

Syntax

- `monitor ports statistics rmon`
- `monitor ports statistics rmon from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Monitors port interface utilization statistics.

monitor ports statistics routing

Monitor port Dynamic Host Configuration Protocol (DHCP) routing statistics.

Syntax

- `monitor ports statistics routing`
- `monitor ports statistics routing from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`from {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Monitors port interface utilization statistics from a particular starting port. Identifies the slot and port in one of the following formats: a single slot and port (3/1),a range of slots and ports (3/2-3/4), or a series of slots and ports (3/2,5/3,6/2).

monitor-statistics

Change monitor timer commands.

Syntax

- `default monitor-statistics`
- `default monitor-statistics duration`
- `default monitor-statistics interval`
- `monitor-statistics duration <1-1800>`
- `monitor-statistics interval <1-600>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`duration <1-1800>`	Change monitor time duration.
`interval <1-600>`	Change monitor time interval.

more

Display contents of file.

Syntax

- `more WORD<1-99>`
- `more WORD<1-99> { binary | ascii }`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`WORD<1-99> { binary | ascii }`	Filename, a.b.c.d:<file> | /intflash/<file> | /usb/<file>.

mv

Move or rename file or directory, with wildcard pattern.

Syntax

- `mv WORD<1-255> WORD<1-255>`

Default

`None`

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`WORD<1-255> WORD<1-255>`	Filename, /intflash/<file> | /usb/<file>.

mvpn enable

Enables Layer 3 VSN IP multicast over SPBM for a specific VRF.

Syntax

- `default mvpn enable`
- `mvpn enable`
- `no mvpn enable`

Default

`The default is disabled.`

Command mode

VRF Router Configuration

mvpn fwd-cache-timeout <10-86400>

Configures the timeout value on the VRF.

Syntax

- `default mvpn fwd-cache-timeout`
- `mvpn fwd-cache-timeout <10-86400>`
- `no mvpn fwd-cache-timeout`

Default

`The default is 210 seconds.`

Command mode

VRF Router Configuration

Command parameters

Parameter	Description
`<10-86400>`	Specifies the timeout value. The default is 210 seconds.

name

Rename a policy and changes the name field for all sequence numbers under the given policy.

Syntax

- `name WORD<1-64>`
- `name WORD<1-64>`

Default

None

Command mode

Route-Map Configuration

Command parameters

Parameter	Description
WORD<1-64>	Specifies the new name for the policy.
WORD<1-64>	Specifies the new name for the policy.

name (for a port)

Specify the name of the port that needs to be changed and have same settings for all the ports.

Syntax

- `default name`
- `default name port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `name port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} WORD<0-42>`
- `name WORD<0-42>`
- `no name`
- `no name port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Specifies the port number that needs to be changed.
`WORD <0-42>`	Specifies the new port name.

neighbor-debug-all

Display specified debug information for BGP neighbors.

Syntax

- `default neighbor-debug-all`
- `neighbor-debug-all mask WORD<1-100>`
- `no neighbor-debug-all`

Default

`The default value is none.`

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
`mask <WORD 1-100>`	<WORD 1-100> is a list of mask choices separated by commas with no space between choices.

neighbor (for OSPF)

Configure NBMA neighbors so that the interface can participate in Designated Router election. All OSPF neighbors that you manually configure are NBMA neighbors.

Syntax

- `default neighbor {A.B.C.D}`
- `neighbor {A.B.C.D} priority <0-255>`
- `network {A.B.C.D}`
- `no neighbor {A.B.C.D}`

Default

None

Command mode

OSPF Router Configuration

Command parameters

Parameter	Description
`<A.B.C.D>`	Identifies an OSPF area in IP address format A.B.C.D.
`priority <0-255>`	Changes the priority level of the neighbor.

neighbor password

Configure a BGP peer or peer group password for Transmission Control Protocol (TCP) MD5 authentication between two peers.

Syntax

- `default neighbor password <nbr_ipaddr|peer-group-name> WORD<0-1536>`
- `neighbor password <nbr_ipaddr|peer-group-name> WORD<0-1536>`
- `no neighbor password <nbr_ipaddr|peer-group-name> WORD<0-1536>`

Default

None

Command mode

BGP Router Configuration

neighbor WORD<0-1536>

Create a peer or peer group.

Syntax

- `default neighbor WORD<0-1536>`
- `neighbor WORD<0-1536>`
- `no neighbor WORD<0-1536>`

Default

None

Command mode

BGP Router Configuration

neighbor WORD<0-1536> address-family

Enables BGP address families for IPv6 or IPv4 (BGP) and L3 VPN (MP-BGP) support.

Syntax

- `default neighbor WORD<0-1536> address-family ipv6`
- `default neighbor WORD<0-1536> address-family vpnv4`
- `neighbor WORD<0-1536> address-family ipv6`
- `neighbor WORD<0-1536> address-family vpnv4`
- `no neighbor WORD<0-1536> address-family ipv6`
- `no neighbor WORD<0-1536> address-family vpnv4`

Default

None

Command mode

BGP Router Configuration

neighbor WORD<0-1536> advertisement-interval <5-120>

Specifies the time interval (in seconds) that transpires between each transmission of an advertisement from a BGP neighbor.

Syntax

- `default neighbor WORD<0-1536> advertisement-interval`
- `neighbor WORD<0-1536> advertisement-interval <5-120>`

Default

`The default value is 5 seconds.`

Command mode

BGP Router Configuration

neighbor WORD<0-1536> default-ipv6-originate

Enables IPv6 BGP neighbor default originate.

Syntax

- `default neighbor WORD<0-1536> default-ipv6-originate`
- `neighbor WORD<0-1536> default-ipv6-originate`
- `no neighbor WORD<0-1536> default-ipv6-originate`

Default

`The default value is disable.`

Command mode

BGP Router Configuration

neighbor WORD<0-1536> default-originate

Enables the switch to send a default route advertisement to the specified neighbor. A default route does not have to be in the routing table. Do not use this command if you globally enable default-information originate.

Syntax

- `default neighbor WORD<0-1536> default-originate`
- `neighbor WORD<0-1536> default-originate`
- `no neighbor WORD<0-1536> default-originate`

Default

`The default value is disable.`

Command mode

BGP Router Configuration

neighbor WORD<0-1536> ebgp-multihop

Enables a connection to a Border Gateway Protocol (BGP) peer that is more than one hop away from the local router.

Syntax

- `default neighbor WORD<0-1536> ebgp-multihop`
- `neighbor WORD<0-1536> ebgp-multihop`
- `no neighbor WORD<0-1536> ebgp-multihop`

Default

`The default value is disable.`

Command mode

BGP Router Configuration

neighbor WORD<0-1536> enable

Enables the Border Gateway Protocol (BGP) neighbor.

Syntax

- `default neighbor WORD<0-1536> enable`
- `neighbor WORD<0-1536> enable`
- `no neighbor WORD<0-1536> enable`

Default

`The default value is disable.`

Command mode

BGP Router Configuration

neighbor WORD<0-1536> in-route-map WORD<0-256>

Applies a route policy rule to all incoming routes that are learned from, or sent to, the local BGP router peers, or peer groups. The local BGP router is the BGP router that allows or disallows routes and sets attributes in incoming or outgoing updates.

Syntax

- `default neighbor WORD<0-1536> in-route-map`
- `neighbor WORD<0-1536> in-route-map WORD<0-256>`
- `no neighbor WORD<0-1536> in-route-map`

Default

None

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
WORD<0-256>	Specifies an alphanumeric string length (0 to 256 characters) that indicates the name of the route map or policy.

neighbor WORD<0-1536> ipv6-in-route-map WORD<0-256>

Creates IPv6 in route map.

Syntax

- `default neighbor WORD<0-1536> ipv6-in-route-map`
- `neighbor WORD<0-1536> ipv6-in-route-map WORD<0-256>`
- `no neighbor WORD<0-1536> ipv6-in-route-map`

Default

None

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
WORD <0-256>	Specifies the route map name.
WORD <0-256>	Specifies the route map or policy name in an alphanumeric string.

neighbor WORD<0-1536> ipv6-out-route-map WORD<0-256>

Creates IPv6 out route map.

Syntax

- `default neighbor WORD<0-1536> ipv6-out-route-map`
- `neighbor WORD<0-1536> ipv6-out-route-map WORD<0-256>`
- `no neighbor WORD<0-1536> ipv6-out-route-map`

Default

None

Command mode

BGP Router Configuration

neighbor WORD<0-1536> max-prefix <0-2147483647>

Sets a limit on the number of routes that can be accepted from a neighbor.

Syntax

- `default neighbor WORD<0-1536> max-prefix`
- `neighbor WORD<0-1536> max-prefix <0-2147483647>`

Default

`The default value is 12000 routes`

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
`<0-2147483647>`	Sets a limit on the number of routes that can be accepted from a neighbor. A value of 0 (zero) indicates that there is no limit to the number of routes that can be accepted.

neighbor WORD<0-1536> MD5-authentication enable

Enables TCP MD5 authentication between two peers.

Syntax

- `default neighbor WORD<0-1536> MD5-authentication enable`
- `neighbor WORD<0-1536> MD5-authentication enable`
- `no neighbor WORD<0-1536> MD5-authentication enable`

Default

`The default value is disable.`

Command mode

BGP Router Configuration

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neighbor WORD<0-1536> neighbor-debug-mask WORD<1-100>

Displays specified debug information for a BGP peer.

Syntax

- `default neighbor WORD<0-1536> neighbor-debug-mask`
- `neighbor WORD<0-1536> neighbor-debug-mask WORD<1-100>`
- `no neighbor WORD<0-1536> neighbor-debug-mask`

Default

`The default value is none.`

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
`WORD<1-100>`	WORD<1-100> is a list of mask choices separated by commas with no space between choices. For example, {<mask>,<mask>,<mask>...}. Mask choices are none - disables all debug messages. all - enables all debug messages. error -enables display of debug error messages. packet - enables display of debug packet messages. event - enables display of debug event messages. trace - enables display of debug trace messages. warning - enables display of debug warning messages. state - enables display of debug state transition messages. init - enables display of debug initialization messages. filter - enables display of debug messages related to filtering. update - enables display of debug messages related to sending and receiving updates.

neighbor WORD<0-1536> next-hop-self

When enabled, specifies that the next-hop attribute in an IBGP update is the address of the local router or the router that is generating the IBGP update. You can only configure the next-hop parameter if the neighbor is disabled.

Syntax

- `default neighbor WORD<0-1536> next-hop-self`
- `neighbor WORD<0-1536> next-hop-self`
- `no neighbor WORD<0-1536> next-hop-self`

Default

`The default value is disable.`

Command mode

BGP Router Configuration

neighbor WORD<0-1536> out-route-map WORD<0-256>

Applies a route policy rule to all outgoing routes that are learned from, or sent to, the local peers or peer groups, of the BGP router. The local BGP router is the BGP router that allows or disallows routes, and sets attributes in incoming or outgoing updates.

Syntax

- `default neighbor WORD<0-1536> out-route-map`
- `neighbor WORD<0-1536> out-route-map WORD<0-256>`
- `no neighbor WORD<0-1536> out-route-map`

Default

None

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
WORD<0-256>	WORD<0-256> name is an alphanumeric string length (0 to 256 characters) that indicates the name of the route map or policy.

neighbor WORD<0-1536> peer-group WORD<0-1536>

Adds a Border Gateway Protocol (BGP) peer to the specified subscriber group. You must create the specified subscriber group before you issue this command.

Syntax

- `neighbor WORD<0-1536> peer-group WORD<0-1536>`
- `no neighbor WORD<0-1536> peer-group`

Default

None

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
WORD<0-1536>	Specifies the subscriber group. You must create the specified subscriber group before you issue this command.

neighbor WORD<0-1536> remote-as WORD<0-11>

Configures the remote AS number of a Border Gateway Protocol (BGP) peer or a peer-group. You cannot configure this option when the admin-state is enable.

Syntax

- `default neighbor WORD<0-1536> remote-as`
- `neighbor WORD<0-1536> remote-as WORD<0-11>`
- `no neighbor WORD<0-1536> remote-as`

Default

None

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
WORD<0-11>	Specifies the remote AS number of a peer or a peer-group.

neighbor WORD<0-1536> remove-private-as enable

When enabled, strips private AS numbers when an update is sent. This feature is especially useful within a confederation.

Syntax

- `default neighbor WORD<0-1536> remove-private-as enable`
- `neighbor WORD<0-1536> remove-private-as enable`
- `no neighbor WORD<0-1536> remove-private-as enable`

Default

`The default value is enable.`

Command mode

BGP Router Configuration

neighbor WORD<0-1536> retry-interval <1-65535>

Configures the time interval (in seconds) for the ConnectRetry Timer.

Syntax

- `default neighbor WORD<0-1536> retry-interval`
- `neighbor WORD<0-1536> retry-interval <1-65535>`

Default

`The default value is 120 seconds.`

Command mode

BGP Router Configuration

neighbor WORD<0-1536> route-reflector-client

Configures the specified neighbor or group of neighbors as its route reflector client. All neighbors that are configured become members of the client group and the remaining IBGP peers become members of the nonclient group for the local route reflector.

Syntax

- `neighbor WORD<0-1536> route-reflector-client`
- `no neighbor WORD<0-1536> route-reflector-client`

Default

`The default value is disable.`

Command mode

BGP Router Configuration

neighbor WORD<0-1536> route-refresh

Enables IP VPN Route Refresh for the Border Gateway Protocol (BGP) peer. If enabled, a route refresh request received by a BGP speaker causes the speaker to resend all route updates it contains in its database that are eligible for the peer that issues the request.

Syntax

- `default neighbor WORD<0-1536> route-refresh`
- `neighbor WORD<0-1536> route-refresh`
- `no neighbor WORD<0-1536> route-refresh`

Default

`The default value is disable`

Command mode

BGP Router Configuration

neighbor WORD<0-1536> send-community

Enables the switch to send the update message community attribute to the specified peer.

Syntax

- `default neighbor WORD<0-1536> send-community`
- `neighbor WORD<0-1536> send-community`
- `no neighbor WORD<0-1536> send-community`

Default

`The default value is disable.`

Command mode

BGP Router Configuration

neighbor WORD<0-1536> soft-reconfiguration-in enable

When enabled, the router relearns routes from the specified neighbor or group of neighbors without resetting the connection when the policy changes in the inbound direction.

Syntax

- `default neighbor WORD<0-1536> soft-reconfiguration-in enable`
- `neighbor WORD<0-1536> soft-reconfiguration-in enable`
- `no neighbor WORD<0-1536> soft-reconfiguration-in enable`

Default

`The default value is disable.`

Command mode

BGP Router Configuration

neighbor WORD<0-1536> timers

Configures timers (in seconds) for the Border Gateway Protocol (BGP) speaker for this peer.

Syntax

- `default neighbor WORD<0-1536> timers`
- `neighbor WORD<0-1536> timers <0-21845> <0-65535>`

Default

None

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
<0-65535>	<0-65535> is the hold time. The default is 30.
<0-21845>	<0-21845> is the keepalive time. The default is 10.

neighbor WORD<0-1536> update-source

Specifies the source IP address when Border Gateway Protocol (BGP) packets are sent to this peer or peer group. You cannot configure this parameter when the admin-state is enable.

Syntax

- `default neighbor WORD<0-1536> update-source`
- `neighbor WORD<0-1536> update-source WORD<1-256>`
- `no neighbor WORD<0-1536> update-source`

Default

None

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
<A.B.C.D>	<A.B.C.D> is the specified source IP address.

neighbor WORD<0-1536> weight

Specifies the weight of a Border Gateway Protocol (BGP) peer or peer groups, or the priority of updates that can be received from that BGP peer.

Syntax

- `default neighbor WORD<0-1536> weight`
- `neighbor WORD<0-1536> weight <0-65535>`
- `no neighbor WORD<0-1536> weight`

Default

`The default value is 0.`

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
`<0-65535>`	Specifies the weight of a BGP peer or peer groups, or the priority of updates that can be received from that BGP peer. If you have particular neighbors that you want to prefer for most of your traffic, you can assign a higher weight to all routes learned from that neighbor.

network (for BGP)

Specify the Interior Gateway Protocol (IGP) network prefixes for Border Gateway Protocol (BGP) to advertise for redistribution.

Syntax

- `default network WORD<1-256>`
- `network WORD<1-256>`
- `network WORD<1-256> metric <0-65535>`
- `no network WORD<1-256>`

Default

None

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
metric <0-65535>	metric <0-65535> corresponds to the multiexit discriminator (MED) BGP attribute for the route.
WORD <1-256>	Specifies IGP network prefixes for Border Gateway Protocol (BGP) to advertise for redistribution. This command imports routes into BGP. WORD <1-256> is the IPv4 or the IPv6 network address and mask.

network (for OSPF)

Enable OSPF on a network.

Syntax

- `default network {A.B.C.D}`
- `network {A.B.C.D} area {A.B.C.D}`
- `no network {A.B.C.D}`

Default

None

Command mode

OSPF Router Configuration

Command parameters

Parameter	Description
`{A.B.C.D}`	Specifies the IP address of the network.
`area {A.B.C.D}`	Specifies the OSPF area.

network (for RIP)

Enable RIP on a network.

Syntax

- `network {A.B.C.D}`
- `no network {A.B.C.D}`

Default

None

Command mode

RIP Router Configuration

Command parameters

Parameter	Description
{A.B.C.D}	Specifies the IP address of the network.

nlb-mode

Configure the NLB support on an IP interface to enable or disable the Network Load Balancer (NLB) support.

Syntax

- `nlb-mode unicast`

Default

None

Command mode

VLAN Interface Configuration

Command parameters

Parameter	Description
unicast	Set nlb-mode to unicast.

no-med-path-is-worst

Enable Border Gateway Protocol (BGP) to treat an update without a multiexit discriminator (MED) attribute as the worst path.

Syntax

- `default no-med-path-is-worst`
- `default no-med-path-is-worst enable`
- `no no-med-path-is-worst`
- `no no-med-path-is-worst enable`
- `no-med-path-is-worst enable`

Default

`The default value is enable.`

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
`enable`	Enables Border Gateway Protocol (BGP) to treat an update without a multiexit discriminator (MED) attribute as the worst path.

ntp

Enable Network Time Protocol (NTP) globally and create an authentication key.

Syntax

- `default ntp`
- `default ntp authentication-key <1-2147483647>`
- `default ntp interval`
- `no ntp`
- `no ntp authentication-key <1-2147483647>`
- `ntp`
- `ntp authentication-key <1-2147483647> WORD<0-8>`
- `ntp interval <10-1440>`

Default

`The default configuration removes the secret key.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`authentication-key<1-2147483647> WORD<0-8>`	Creates an authentication key for Message Digest 5 (MD5) authentication. WORD<0-8> specifies the secret key.
`interval <10-1440>`	Specifies the time interval, in minutes, between successive Network Time Protocol (NTP) updates. The default value is 15. If NTP is already activated, this configuration does not take effect until you disable NTP, and then re-enable it.

ntp server

Add an IP address for a Network Time Protocol (NTP) server or modify existing NTP server parameters. You can configure a maximum of 10 time servers.

Syntax

- `default ntp server {A.B.C.D}`
- `default ntp server {A.B.C.D} auth-enable`
- `default ntp server {A.B.C.D} authentication-key`
- `default ntp server {A.B.C.D} enable`
- `default ntp server {A.B.C.D} source-ip`
- `no ntp server {A.B.C.D}`
- `no ntp server {A.B.C.D} auth-enable`
- `no ntp server {A.B.C.D} enable`
- `no ntp server {A.B.C.D} source-ip`
- `ntp server {A.B.C.D}`
- `ntp server {A.B.C.D} auth-enable`
- `ntp server {A.B.C.D} authentication-key <0-2147483647>`
- `ntp server {A.B.C.D} enable`
- `ntp server {A.B.C.D} source-ip`

Default

`The default configuration does not use MD5 authentication.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`{A.B.C.D}`	Specifies the IP address of the Network Time Protocol (NTP) server to add or modify.
`auth-enable`	Activates MD5 authentication on this Network Time Protocol (NTP) server.
`authentication-`	Specifies the key ID value used to generate the MD5 digest for the Network

key <0-2147483647>	Time Protocol (NTP) server. The default authentication key is 0, which indicates disabled authentication.
enable	Activates the Network Time Protocol (NTP) server.
source-ip WORD <0-46>	Specifies the source IP for the server. If you do not configure source-ip, by default, the source-ip entry is initialized to 0.0.0.0. The IP address specified can be any local interface.

overload

Configure the overload condition. If the overload bit parameter is configured, the switch sets the overload bit in the Link State Packet (LSP). The setting affects Level 1 LSPs. The overload parameter works in conjunction with the overload-on-startup parameter. When the overload-on-startup timer expires, the Shortest Path Bridging MAC (SPBM) node clears the overload bit and re-advertises its LSP. When an LSP with an overload bit is received, the switch ignores the LSP in its SPF calculation. By default, overload is set to false. If overload is set to true, the switch cannot be a transit node, but it can still receive traffic destined to the switch.

Syntax

- `default overload`
- `no overload`
- `overload`

Default

`The default is false.`

Command mode

IS-IS Router Configuration

overload-on-startup

Configure the Intermediate-System-to-Intermediate-System (IS-IS) overload-on-startup value in seconds.

Syntax

- `default overload-on-startup`
- `no overload-on-startup`
- `overload-on-startup <15-3600>`

Default

`The default overload-on-startup value is 20 seconds.`

Command mode

IS-IS Router Configuration

Command parameters

Parameter	Description
`<15-3600>`	Specifies the Intermediate-System-to-Intermediate-System (IS-IS) overload-on-startup value in seconds. The overload-on-startup value is used as a timer to control when to send out Link State Packets (LSPs) with the overload bit cleared after IS-IS startup.

password

Configure password options.

Syntax

- `default password`
- `default password default-lockout-time`
- `default password lockout WORD<0-46>`
- `default password lockout WORD<0-46> time`
- `default password password-history`
- `no password lockout WORD<0-46>`
- `password default-lockout-time <60-65000>`
- `password lockout WORD<0-46>`
- `password lockout WORD<0-46> time <60-65000>`
- `password password-history <3-32>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`access level WORD<2-8>`	Permits or blocks this access level. The available access level values are as follows:l1 l2 l3 ro rw rwa. The default access level is allow all.
`aging-time day <1-365>`	Configures the expiration period for passwords in days, from 1-365. The default aging time is 90 days.
`default-lockout-time <60-65000>`	Changes the default lockout time after three invalid attempts. Configures the lockout time, in seconds, and is in the 60-65000 range. The default lockout time is 60 seconds.
`lockout WORD<0-46> time <60-65000>`	Configures the host lockout time. WORD<0-46> is the host IP address in the format a.b.c.d. <60-65000> is the lockout-out time, in seconds, in the 60-65000 range.

password-history <3-32>	Specifies the number of previous passwords the switch stores. You cannot reuse a password that is stored in the password history. The default password history is 3.

password access-level

Enable ACLI access levels to control the configuration actions of various users

Syntax

- `default password access-level`
- `no password access-level WORD<2-8>`
- `password access-level WORD<2-8>`
- `password access-level WORD<2-8> aging-time <1-365>`

Default

`By default, all access levels are permitted.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`aging-time day <1-365>`	Configures the expiration period for passwords in days, from 1-365.
`default-lockout-time <60-65000>`	Changes the default lockout time after three invalid attempts. Configures the lockout time, in seconds, and is in the 60-65000 range.
`min-passwd-len <10-20>`	Configures the minimum length for passwords in high-secure mode.
`password-history <3-32>`	Specifies the number of previous passwords the switch stores. You cannot reuse a password that is stored in the password history.
`WORD<2-8>`	Permits or blocks this access level. The available access levels are: l1 l2 l3 ro rw rwa.

password aging-time

Configure the duration of your password for when it expires. Note: If you enable enhanced secure mode using the boot config flag enhancedsecure-mode command, the aging-time can be configurable for each user level: Administrator, Privilege, Operator, Auditor, and Security. If you configure the aging time for each user level, the aging time must be more than the global change interval value and the pre-pass notification value. If you do not enable enhanced secure mode, the aging time is a global value for all users.

Syntax

- `default password aging-time`
- `default password aging-time user WORD<1-255>`
- `password aging-time day <1-365>`
- `password aging-time day <1-365> user WORD<1-255>`

Default

`The default is 90 days.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`day <1-365>`	Specifies the number of days that the password is enabled.
`user WORD<1-255>`	Specifies the username.

password change-interval

Specify the time interval between consecutive password changes. Note: You can only access this command after you enable enhanced secure mode using the boot config flag enhancedsecure-mode command.

Syntax

- `default password change-interval`
- `password change-interval <1-999>`

Default

`The default is 24 hours.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`<1-999>`	Configures the minimum interval between consecutive password changes in hours. The default is 24 hours.

password create-user

Configure multiple users in each role based on their user names. You can configure the following roles: administrator, security, adutor, operator, privilege. An administrator role also exists, but only one administrator can exist, and is the user who can configure user access. Note: You can only access this command after you enable enhanced secure mode using the boot config flags enhancedsecure-mode command.

Syntax

- `password create-user auditor WORD<1-255>`
- `password create-user operator WORD<1-255>`
- `password create-user privilege WORD<1-255>`
- `password create-user security WORD<1-255>`
- `password create-user WORD<1-10> WORD<1-255>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
{auditor|operator|privilege|security}	The administrator is the highest level, and has access to all of the configurations and show commands, can view the log file and security commands. Only one administrator can exists for the system. The privilege level has access to all of the commands the administrator has access to, and is known as the emergency-admin. A user at the privilege level always has to be authenticated within VSP locally, with no RADIUS or TACACS+ authentication allowed. The privilege level must login to the switch through the console port only. The operator level has access to all configurations for packet forwarding on Layer 2 and Layer 3, and has access to show commands to view the configuration, but cannot view the audit logs access security, or password commands. The security level has access only to security settings and can view configurations. The auditor can view log files, and can view all configurations, but

	password configurations.
WORD<1-255>	Specifies the user name of the person to connect a particular user role level with a username.

password default-lockout-time

Change the default lockout time after three invalid attempts.

Syntax

- `password default-lockout-time <60-65000>`
- `password default-lockout-time <60-65000> min-passwd-len <10-20>`
- `password default-lockout-time <60-65000> min-passwd-len <10-20> password-history`
- `password default-lockout-time <60-65000> password-history`
- `default password default-lockout-time min-passwd-len`
- `default password default-lockout-time password-history`
- `default password default-lockout-time min-passwd-len password-history`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<60-65000>	Default lock-out time for password lockout.
min-passwd-len <10-20>	Set the minimum length of passwords in hsecure mode.
password-history	Number of previous passwords to remember.

password delete-user

Delete a user.

Syntax

- `password delete-user WORD<1-255>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
WORD<1-255>	Specifies the user name of the person to connect a particular user role level with a username.

password min-passwd-len

Configure the minimum password length in enhanced secure mode. The minimum length is 8 characters in enhanced secure ON mode. Note: You can only access this command after you enable enhanced secure mode using the boot config flags enhancedsecure-mode command.

Syntax

- `default password min-passwd-len`
- `password min-passwd-len <8-32>`

Default

`The default is 8 characters in enhanced secure ON mode.`

Command mode

Global Configuration

Command parameters

Parameter	Description
<8-32>	Configures the minimum character length required. The default is 8 in enhanced secure ON mode. In enhanced secure mode, if you configure anything lower than 8 characters, the switch displays an error message.

password password-history

Configure the minimum number of previous passwords to remember. Note: You can only access this command after you enable enhanced secure mode using the boot config flags enhancedsecure-mode command.

Syntax

- `default password password-history`
- `password password-history PT_INT <1-99>`

Default

`The default is 3.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`<1-99>`	Configures the minimum number of previous passwords to remember. The default is 3.

password password-rule

Configure the password complexity rule options. To meet the minimum password rule, you must have at least one of each of the following characters: uppercase, lowercase, numeric, and special character. Note: You can only access this command after you enable enhanced secure mode using the boot config flags enhancedsecure-mode command.

Syntax

- `default password password-rule`
- `password password-rule <1-2> <1-2> <1-2> <1-2>`

Default

`The default is 1111.`

Command mode

Global Configuration

Command parameters

Parameter	Description
<1-2> <1-2> <1-2> <1-2>	The first <1-2> configures the minimum uppercase characters required. The second <1-2> configures the minimum number of lowercase characters required. The third <1-2> configures the minimum number of lowercase characters required. The fourth <1-2> configures the minimum number of special characters required.The default for each of these variables is 1.

password post-expiry-notification-interval

Configure the system to provide a notification after the password expiry date at various intervals. Note: You can only access this command after you enable enhanced secure mode using the boot config flags enhancedsecure-mode command.

Syntax

- `default password post-expiry-notification-interval`
- `password post-expiry-notification-interval <1-99> <1-99> <1-99>`

Default

The default values for the three notifications are one day after the expiration, 7 days after the expiration, 30 days after the expiration.

Command mode

Global Configuration

Command parameters

Parameter	Description
<1-99> <1-99> <1-99>	The first <1-99> configures the first post password expiry notification. The default is one day after the expiration. The second <1-99> value configures the second post password expiry notification. The default is 7 days after the notification. The third <1-99> configures the third post password expiry notification. The default is 30 days after the expiration.

password pre-expiry-notification-interval

Configure the system to provide a notification of the password expiry date at various intervals. Note: You can only access this command after you enable enhanced secure mode using the boot config flags enhancedsecure-mode command.

Syntax

- `default password pre-expiry-notification-interval`
- `password pre-expiry-notification-interval <1-99> <1-99> <1-99>`

Default

The default values for the three notifications are at 30 days before the expiration, 7 days before the expiration, and then on the day of expiration.

Command mode

Global Configuration

passwordprompt

Change the password prompt for ACLI sessions.

Syntax

- `default passwordprompt`
- `no passwordprompt`
- `passwordprompt WORD<1-1510>`

Default

`The default is Password.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`WORD <1-1510>`	Changes the ACLI password prompt. WORD <1-1510> is an ASCII string from 1-1510 characters.

password set-password

Enable the setting of a new password in case the password expires.

Syntax

- `password set-password user-name WORD<1-255>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`user-name WORD<1-255>`	Specifies the username.

permit

Specifies the action to take when a permit or deny policy is selected for a specific route. Permit allows the route, deny (no permit) ignores the route.

Syntax

- `no permit`
- `permit`

Default

`The default is permit.`

Command mode

Route-Map Configuration

ping

Ping a device to test the connection between the switch and another network device. After you ping a device, the switch sends an Internet Control Message Protocol (ICMP) packet to the target device. If the device receives the packet, it sends a ping reply. After the switch receives the reply, a message appears that indicates traffic can reach the specified IP address. If the switch does not receive a reply, the message indicates the address is not responding.

Syntax

- `ping WORD<0-256>`
- `ping WORD<0-256> count <1-9999>`
- `ping WORD<0-256> -d`
- `ping WORD<0-256> datasize <28-51200>`
- `ping WORD<0-256> -I <1-60>`
- `ping WORD<0-256> interface gigabitEthernet {slot/port}`
- `ping WORD<0-256> interface mgmtEthernet mgmt`
- `ping WORD<0-256> interface tunnel <1-2000>`
- `ping WORD<0-256> interface vlan <1-4059>`
- `ping WORD<0-256> -s`
- `ping WORD<0-256> scopeid <1-9999>`
- `ping WORD<0-256> source WORD<1-256>`
- `ping WORD<0-256> -t <1-120>`
- `ping WORD<0-256> vrf WORD<0-16>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
WORD<0-256> count <1-9999>	Specifies a specific outgoing interface to use by IP address. Additional ping interface filters: gigabitEthernet: {slot/port} gigabit ethernet port mgmtEthernetport: {slot/port} management ethernet port tunnel: tunnel ID as a

	value from 1 to 2147477248 vlan: VLAN interface as a value from 1 to 4084.
WORD<0-256> -d	Specifies the number of times to ping (for IPv4) (1-9999).
WORD<0-256> datasize <28-51200>	Specifies the size of ping data sent in bytes. The datasize for IPv4 addresses is <28-9216>. The datasize for IPv6 addresses is <28-51200>. The default is 0.
WORD<0-256> -I <1-60>	Configures the ping debug mode. This variable detects local software failures (ping related threads creation or write to sending socket) and receiving issues (ICMP packet too short or wrong ICMP packet type).
WORD<0-256> interface gigabitEthernet {slot/port}	Specifies the scope ID. <1-9999> specifies the circuit ID.
WORD<0-256> interface mgmtEthernet mgmt	Specifies an IP address that will be used as the source IP address in the packet header.
WORD<0-256> interface tunnel <1-2000>	Specifies the no-answer timeout value in seconds (1-120) for IPv4.
WORD<0-256> interface vlan <1-4059>	Specifies the virtual routing and forwarding (VRF) name from 1-16 characters. Specify the MgmtRouter VRF if you need to run the ping operation through the management interface.
WORD<0-256> -s	Specifies the size of ping data sent in byte. For IPv4, the acceptable range is 28-9216.
WORD<0-256> scopeid <1-9999>	Specifies the scope ID. <1-9999> specifies the circuit ID for IPv6.
WORD<0-256> -t <1-120>	Specifies the interval between transmissions in seconds (1-60).
WORD<0-256> vrf WORD<0-16>	Specifies the virtual routing and forwarding (VRF) name from 1-16 characters. Specify the MgmtRouter VRF if you need to run the ping operation through the management interface.

ping-virtual-address

Ping a virtual address to test the connection.

Syntax

- `default ping-virtual-address`
- `default ping-virtual-address enable`
- `default ping-virtual-address enable vrf WORD<0-16>`
- `no ping-virtual-address`
- `no ping-virtual-address enable`
- `no ping-virtual-address enable vrf WORD<0-16>`
- `ping-virtual-address`
- `ping-virtual-address enable`
- `ping-virtual-address enable vrf WORD<0-16>`

Default

None

Command mode

VRRP Router Configuration

Command parameters

Parameter	Description
`vrf WORD <0-16>`	Specifies the virtual routing and forwarding (VRF) name from 1-16 characters.

pluggable-optical-module

Configure Digital Diagnostic Monitoring to get information concerning the status of the transmitted and received signals to allow better fault isolation and error detection.

Syntax

- `default pluggable-optical-module ddm-alarm-portdown`
- `default pluggable-optical-module ddm-monitor`
- `default pluggable-optical-module ddm-monitor-interval`
- `default pluggable-optical-module ddm-traps-send`
- `no pluggable-optical-module ddm-alarm-portdown`
- `no pluggable-optical-module ddm-monitor`
- `no pluggable-optical-module ddm-traps-send`
- `pluggable-optical-module ddm-alarm-portdown`
- `pluggable-optical-module ddm-monitor`
- `pluggable-optical-module ddm-monitor-interval <5-60>`
- `pluggable-optical-module ddm-traps-send`
- `pluggable-optical-module reset {slot/port}`

Default

`The default is disable.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`ddm-alarm-portdown`	Sets the port down when an alarm occurs. When enabled, the port goes down when any alarm occurs.
`ddm-monitor`	Enables the monitoring of the digital diagnostic monitoring (DDM). When enabled, you see the internal performance condition (temperature, voltage, bias, Tx power and Rx power) of the small form factor pluggable (SFP) or SFP+. The default is disable.
`ddm-monitor-`	Configures the digital diagnostic monitoring (DDM) monitor interval in the range of 5

interval <5-60>	to 60 in seconds. If any alarm occurs, the user gets the log message before the specific interval configured by the user. The default value is 5 seconds.
ddm-traps-send	Enables or disables the sending of trap messages. When enabled, the trap message is sent to the Device manager, any time the alarm occurs. The default is enable.
reset {slot/port}	Reset the QSFP.

portlock enable

Enable port locking for the security of the ports from any modifications.

Syntax

- `default portlock enable`
- `no portlock enable`
- `portlock enable`

Default

None

Command mode

Global Configuration

port (T-UNI based)

Add ports to elan-transparent (Transparent UNI) based service instance identifier (I-SID).

Syntax

- `no port <{slot/port[/sub-port][-slot/port[/sub-port]][,...]}>`
- `port <{slot/port[/sub-port][-slot/port[/sub-port]][,...]}>`

Default

None

Command mode

Elan-Transparent Configuration

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Specifies the slot and the port number of the port being added to (or removed from) the Transparent UNI based service instance identifier (I-SID).

private-vlan

Sets the Private VLAN port type.

Syntax

- `private-vlan <isolated|promiscuous|trunk>`
- `no private-vlan`
- `default private-vlan`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<isolated|promiscuous|trunk>`	Sets Private VLAN port type to isolated, promiscuous, or trunk.

prompt

Change the root level prompt or the system name for run-time mode.

Syntax

- `default prompt`
- `no prompt`
- `prompt WORD<0-255>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`WORD <0-255>`	Specifies the box level or root level prompt in the range of 0 to 255.

psnp-interval

Configure the Partial Sequence Number Packets (PSNP) interval in seconds. This command is a system level parameter that applies to Level 1 PSNP generation on all interfaces.

Syntax

- `default psnp-interval`
- `no psnp-interval`
- `psnp-interval <1-120>`

Default

`The default PSNP value is 2 seconds.`

Command mode

IS-IS Router Configuration

Command parameters

Parameter	Description
`<1-120>`	Configures the interval, in seconds. This is a system level parameter that applies for Level 1 Partial Sequence Number Packet (PSNP) generation on all interfaces. A longer interval reduces overhead, while a shorter interval speeds up convergence.

pwc

Prints the current working level.

Syntax

- pwc

Default

None

Command mode

User EXEC

pwd

Print current filesystem directory path.

Syntax

- `pwd`

Default

None

Command mode

Privileged EXEC

qos 802.1p-override

Configure a port as untrusted to determine the Layer 2 Quality of Service (QoS) actions the switch performs. An untrusted port (override enabled) overrides 802.1p bit markings.

Syntax

- `default qos 802.1p-override`
- `default qos 802.1p-override enable`
- `no qos 802.1p-override`
- `no qos 802.1p-override enable`
- `qos 802.1p-override`
- `qos 802.1p-override enable`

Default

`The default is disabled.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`enable`	If you configure this variable, it overrides incoming 802.1p bits; if you do not configure this variable, it honors and handles incoming 802.1p bits. The default is disable (Layer 2 trusted).

qos egressmap

Modify the egress mappings to change traffic priorities. However, Avaya recommends that you use the default mappings.

Syntax

- `default qos egressmap 1p`
- `default qos egressmap ds`
- `qos egressmap 1p <0-7> <0-7>`
- `qos egressmap ds <0-7> WORD<1-6>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<0-7>	Specifies the Quality of Service (QoS) level in the range of 0 to 7.
1p <0-7>	Maps the Quality of Service (QoS) level to IEEE 802.1p priority. Each QoS level has a default IEEE 1P value: level 0-1, level 1-0, level 2-2, level 3-3, level 4-4, level 5-5, level 6-6, and level 7-7
ds <0-7>	Maps Quality of Service (QoS) level to Differentiated Services Code Point (DSCP).
WORD<1-6>	Specifies the DiffServ code point in hexadecimal, binary, or decimal.

qos if-shaper

Configure port-based shaping to rate-limit all outgoing traffic to a specific rate.

Syntax

- `default qos if-shaper`
- `default qos if-shaper port {slot/port}`
- `no qos if-shaper`
- `no qos if-shaper port {slot/port}`
- `qos if-shaper port {slot/port} shape-rate <1000-40000000>`
- `qos if-shaper shape-rate <1000-40000000>`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`port {slot/port}`	Specifies the slot and port, or slot and portlist.
`shape-rate <1000-40000000>`	Configures the shaping rate from 1000-40000000 Kb/s.

qos ingressmap

Modify the ingress mappings to change traffic priorities. However, Avaya recommends that you use the default mappings.

Syntax

- `default qos ingressmap 1p`
- `default qos ingressmap ds`
- `qos ingressmap 1p <0-7> <0-7>`
- `qos ingressmap ds <0-63> <0-7>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`1p <0-7> <0-7>`	Maps the IEEE 802.1p bit to Quality of Service (QoS) level. Each QoS level has a default IEEE 1P value: level 0-1, level 1-0, level 2-2, level 3-3, level 4-4, level 5-5, level 6-6, and level 7-7.
`ds <0-63> <0-7>`	Maps the Differentiated Services Code Point (DSCP) to Quality of Service (QoS) level.

qos level

Configure the default port QoS level to assign a default QoS level for all traffic (providing the packet does not match an ACL that remarks the packet).

Syntax

- `default qos level`
- `default qos level port {slot/port}`
- `qos level <0-6>`
- `qos level port {slot/port} <0-6>`

Default

`The default value is 1.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<0-6>`	Specifies the default Quality of Service (QoS) level for the port traffic. QoS level 7 is reserved for network control traffic.
`port <slot/port>`	Specifies the slot and port, or slot and port list.

quick-start

Enable the quick-start flag for exponential backoff.

Syntax

- `default quick-start`
- `default quick-start enable`
- `no quick-start`
- `no quick-start enable`
- `quick-start enable`

Default

`The default value is enable.`

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
`enable`	Enables the quick-start flag for exponential backoff.

radius

Configure D1019 to authenticate users identity through a central database.

Syntax

- default radius
- default radius access-priority-attribute
- default radius access-priority-attribute accounting
- default radius access-priority-attribute attribute-value
- default radius access-priority-attribute clear-stat
- default radius access-priority-attribute include-cli-commands
- default radius accounting attribute-value
- default radius accounting enable
- default radius accounting include-cli-commands
- default radius auth-info-attr-value
- default radius clear-stat
- default radius cli-commands-attribute
- default radius enable
- default radius maxserver
- default radius mcast-addr-attr-value
- default radius sourceip-flag
- no radius
- no radius accounting
- no radius accounting enable
- no radius accounting include-cli-commands
- no radius cli-cmd-count
- no radius cli-profile
- no radius enable

- `radius access-priority-attribute <192-240>`
- `radius accounting attribute-value <192-240>`
- `radius accounting enable`
- `radius accounting include-cli-commands`
- `radius auth-info-attr-value <0-255>`
- `radius clear-stat`
- `radius cli-commands-attribute <192-240>`
- `radius enable`
- `radius maxserver <1-10>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`access-priority-attribute <192-240>`	Specifies the value of the Access Priority attribute in the range of 192 to 240 and the default is 192.
`accounting {attribute-value <192-240>|enable|include-cli-commands}`	Enables Remote Dial-In User Services (RADIUS) accounting. The default is false.
`auth-info-attr-value <0-255>`	Specifies the value of the authentication-information attribute in the range of 0 to 255. The default is 91.
`clear-stat`	Clears the Remote Dial-In User Services (RADIUS) statistics.
`cli-commands-attribute <192-240>`	Specifies the value of the ACLI commands attribute in the range of 192 to 240 and the default is 195.
`command-access-attribute <192-240>`	Specifies the value of the command access attribute in the range of 192 to 240 and the default is 194.
`maxserver<1-10>`	Specific to Remote Dial-In User Services (RADIUS) authentication. Sets the maximum number of servers allowed for the device. The range is between 1 and 10. The default is 10.
`mcast-addr-attr-value <0-255>`	Specifies the value of the multicast address attribute in the range of 0 to 255. The default is 90.

radius cli-cmd-count

Configure a Remote Access Dial-In User Services (RADIUS) accounting interim request to create a log whenever more than forty CLI commands are executed.

Syntax

- `default radius cli-cmd-count`
- `radius cli-cmd-count <1-40>`

Default

`The default value is 40.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`<1-40>`	Specifies a value of the ACLI command count in the range of 1 to 40.

radius cli-profile

Use Remote Access Dial-In User Services (RADIUS) ACLI profiling to grant or deny ACLI command access to users being authenticated by way of the RADIUS server.

Syntax

- `default radius cli-profile`
- `radius cli-profile`

Default

`The default is disabled/false.`

Command mode

Global Configuration

radius command-access-attribute

Configure Remote Access Dial-In User Services (RADIUS) authentication and RADIUS accounting attributes to determine the size of the packets received.

Syntax

- `default radius command-access-attribute`
- `radius command-access-attribute <192-240>`

Default

`The default value is 192.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`command-access-attribute <192-240>`	Specifies the Remote Dial-In User Services (RADIUS) authentication attribute value is an integer value of the ACLI command count in the range of 192 to 240.

radius server host

Add a Remote Access Dial-In User Services (RADIUS) server to allow RADIUS service on the switch.

Syntax

- default radius server host WORD<0-46> used-by cli
- default radius server host WORD<0-46> used-by cli acct-enable
- default radius server host WORD<0-46> used-by cli acct-port
- default radius server host WORD<0-46> used-by cli enable
- default radius server host WORD<0-46> used-by cli key
- default radius server host WORD<0-46> used-by cli port
- default radius server host WORD<0-46> used-by cli priority
- default radius server host WORD<0-46> used-by cli retry
- default radius server host WORD<0-46> used-by cli source-ip
- default radius server host WORD<0-46> used-by cli timeout
- default radius server host WORD<0-46> used-by eapol
- default radius server host WORD<0-46> used-by snmp
- default radius server host WORD<0-46> used-by web
- no radius server host WORD<0-46> used-by cli
- no radius server host WORD<0-46> used-by cli acct-enable
- no radius server host WORD<0-46> used-by cli acct-port
- no radius server host WORD<0-46> used-by cli enable
- no radius server host WORD<0-46> used-by snmp
- no radius server host WORD<0-46> used-by web
- radius server host WORD<0-46> key WORD<0-32>
- radius server host WORD<0-46> key WORD<0-32> acct-enable
- radius server host WORD<0-46> key WORD<0-32> acct-port <1-65536>
- radius server host WORD<0-46> key WORD<0-32> enable

- radius server host WORD<0-46> key WORD<0-32> port <1-65536>
- radius server host WORD<0-46> key WORD<0-32> priority <1-10>
- radius server host WORD<0-46> key WORD<0-32> retry <0-6>
- radius server host WORD<0-46> key WORD<0-32> source-ip WORD<0-46>
- radius server host WORD<0-46> key WORD<0-32> timeout <1-20>
- radius server host WORD<0-46> key WORD<0-32> used-by cli
- radius server host WORD<0-46> key WORD<0-32> used-by snmp
- radius server host WORD<0-46> key WORD<0-32> used-by web
- radius server host WORD<0-46> used-by cli acct-enable
- radius server host WORD<0-46> used-by cli acct-port <1-65536>
- radius server host WORD<0-46> used-by cli enable
- radius server host WORD<0-46> used-by cli key WORD<0-20>
- radius server host WORD<0-46> used-by cli port <1-65536>
- radius server host WORD<0-46> used-by cli priority <1-10>
- radius server host WORD<0-46> used-by cli retry <0-6>
- radius server host WORD<0-46> used-by cli source-ip WORD<0-46>
- radius server host WORD<0-46> used-by cli timeout <1-20>
- radius server host WORD<0-46> used-by snmp acct-enable
- radius server host WORD<0-46> used-by snmp acct-port <1-65536>
- radius server host WORD<0-46> used-by snmp enable
- radius server host WORD<0-46> used-by snmp key WORD<0-20>
- radius server host WORD<0-46> used-by snmp port <1-65536>
- radius server host WORD<0-46> used-by snmp priority <1-10>
- radius server host WORD<0-46> used-by snmp retry <0-6>
- radius server host WORD<0-46> used-by snmp source-ip WORD<0-46>
- radius server host WORD<0-46> used-by snmp timeout <1-20>
- radius server host WORD<0-46> used-by web acct-enable
- radius server host WORD<0-46> used-by web acct-port <1-65536>
- radius server host WORD<0-46> used-by web enable
- radius server host WORD<0-46> used-by web key WORD<0-20>
- radius server host WORD<0-46> used-by web port <1-65536>

- `radius server host WORD<0-46> used-by web priority <1-10>`
- `radius server host WORD<0-46> used-by web retry <0-6>`
- `radius server host WORD<0-46> used-by web source-ip WORD<0-46>`
- `radius server host WORD<0-46> used-by web timeout <1-20>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`acct-enable`	Enables Remote Dial-In User Services (RADIUS) accounting on this server. The default for acct-enable is enabled.
`acct-port <1-65536>`	Specify a UDP port of the Remote Dial-In User Services (RADIUS) accounting server. The default is 1816.
`enable`	Enables this server.
`host WORD <0-46>`	Create a host server. Remote Dial-In User Services (RADIUS) supports IPv4 addresses. WORD <0-46> specifies an address in A.B.C.D or x:x:x:x:x:x:x:x format.
`key WORD<-32>`	Specify a secret key in the range of 0-20 characters.
`port <1-65536>`	Specify a UDP port of the Remote Dial-In User Services (RADIUS) server.
`priority <1-10>`	Specify the priority value for this server. The default is 10.
`retry <0-6>`	Specify the maximum number of authentication retries. The default is 3.
`source-ip WORD <0-46>`	Specify a configured IP address as the source address when transmitting RADIUS packets. Remote Dial-In User Services (RADIUS) supports IPv4 addresses. WORD <0-46> specifies an address in A.B.C.D or x:x:x:x:x:x:x:x format.
`timeout <1-20>`	Specify the number of seconds before the authentication request times out. The default is 3.
`used-by {cli|snmp|web}`	Specify how the server functions: cli-configure the server for CLI authentication. snmp-configure the server for Simple Network Management Protocol (SNMP) authentication. web-configure the server for web authentication. The default for used-by is cli.

radius-snmp

Enable Remote Access Dial-In User Services (RADIUS) accounting to log all of the activity of each remote user in a session on the centralized RADIUS accounting server.

Syntax

- `default radius-snmp`
- `default radius-snmp abort-session-timer`
- `default radius-snmp acct-enable`
- `default radius-snmp re-auth-timer`
- `default radius-snmp user`
- `no radius-snmp`
- `no radius-snmp acct-enable`
- `radius-snmp`
- `radius-snmp abort-session-timer <30-65535>`
- `radius-snmp acct-enable`
- `radius-snmp re-auth-timer <30-65535>`
- `radius-snmp user WORD<0-20>`

Default

`The default value is disabled.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`abort-session-timer <30-65535>`	Specifies the timer to be used for sending a stop accounting message for this particular Simple Network Management Protocol (SNMP) session. The timer value ranges from 30 to 65535. This default is 180.
`acct-enable`	Enables Remote Dial-In User Services (RADIUS) accounting globally. RADIUS accounting cannot be enabled unless a valid server is configured. This feature is disabled by default.

re-auth-timer <30-65535>	Timer to be sent for re-authentication the Simple Network Management Protocol (SNMP) session. The timer value ranges from 30 to 65535. The default is 180.
user WORD<0-20>	Specifies the username for the Simple Network Management Protocol (SNMP) access. WORD<0-20> specifies the username in a range of 0 to 20 characters. The default is snmp_user.

radius sourceip-flag

Configure the source IP address if the outgoing interface on the switch fails so that configuration changes be made to define the new Remote Access Dial-In User Services (RADIUS) Client on the RADIUS Server.

Syntax

- `no radius sourceip-flag`
- `radius sourceip-flag`

Default

`The default is disabled/false.`

Command mode

Global Configuration

rate-limit

Configure broadcast and multicast bandwidth limiting to limit the amount of ingress broadcast and multicast traffic on a port. The switch drops traffic that violates the bandwidth limit.

Syntax

- `default rate-limit broadcast`
- `default rate-limit multicast`
- `default rate-limit port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} broadcast`
- `default rate-limit port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} multicast`
- `no rate-limit broadcast`
- `no rate-limit multicast`
- `no rate-limit port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} broadcast`
- `no rate-limit port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} multicast`
- `rate-limit broadcast <1-65535>`
- `rate-limit multicast <1-65535>`
- `rate-limit port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} broadcast <1-65535>`
- `rate-limit port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} multicast <1-65535>`

Default

`The default is disabled (no rate limit).`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<1-65535>`	Specifies the bandwidth limit for broadcast and multicast traffic from 1-65535 packets per second.
`multicast <1-65535>`	Rate limit for multicast.
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.

Version 05.01 June 2015

Avaya.com/support

redistribute bgp (for IS-IS)

Control the redistribution of routes from the global router into the Shortest Path Bridging MAC (SPBM) Intermediate-System-to-Intermediate-System (IS-IS) domain.

Syntax

- `default redistribute bgp enable`
- `default redistribute bgp metric`
- `default redistribute bgp metric-type`
- `default redistribute bgp route-map`
- `default redistribute bgp subnets`
- `no redistribute bgp`
- `no redistribute bgp enable`
- `no redistribute bgp metric`
- `no redistribute bgp metric-type`
- `no redistribute bgp route-map`
- `no redistribute bgp subnets`
- `redistribute bgp`
- `redistribute bgp enable`
- `redistribute bgp metric <0-65535>`
- `redistribute bgp metric-type external`
- `redistribute bgp metric-type internal`
- `redistribute bgp route-map WORD<0-64>`
- `redistribute bgp subnets allow`
- `redistribute bgp subnets suppress`

Default

By default, route redistribution is disabled.

Command mode

Command parameters

Parameter	Description
enable	Enables the redistribution of the specified protocol into the Shortest Path Bridging MAC (SPBM) network.
metric <0-65535>	Configures the metric (cost) to apply to redistributed routes. The default is 1.
metric-type external	Configures the type of route to import into the protocol. The default is internal.
metric-type internal	Configures the type of route to import into the protocol. The default is internal.
route-map WORD<0-64>	Configures the route policy to apply to redistributed routes.
subnets allow	Indicates whether the subnets are advertised individually or aggregated to their classful subnet. Choose allow to advertise the subnets individually with the learned or configured mask of the subnet. The default is allow.
subnets suppress	Indicates whether the subnets are advertised individually or aggregated to their classful subnet. Choose allow to advertise the subnets individually with the learned or configured mask of the subnet. The default is allow.

redistribute direct (for BGP)

Redistribute routes learned from directly-connected networks into Border Gateway Protocol (BGP).

Syntax

- `default redistribute direct`
- `default redistribute direct enable`
- `default redistribute direct metric`
- `default redistribute direct route-map`
- `default redistribute direct vrf-src WORD<1-16>`
- `no redistribute direct`
- `no redistribute direct enable`
- `no redistribute direct vrf-src WORD<1-16>`
- `redistribute direct`
- `redistribute direct enable`
- `redistribute direct metric <0-65535>`
- `redistribute direct route-map WORD<0-64>`
- `redistribute direct vrf-src WORD<1-16>`

Default

`By default, route redistribution is disabled.`

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
`enable`	Enables the redistribution.
`metric <0-65535>`	Specifies the value of the metric to be announced in the advertisement. The default is 0.
`route-map WORD<0-64>`	Configures the route policy to apply to redistributed routes.

vrf-src WORD<1-16>	Specifies the source VRF instance. This parameter is not required for redistribution within the same VRF.

redistribute direct (for IS-IS)

Control the redistribution of routes from the global router into the Shortest Path Bridging MAC (SPBM) Intermediate-System-to-Intermediate-System (IS-IS) domain.

Syntax

- `default redistribute direct enable`
- `default redistribute direct metric`
- `default redistribute direct metric-type`
- `default redistribute direct route-map`
- `default redistribute direct subnets`
- `no redistribute direct`
- `no redistribute direct enable`
- `no redistribute direct metric`
- `no redistribute direct metric-type`
- `no redistribute direct route-map`
- `no redistribute direct subnets`
- `redistribute direct`
- `redistribute direct enable`
- `redistribute direct metric <0-65535>`
- `redistribute direct metric-type external`
- `redistribute direct metric-type internal`
- `redistribute direct route-map WORD<0-64>`
- `redistribute direct subnets allow`
- `redistribute direct subnets suppress`

Default

By default, route redistribution is disabled.

Command mode

Command parameters

Parameter	Description
enable	Enables route redistribution.
metric <0-65535>	Configures the metric (cost) to apply to redistributed routes. The default is 1.
metric-type external	Configures the type of route to import into the protocol. The default is internal.
metric-type internal	Configures the type of route to import into the protocol. The default is internal.
route-map WORD<0-64>	Configures the route policy to apply to redistributed routes.
subnets allow	Indicates whether the subnets are advertised individually or aggregated to their classful subnet. Choose allow to advertise the subnets individually with the learned or configured mask of the subnet. The default is allow.
subnets suppress	Indicates whether the subnets are advertised individually or aggregated to their classful subnet. Choose allow to advertise the subnets individually with the learned or configured mask of the subnet. The default is allow.

redistribute (for OSPF)

Redistribute learned routes into OSPF.

Syntax

- default redistribute { direct | isis | ospf | rip | static }
- default redistribute { direct | isis | ospf | rip | static } enable
- default redistribute { direct | isis | ospf | rip | static } enable vrf-src WORD<0-16>
- default redistribute { direct | isis | ospf | rip | static } metric
- default redistribute { direct | isis | ospf | rip | static } metric-type
- default redistribute { direct | isis | ospf | rip | static } route-policy
- default redistribute { direct | isis | ospf | rip | static } subnets
- default redistribute { direct | isis | ospf | rip | static } vrf-src WORD<0-16>
- no redistribute { direct | isis | ospf | rip | static }
- no redistribute { direct | isis | ospf | rip | static } enable
- no redistribute { direct | isis | ospf | rip | static } enable vrf-src WORD<0-16>
- no redistribute { direct | isis | ospf | rip | static } route-policy
- no redistribute { direct | isis | ospf | rip | static } vrf-src WORD<0-16>
- redistribute { direct | isis | ospf | rip | static }
- redistribute { direct | isis | ospf | rip | static } enable
- redistribute { direct | isis | ospf | rip | static } metric <0-65535>
- redistribute { direct | isis | ospf | rip | static } metric vrf-src WORD<0-16>
- redistribute { direct | isis | ospf | rip | static } metric-type { type1 | type2 }
- redistribute { direct | isis | ospf | rip | static } metric-type { type1 | type2 } vrf-src WORD<0-16>
- redistribute { direct | isis | ospf | rip | static } route-policy WORD<0-64>
- redistribute { direct | isis | ospf | rip | static } subnets { allow | suppress }
- redistribute { direct | isis | ospf | rip | static } vrf-src WORD<0-16>

Default

By default, route redistribution is disabled.

Command mode

OSPF Router Configuration

Command parameters

Parameter	Description
enable	Enables route redistribution of Intermediate-System-to-Intermediate-System (IS-IS) learned IP routes into OSPF.
metric <0-65535>	Configures the metric (cost) to apply to redistributed routes. The default is 1.
metric-type { type1 | type2 }	Configures the type of route to import into the OSPF protocol.
route-policy WORD<0-64>	Configures the route policy to apply to redistributed routes.
subnets { allow | suppress }	Indicates whether the subnets are advertised individually or aggregated to their classful subnet. Choose allow to advertise the subnets individually with the learned or configured mask of the subnet. The default is allow.
vrf-src WORD<0-16>	Specifies the source VRF instance. This parameter is not required for redistribution within the same VRF.
WORD<0-32>	Specifies the protocol type. The possible values are bgp, direct, isis, ospf, rip, or static.

redistribute (for RIP)

Redistribute learned routes into RIP.

Syntax

- default redistribute { direct | isis | ospf | rip | static }
- default redistribute { direct | isis | ospf | rip | static } enable
- default redistribute { direct | isis | ospf | rip | static } enable vrf-src WORD<0-16>
- default redistribute { direct | isis | ospf | rip | static } metric
- default redistribute { direct | isis | ospf | rip | static } metric vrf-src WORD<0-16>
- default redistribute { direct | isis | ospf | rip | static } route-map
- default redistribute { direct | isis | ospf | rip | static } route-map vrf-src WORD<0-16>
- default redistribute { direct | isis | ospf | rip | static } vrf-src WORD<0-16>
- no redistribute { direct | isis | ospf | rip | static }
- no redistribute { direct | isis | ospf | rip | static } enable
- no redistribute { direct | isis | ospf | rip | static } enable vrf-src WORD<0-16>
- no redistribute { direct | isis | ospf | rip | static } route-map
- no redistribute { direct | isis | ospf | rip | static } route-map vrf-src WORD<0-16>
- no redistribute { direct | isis | ospf | rip | static } vrf-src WORD<0-16>
- redistribute { direct | isis | ospf | rip | static }
- redistribute { direct | isis | ospf | rip | static } enable
- redistribute { direct | isis | ospf | rip | static } enable vrf-src WORD<0-16>
- redistribute { direct | isis | ospf | rip | static } metric <0-65535>
- redistribute { direct | isis | ospf | rip | static } metric <0-65535> vrf-src WORD<0-16>
- redistribute { direct | isis | ospf | rip | static } route-map WORD<0-64>
- redistribute { direct | isis | ospf | rip | static } route-map WORD<0-64> vrf-src WORD<0-16>
- redistribute { direct | isis | ospf | rip | static } vrf-src WORD<0-16>

Default

By default, route redistribution is disabled.

Command mode

RIP Router Configuration

Command parameters

Parameter	Description
enable	Enables route redistribution of Intermediate-System-to-Intermediate-System (IS-IS) learned IP routes into RIP.
metric <0-65535>	Configures the metric (cost) to apply to redistributed routes. The default is 1.
route-map WORD<0-64>	Configures the route policy to apply to redistributed routes.
vrf-src WORD<0-16>	Specifies the source VRF instance. This parameter is not required for redistribution within the same VRF.
WORD<0-32>	Specifies the protocol type. The possible values are bgp, direct, isis, ospf, rip, or static.

redistribute ipv6-direct (for BGP)

Redistribute routes learned from IPv6 directly-connected networks into Border Gateway Protocol (BGP).

Syntax

- `default redistribute ipv6-direct`
- `default redistribute ipv6-direct enable`
- `default redistribute ipv6-direct metric`
- `default redistribute ipv6-direct route-map`
- `no redistribute ipv6-direct`
- `no redistribute ipv6-direct enable`
- `no redistribute ipv6-direct route-map`
- `redistribute ipv6-direct`
- `redistribute ipv6-direct enable`
- `redistribute ipv6-direct metric <0-65535>`
- `redistribute ipv6-direct route-map WORD<0-64>`

Default

By default, route redistribution is disabled.

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
enable	Enables the redistribution.
metric <0-65535>	Specifies the value of the metric to be announced in the advertisement. The default is 0.
route-map WORD<0-64>	Configures the route policy to apply to redistributed routes.

redistribute ipv6-static (for BGP)

Redistribute IPv6 static routes into Border Gateway Protocol (BGP).

Syntax

- `default redistribute ipv6-static`
- `default redistribute ipv6-static enable`
- `default redistribute ipv6-static metric`
- `default redistribute ipv6-static route-map`
- `no redistribute ipv6-static`
- `no redistribute ipv6-static enable`
- `no redistribute ipv6-static route-map`
- `redistribute ipv6-static`
- `redistribute ipv6-static enable`
- `redistribute ipv6-static metric <0-65535>`
- `redistribute ipv6-static route-map WORD<0-64>`

Default

By default, route redistribution is disabled.

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
enable	Enables the redistribution.
metric <0-65535>	Specifies the value of the metric to be announced in the advertisement. The default is 0.
route-map WORD<0-64>	Configures the route policy to apply to redistributed routes.

redistribute isis (for BGP)

Redistribute learned routes into Border Gateway Protocol (BGP).

Syntax

- `default redistribute isis`
- `default redistribute isis enable`
- `default redistribute isis metric`
- `default redistribute isis route-map`
- `default redistribute isis vrf-src WORD<1-16>`
- `no redistribute isis`
- `no redistribute isis enable`
- `redistribute isis`
- `redistribute isis enable`
- `redistribute isis metric <0-65535>`
- `redistribute isis route-map WORD<0-64>`
- `redistribute isis vrf-src WORD<1-16>`

Default

By default, route redistribution is disabled.

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
enable	Enables the redistribution of Intermediate-System-to-Intermediate-System (IS-IS) learned IP routes into BGP.
metric <0-65535>	Specifies the value of the metric to be announced in the advertisement. The default is 1.
route-map WORD<0-64>	Configures the route policy to apply to redistributed routes.
vrf-src	Specifies the source VRF instance. This parameter is not required for

WORD<1-16>	redistribution within the same VRF.

redistribute ospf (for BGP)

Redistribute OSPF-learned routes into Border Gateway Protocol (BGP).

Syntax

- `default redistribute ospf`
- `default redistribute ospf enable`
- `default redistribute ospf metric`
- `default redistribute ospf route-map`
- `default redistribute ospf vrf-src WORD<1-16>`
- `no redistribute ospf`
- `no redistribute ospf enable`
- `no redistribute ospf vrf-src WORD<1-16>`
- `redistribute ospf`
- `redistribute ospf enable`
- `redistribute ospf metric <0-65535>`
- `redistribute ospf route-map WORD<0-64>`
- `redistribute ospf vrf-src WORD<1-16>`

Default

`By default, route redistribution is disabled.`

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
`enable`	Enables the redistribution.
`metric <0-65535>`	Specifies the value of the metric to be announced in the advertisement. The default is 0.
`route-map WORD<0-64>`	Configures the route policy to apply to redistributed routes.

vrf-src WORD<1-16>	Specifies the source VRF instance. This parameter is not required for redistribution within the same VRF.

redistribute ospf (for IS-IS)

Control the redistribution of routes from the global router into the Shortest Path Bridging MAC (SPBM) Intermediate-System-to-Intermediate-System (IS-IS) domain.

Syntax

- default redistribute ospf enable
- default redistribute ospf metric
- default redistribute ospf metric-type
- default redistribute ospf route-map
- default redistribute ospf subnets
- no redistribute ospf
- no redistribute ospf enable
- no redistribute ospf metric
- no redistribute ospf metric-type
- no redistribute ospf route-map
- no redistribute ospf subnets
- redistribute ospf
- redistribute ospf enable
- redistribute ospf metric <0-65535>
- redistribute ospf metric-type external
- redistribute ospf metric-type internal
- redistribute ospf route-map WORD<0-64>
- redistribute ospf subnets allow
- redistribute ospf subnets suppress

Default

By default, route redistribution is disabled.

Command mode

Command parameters

Parameter	Description
enable	Enables route redistribution.
metric <0-65535>	Configures the metric (cost) to apply to redistributed routes. The default is 1.
metric-type external	Configures the type of route to import into the protocol. The default is internal.
metric-type internal	Configures the type of route to import into the protocol. The default is internal.
route-map WORD<0-64>	Configures the route policy to apply to redistributed routes.
subnets allow	Indicates whether the subnets are advertised individually or aggregated to their classful subnet. Choose allow to advertise the subnets individually with the learned or configured mask of the subnet. The default is allow.
subnets suppress	Indicates whether the subnets are advertised individually or aggregated to their classful subnet. Choose allow to advertise the subnets individually with the learned or configured mask of the subnet. The default is allow.

redistribute ospfv3 (for BGP)

Redistribute OSPFv3-learned routes into Border Gateway Protocol (BGP).

Syntax

- `default redistribute ospfv3`
- `default redistribute ospfv3 enable`
- `default redistribute ospfv3 metric`
- `default redistribute ospfv3 route-map`
- `no redistribute ospfv3`
- `no redistribute ospfv3 enable`
- `no redistribute ospfv3 route-map`
- `redistribute ospfv3`
- `redistribute ospfv3 enable`
- `redistribute ospfv3 metric <0-65535>`
- `redistribute ospfv3 route-map WORD<0-64>`

Default

`By default, route redistribution is disabled.`

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
`enable`	Enables the redistribution.
`metric <0-65535>`	Specifies the value of the metric to be announced in the advertisement. The default is 0.
`route-map WORD<0-64>`	Configures the route policy to apply to redistributed routes.

redistribute rip (for BGP)

Redistribute RIP-learned routes into Border Gateway Protocol (BGP).

Syntax

- `default redistribute rip`
- `default redistribute rip enable`
- `default redistribute rip metric`
- `default redistribute rip route-map`
- `default redistribute rip vrf-src WORD<1-16>`
- `no redistribute rip`
- `no redistribute rip enable`
- `no redistribute rip vrf-src WORD<1-16>`
- `redistribute rip`
- `redistribute rip enable`
- `redistribute rip metric <0-65535>`
- `redistribute rip route-map WORD<0-64>`
- `redistribute rip vrf-src WORD<1-16>`

Default

`By default, route redistribution is disabled.`

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
`enable`	Enables the redistribution.
`metric <0-65535>`	Specifies the value of the metric to be announced in the advertisement. The default is 0.
`route-map WORD<0-64>`	Configures the route policy to apply to redistributed routes.

vrf-src WORD<1-16>	Specifies the source VRF instance. This parameter is not required for redistribution within the same VRF.

redistribute rip (for IS-IS)

Control the redistribution of routes from the global router into the Shortest Path Bridging MAC (SPBM) Intermediate-System-to-Intermediate-System (IS-IS) domain.

Syntax

- `default redistribute rip enable`
- `default redistribute rip metric`
- `default redistribute rip metric-type`
- `default redistribute rip route-map`
- `default redistribute rip subnets`
- `no redistribute rip`
- `no redistribute rip enable`
- `no redistribute rip metric`
- `no redistribute rip metric-type`
- `no redistribute rip route-map`
- `no redistribute rip subnets`
- `redistribute rip`
- `redistribute rip enable`
- `redistribute rip metric <0-65535>`
- `redistribute rip metric-type external`
- `redistribute rip metric-type internal`
- `redistribute rip route-map WORD<0-64>`
- `redistribute rip subnets allow`
- `redistribute rip subnets suppress`

Default

By default, route redistribution is disabled.

Command mode

Command parameters

Parameter	Description
enable	Enables route redistribution.
metric <0-65535>	Configures the metric (cost) to apply to redistributed routes. The default is 1.
metric-type external	Configures the type of route to import into the protocol. The default is internal.
metric-type internal	Configures the type of route to import into the protocol. The default is internal.
route-map WORD<0-64>	Configures the route policy to apply to redistributed routes.
subnets allow	Indicates whether the subnets are advertised individually or aggregated to their classful subnet. Choose allow to advertise the subnets individually with the learned or configured mask of the subnet. The default is allow.
subnets suppress	Indicates whether the subnets are advertised individually or aggregated to their classful subnet. Choose allow to advertise the subnets individually with the learned or configured mask of the subnet. The default is allow.

redistribute static (for BGP)

Redistribute static routes into Border Gateway Protocol (BGP).

Syntax

- `default redistribute static`
- `default redistribute static enable`
- `default redistribute static metric`
- `default redistribute static route-map`
- `default redistribute static vrf-src WORD<1-16>`
- `no redistribute static`
- `no redistribute static enable`
- `no redistribute static vrf-src WORD<1-16>`
- `redistribute static`
- `redistribute static enable`
- `redistribute static metric <0-65535>`
- `redistribute static route-map WORD<0-64>`
- `redistribute static vrf-src WORD<1-16>`

Default

`By default, route redistribution is disabled.`

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
`enable`	Enables the redistribution.
`metric <0-65535>`	Specifies the value of the metric to be announced in the advertisement. The default is 0.
`route-map WORD<0-64>`	Configures the route policy to apply to redistributed routes.

vrf-src WORD<1-16>	Specifies the source VRF instance. This parameter is not required for redistribution within the same VRF.

redistribute static (for IS-IS)

Control the redistribution of routes from the global router into the Shortest Path Bridging MAC (SPBM) Intermediate-System-to-Intermediate-System (IS-IS) domain.

Syntax

- `default redistribute static enable`
- `default redistribute static metric`
- `default redistribute static metric-type`
- `default redistribute static route-map`
- `default redistribute static subnets`
- `no redistribute static`
- `no redistribute static enable`
- `no redistribute static metric`
- `no redistribute static metric-type`
- `no redistribute static route-map`
- `no redistribute static subnets`
- `redistribute static`
- `redistribute static enable`
- `redistribute static metric <0-65535>`
- `redistribute static metric-type external`
- `redistribute static metric-type internal`
- `redistribute static route-map WORD<0-64>`
- `redistribute static subnets allow`
- `redistribute static subnets suppress`

Default

By default, route redistribution is disabled.

Command mode

Command parameters

Parameter	Description
enable	Enables route redistribution.
metric <0-65535>	Configures the metric (cost) to apply to redistributed routes. The default is 1.
metric-type external	Configures the type of route to import into the protocol. The default is internal.
metric-type internal	Configures the type of route to import into the protocol. The default is internal.
route-map WORD<0-64>	Configures the route policy to apply to redistributed routes.
subnets allow	Indicates whether the subnets are advertised individually or aggregated to their classful subnet. Choose allow to advertise the subnets individually with the learned or configured mask of the subnet. The default is allow.
subnets suppress	Indicates whether the subnets are advertised individually or aggregated to their classful subnet. Choose allow to advertise the subnets individually with the learned or configured mask of the subnet. The default is allow.

remove

Remove files or directories to free space.

Syntax

- `remove WORD<1-255>`
- `remove WORD<1-255> -y`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
WORD<1-255>	Specifies the file to rename.
WORD<1-255> -y	Skips the confirm question.

rename

Use this command to rename a file.

Syntax

- `rename WORD<1-255> WORD<1-255>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
WORD<1-255> WORD<1-255>	Specifies the file name to rename.

reset

Reset the platform to reload system parameters from the most recently saved configuration file.

Syntax

- `reset`
- `reset -y`

Default

None

Command mode

Privileged EXEC

retransmit-lsp-interval

Configure the minimum time between retransmission of a Link State Packet (LSP). This defines how fast the switch resends the same LSP. This is a system level parameter that applies for Level 1 retransmission of LSPs.

Syntax

- `default retransmit-lsp-interval`
- `no retransmit-lsp-interval`
- `retransmit-lsp-interval <1-300>`

Default

`The default is 5 seconds.`

Command mode

IS-IS Router Configuration

Command parameters

Parameter	Description
`<1-300>`	Specifies the minimum time between retransmission of a Link State Packet (LSP). This defines how fast the switch resends the same LSP. This is a system level parameter that applies for Level1 retransmission of LSPs.

rfc1583-compatibility enable

Controls the preference rules used when the router chooses among multiple autonomous system external (ASE) LSAs which advertise the same destination. If enabled, the preference rule is the same as that specified by RFC1583. If disabled, the preference rule is as described in RFC2328, which can prevent routing loops when ASE LSAs for the same destination originate from different areas.

Syntax

- `default rfc1583-compatibility enable`
- `no rfc1583-compatibility enable`
- `rfc1583-compatibility enable`

Default

`The default is disabled.`

Command mode

OSPF Router Configuration

rlogin

Use this command to login remotely to a remote host.

Syntax

- `rlogin {A.B.C.D}`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
{A.B.C.D}	Specifies the IP address.

rmon

Configure Remote Network Monitoring (RMON) functions on the switch.

Syntax

- `default rmon`
- `default rmon memsize`
- `default rmon trap-option`
- `default rmon util-method`
- `no rmon`
- `rmon`
- `rmon memsize <250000-4000000>`
- `rmon trap-option { toOwner | toAll }`
- `rmon util-method { half | full }`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`memsize <250000-4000000>`	Configures the amount of RAM in bytes to allocate for Remote Network Monitoring (RMON). The range is 250000-4000000.
`trap-option <toOwner|toAll>`	Controls whether the Remote Network Monitoring (RMON) traps are sent to the owner or to all trap recipients. toOwner|toAll is set to either the owner or to all trap recipients.
`util-method <half|full>`	Controls whether port utilization is calculated in half or full duplex.

rmon alarm

Creates an alarm interface.

Syntax

- default rmon alarm <1-65535>
- default rmon alarm <1-65535> owner
- no rmon alarm <1-65535>
- rmon alarm <1-65535> WORD<1-1536> <1-3600> { absolute | delta }
- rmon alarm <1-65535> WORD<1-1536> <1-3600> { absolute | delta } falling-threshold <-2147483647-2147483647> event <1-65535>
- rmon alarm <1-65535> WORD<1-1536> <1-3600> { absolute | delta } falling-threshold <-2147483647-2147483647> event <1-65535> owner WORD<1-127>
- rmon alarm <1-65535> WORD<1-1536> <1-3600> { absolute | delta } falling-threshold <-2147483647-2147483647> event <1-65535> rising-threshold <-2147483647-2147483647> event <1-65535>
- rmon alarm <1-65535> WORD<1-1536> <1-3600> { absolute | delta } falling-threshold <-2147483647-2147483647> event <1-65535> rising-threshold <-2147483647-2147483647> event <1-65535> owner WORD<1-127>
- rmon alarm <1-65535> WORD<1-1536> <1-3600> { absolute | delta } owner WORD<1-127>
- rmon alarm <1-65535> WORD<1-1536> <1-3600> { absolute | delta } rising-threshold <-2147483647-2147483647> event <1-65535>
- rmon alarm <1-65535> WORD<1-1536> <1-3600> { absolute | delta } rising-threshold <-2147483647-2147483647> event <1-65535> falling-threshold <-2147483647-2147483647> event <1-65535>
- rmon alarm <1-65535> WORD<1-1536> <1-3600> { absolute | delta } rising-threshold <-2147483647-2147483647> event <1-65535> falling-threshold <-2147483647-2147483647> event <1-65535> owner WORD<1-127>
- rmon alarm <1-65535> WORD<1-1536> <1-3600> { absolute | delta } rising-threshold <-2147483647-2147483647> event <1-65535> owner WORD<1-127>

Default

None

Command mode

Command parameters

Parameter	Description
{absolute | delta}	Specifies the sample type.
<1-3600>	Specifies the sampling interval.
<1-65535>	Specifies the interface index number from 1-65535.
event <1-65535>	Specifies the event number.
falling-threshold <-2147483647-2147483647>	Specifies the falling threshold value for the sampled statistic.
owner WORD<1-127>	Specifies the name of the owner. The default value is CLI if the entry is configured using ACLI. The default is SNMP if the entry is configured using EDM or SNMP.
rising-threshold <-2147483647-2147483647>	Specifies the rising threshold value for the samples statistic.
WORD<1-536>	Specifies the variable name or OID, case sensitive.

rmon event

Creates an event.

Syntax

- default rmon event <1-65535>
- default rmon event <1-65535> community
- default rmon event <1-65535> description
- default rmon event <1-65535> owner
- no rmon event <1-65535>
- no rmon event <1-65535> log
- rmon event <1-65535>
- rmon event <1-65535> community WORD<1-127>
- rmon event <1-65535> description WORD<0-127>
- rmon event <1-65535> log
- rmon event <1-65535> owner WORD<1-127>
- rmon event <1-65535> trap
- rmon event <1-65535> trap_dest
- rmon event <1-65535> trap_dest {A.B.C.D}
- rmon event <1-65535> trap_src

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<1-65535>	Specifies the event index number.
community WORD<1-127>	Specifies the event community.

description WORD<0-127>	Specifies the event description.
log	Displays information about configured traps.
owner WORD<1-127>	Specifies the name of the event owner. The default value is CLI if the entry is configured using ACLI. The default is SNMP if the entry is configured using EDM or SNMP.
trap_dest {A.B.C.D}	Specifies trap destination IP addresses.
trap_src	Specifies trap source IP addresses.

rmon (for a port)

Configure Remote Network Monitoring (RMON) on a particular port.

Syntax

- `default rmon`
- `no rmon`
- `rmon`

Default

None

Command mode

GigabitEthernet Interface Configuration

rmon history

Creates a history control interface.

Syntax

- `default rmon history <1-65535>`
- `default rmon history <1-65535> buckets`
- `default rmon history <1-65535> interval`
- `default rmon history <1-65535> owner`
- `no rmon history <1-65535>`
- `rmon history <1-65535> {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `rmon history <1-65535> {slot/port[/sub-port][-slot/port[/sub-port]][,...]} buckets <1-65535>`
- `rmon history <1-65535> {slot/port[/sub-port][-slot/port[/sub-port]][,...]} interval <1-3600>`
- `rmon history <1-65535> {slot/port[/sub-port][-slot/port[/sub-port]][,...]} owner WORD<1-127>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
{slot/port[/sub-port][-slot/port[/sub-port]][,...]}	Identifies the slot and port.
<1-65535>	Specifies the index number of the history control interface.
buckets <1-65535>	Specifies the number of buckets requested. The default is 50.
interval <1-3600>	Specifies the the time interval in seconds over which the data is sampled for each bucket. The default is 1800.
	Specifies the name of the entry owner. The default value is CLI if the

`owner WORD<1-127>`	entry is configured using ACLI. The default is SNMP if the entry is configured using EDM or SNMP.

rmon stats

Creates an ether-stats control interface.

Syntax

- `default rmon stats <1-65535>`
- `default rmon stats <1-65535> owner`
- `no rmon stats <1-65535>`
- `rmon stats <1-65535> {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `rmon stats <1-65535> {slot/port[/sub-port][-slot/port[/sub-port]][,...]} owner WORD<1-127>`
- `rmon stats <1-65535> owner WORD<1-127>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
{slot/port[/sub-port][-slot/port[/sub-port]][,...]}	Identifies the slot and port.
<1-65535>	Specifies the index number of the ether stats control interface.
owner WORD<1-127>	Specifies the name of the entry owner. The default value is CLI if the entry is configured using ACLI. The default is SNMP if the entry is configured using EDM or SNMP.

route-map

Configure and enable a route policy so that the switch can control routes that certain packets can take.

Syntax

- `default route-map WORD<1-64> <1-65535>`
- `no route-map WORD<1-64> <1-65535>`
- `route-map WORD<1-64> <1-65535>`
- `route-map WORD<1-64> <1-65535> { permit | deny }`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<1-65535>	Specifies the sequence number for the route policy.
<permit|deny>	Permit or deny the route.
WORD<1-64>	Specifies the policy name.

router bgp

Access the router configuration mode to configure the Border Gateway Protocol (BGP) commands.

Syntax

- `router bgp`
- `router bgp [WORD<0-11>] [enable]`

Default

None

Command mode

Global Configuration

router bgp as-4-byte enable

Globally enable 4-byte autonomous system numbers.

Syntax

- `default router bgp as-4-byte enable`
- `no router bgp as-4-byte enable`
- `router bgp as-4-byte enable`

Default

`The default is disabled.`

Command mode

Global Configuration

router bgp as-dot enable

Globally enable the AS dot representation for 4-byte AS numbers.

Syntax

- `default router bgp as-dot enable`
- `no router bgp as-dot enable`
- `router bgp as-dot enable`

Default

`The default is disabled.`

Command mode

Global Configuration

router bgp enable

Specify the AS number and enable BGP.

Syntax

- `router bgp [WORD <0-11>] [enable]`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
enable	Enables the BGP on the router.
WORD<0-11>	Specifies the AS number. You cannot enable BGP until you change the local AS to a value other than 0.

router bgp enable globally

Specify the AS number and enable BGP.

Syntax

- `router bgp [WORD <0-11>][enable]`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
enable	Enables the BGP on the router.
WORD<0-11>	Specifies the AS number. You cannot enable BGP until you change the local AS to a value other than 0.

route-reflector enable

Enable the reflection of routes from IBGP neighbors.

Syntax

- `default route-reflector`
- `default route-reflector enable`
- `no route-reflector`
- `no route-reflector enable`
- `route-reflector`
- `route-reflector enable`

Default

`The default value is enable.`

Command mode

BGP Router Configuration

route-refresh

Enable or disable IP VPN Route Refresh. If enabled, a route refresh request received by a BGP speaker causes the speaker to resend all route updates it contains in its database that are eligible for the peer that issues the request.

Syntax

- `default route-refresh`
- `no route-refresh`
- `route-refresh`

Default

`The default value is disable`

Command mode

BGP Router Configuration

router-id (for BGP)

Specify the BGP router ID in IP address format.

Syntax

- `default router-id`
- `no router-id`
- `router-id {A.B.C.D}`

Default

None

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
<A.B.C.D>	Identifies the router IP address.

router-id (for OSPF)

Configure OSPF parameters on the switch to control how OSPF behaves on the system. The switch uses global parameters to communicate with other OSPF routers. Globally configure OSPF before you configure OSPF for an interface, port, or VLAN.

Syntax

- `default router-id`
- `no router-id`
- `router-id {A.B.C.D}`

Default

None

Command mode

OSPF Router Configuration

Command parameters

Parameter	Description
`router-id <A.B.C.D>`	Configures the OSPF router ID IP address, where A.B.C.D is the IP address.

router isis

Enter Intermediate-System-to-Intermediate-System (IS-IS) Router Configuration mode.

Syntax

- `default router isis`
- `default router isis enable`
- `no router isis`
- `no router isis enable`
- `router isis`
- `router isis enable`

Default

None

Command mode

Global Configuration

router ospf

Enable OSPF for the switch. If you do not use an optional parameter with the command, you enter the OSPF Router Configuration mode.

Syntax

- `default router ospf`
- `default router ospf enable`
- `default router ospf ipv6-enable`
- `no router ospf`
- `no router ospf enable`
- `no router ospf ipv6-enable`
- `router ospf`
- `router ospf enable`

Default

`None`

Command mode

Global Configuration

Command parameters

Parameter	Description
`enable`	Enables OSPF routing on the switch.

router rip enable

Enable RIP globally.

Syntax

- `default router rip enable`
- `no router rip enable`
- `router rip`
- `router rip enable`
- `router rip enable vrf <1-511>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`enable`	Globally enables RIP on the VRF or switch.
`vrf <1-511>`	Enables RIP for a particular VRF. <1-511> denotes the range of the VRF id.

router vrf

Enable VRF for the switch.

Syntax

- `router vrf WORD <1-16>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
WORD<0-16>	Specifies the VRF name.

router vrrp

Enable VRRP for the switch.

Syntax

- `router vrrp`

Default

None

Command mode

Global Configuration

rsh

Use this command to execute a shell command on a remote machine.

Syntax

- `rsh {A.B.C.D} -l WORD<0-1536> WORD<1-1536>`
- `rsh {A.B.C.D} -l WORD<0-1536> WORD<1-1536> WORD<0-1536>`
- `rsh {A.B.C.D} -l WORD<0-1536> WORD<1-1536> WORD<0-1536> WORD<0-1536>`
- `rsh {A.B.C.D} -l WORD<0-1536> WORD<1-1536> WORD<0-1536> WORD<0-1536> WORD<0-1536>`
- `rsh {A.B.C.D} -l WORD<0-1536> WORD<1-1536> WORD<0-1536> WORD<0-1536> WORD<0-1536> WORD<0-1536>`
- `rsh {A.B.C.D} -l WORD<0-1536> WORD<1-1536> WORD<0-1536> WORD<0-1536> WORD<0-1536> WORD<0-1536> WORD<0-1536>`
- `rsh {A.B.C.D} -l WORD<0-1536> WORD<1-1536> WORD<0-1536> WORD<0-1536> WORD<0-1536> WORD<0-1536> WORD<0-1536> WORD<0-1536>`
- `rsh {A.B.C.D} -l WORD<0-1536> WORD<1-1536> WORD<0-1536> WORD<0-1536> WORD<0-1536> WORD<0-1536> WORD<0-1536> WORD<0-1536> WORD<0-1536>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
{A.B.C.D} -l WORD<0-1536> WORD<1-1536> WORD<0-1536> WORD<0-1536> WORD<0-1536> WORD<0-1536> WORD<0-1536>	Specifies the command to execute on the remote host: Param1 for rsh command. String length {0-1536} Param2 for rsh command. String length {0-1536} Param3 for rsh command. String length {0-1536} Param4 for rsh command. String length {0-1536} Param5 for rsh command. String length {0-1536} Param6 for rsh command. String length {0-1536} Param7 for rsh command. String length {0-1536}
{A.B.C.D} -l WORD<0-1536> WORD<1-1536> WORD<0-1536> WORD<0-1536> WORD<0-1536>	Specifies the user login name.

WORD<0-1536> WORD<0-1536> WORD<0-1536> {A.B.C.D} -l WORD<0-1536> WORD<1-1536> WORD<0-1536> WORD<0-1536> WORD<0-1536> WORD<0-1536> WORD<0-1536> WORD<0-1536> WORD<0-1536> WORD<0-1536>	Specifies the IP address in the {A.B.C.D} format.

run spbm

Run SPBM commands

Syntax

- `run spbm clean`
- `run spbm interface clean`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`clean`	Run SPBM clean command.
`run spbm interface clean`	Run SPBM interface clean command.

save

Save running configuration to a file.

Syntax

- `save { log | }`
- `save { log | } file WORD<1-99>`

Default

None

Command mode

Privileged EXEC

save config

Save configuration information.

Syntax

- `save config`
- `save config backup WORD<1-99>`
- `save config file WORD<1-99>`
- `save config verbose`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`backup WORD<1-99>`	Saves the specified file name and identifies the file as a backup file.
`file WORD<1-99>`	Specifies the file name.
`verbose`	Save current and default configuration.

send-trap

Configure Virtual Router Redundancy Protocol (VRRP) notification control.

Syntax

- `default send-trap`
- `default send-trap enable`
- `default send-trap enable vrf WORD<0-16>`
- `no send-trap`
- `no send-trap enable`
- `no send-trap enable vrf WORD<0-16>`
- `send-trap`
- `send-trap enable`
- `send-trap enable vrf WORD<0-16>`

Default

`Generation of SNMP traps for VRRP events is enabled.`

Command mode

VRRP Router Configuration

Command parameters

Parameter	Description
`vrf WORD<0-16>`	Specifies the VRF name.

set as-path

Add the AS number of the AS-list to the BGP routes that match this policy.

Syntax

- `default set as-path WORD<0-256>`
- `no set as-path WORD<0-256>`
- `set as-path WORD<0-256>`

Default

None

Command mode

Route-Map Configuration

Command parameters

Parameter	Description
WORD<0-256>	Specifies the list ID of up to four defined AS-lists separated by a comma.

set automatic-tag

Configure the tag automatically. This command is used for BGP routes only.

Syntax

- `default set automatic-tag`
- `default set automatic-tag enable`
- `no set automatic-tag`
- `no set automatic-tag enable`
- `set automatic-tag`
- `set automatic-tag enable`

Default

`The default is disable.`

Command mode

Route-Map Configuration

Command parameters

Parameter	Description
`enable`	Enables this configuration.

set community

Add the community number of the community list to the BGP routes that match this policy.

Syntax

- `default set community WORD<0-256>`
- `no set community WORD<0-256>`
- `set community WORD<0-256>`

Default

None

Command mode

Route-Map Configuration

Command parameters

Parameter	Description
WORD<0-256>	Specifies the list ID of up to four defined community lists separated by a comma.

set injectlist

Replace the destination network of the route that Match this policy with the contents of the specified prefix list.

Syntax

- `default set injectlist`
- `no set injectlist`
- `set injectlist WORD<0-1027>`

Default

None

Command mode

Route-Map Configuration

Command parameters

Parameter	Description
WORD<0-1027>	Specifies one prefix list by name.

set ip-preference

Configure the preference to a value greater than 0. Specify the route preference value to assign to the routes that match this policy. This command applies to accept policies only.

Syntax

- `default set ip-preference`
- `set ip-preference <0-255>`

Default

`The default is 0.`

Command mode

Route-Map Configuration

Command parameters

Parameter	Description
`<0-255>`	Assigns the preference to the routes. If you configure the default, the global preference value is used.

set local-preference

Specify a value used during the route decision process in the BGP protocol. This command applies to BGP only.

Syntax

- `default set local-preference`
- `set local-preference <0-65535>`

Default

`The default is 0.`

Command mode

Route-Map Configuration

Command parameters

Parameter	Description
<0-65535>	Specifies the local preference value.

set mask

Configure the mask of the route that matches this policy. This command applies only to RIP accept policies.

Syntax

- `default set mask`
- `no set mask`
- `set mask {A.B.C.D}`

Default

`The default is 0.0.0.0.`

Command mode

Route-Map Configuration

Command parameters

Parameter	Description
`{A.B.C.D}`	Specifies a valid contiguous IP mask.

set metric

Configure the metric value for the route while announcing a redistribution. If you configure the default, the original cost of the route is advertised into OSPF; for RIP, the original cost of the route or defaultimport- metric is used.

Syntax

- `default set metric`
- `set metric <0-65535>`

Default

`The default is 0.`

Command mode

Route-Map Configuration

Command parameters

Parameter	Description
<0-65535>	Specifies a metric value.

set metric-type

Configure the metric type for the routes to announce into the OSPF domain that Match this policy. This command applies only for OSPF announce policies.

Syntax

- `default set metric-type`
- `set metric-type { type1 | type2 }`

Default

`The default is type 2.`

Command mode

Route-Map Configuration

Command parameters

Parameter	Description
`{ type1 | type2 }`	Specifies the metric type to announce.

set metric-type-internal

Configure the MED value for routes advertised to EBGP neighbors to the specified IGP metric value.

Syntax

- `default set metric-type-internal`
- `set metric-type-internal <0-1>`

Default

`The default is 0.`

Command mode

Route-Map Configuration

Command parameters

Parameter	Description
`<0-1>`	Specifies the Interior Gateway Protocol (IGP) metric value.

set next-hop

Specify the IPv4 or IPv6 address of the next-hop router.

Syntax

- `default set next-hop`
- `no set next-hop`
- `set next-hop WORD<1-256>`

Default

None

Command mode

Route-Map Configuration

Command parameters

Parameter	Description
WORD<1-256>	Specifies the IP address of the next-hop router.

set nssa-pbit

Configure the not so stubby area (NSSA) translation P bit. This command applies to OSPF announce policies only.

Syntax

- `default set nssa-pbit`
- `default set nssa-pbit enable`
- `no set nssa-pbit`
- `no set nssa-pbit enable`
- `set nssa-pbit`
- `set nssa-pbit enable`

Default

`The default is enable.`

Command mode

Route-Map Configuration

Command parameters

Parameter	Description
`enable`	Enables P bit translation.

set origin

Change the origin path attribute of the BGP routes that match this policy to the specified value.

Syntax

- `default set origin`
- `set origin { igp | egp | incomplete }`

Default

`The default is unchanged.`

Command mode

Route-Map Configuration

Command parameters

Parameter	Description
`{ igp | egp | incomplete }`	Specifies the origin path attribute.

set origin-egp-as

Configure the origin EGP autonomous system (AS). This command applies to BGP only.

Syntax

- `default set origin-egp-as`
- `set origin-egp-as <0-65535>`

Default

`The default is 0.`

Command mode

Route-Map Configuration

Command parameters

Parameter	Description
`<0-65535>`	Indicates the remote Autonomous System (AS) number.

set weight

Configure the weight for the routing table. This command applies to BGP only. This value overrides the weight configured through NetworkTableEntry, FilterListWeight, or NeighborWeight.

Syntax

- `default set weight`
- `set weight <0-65535>`

Default

`The default is 0.`

Command mode

Route-Map Configuration

Command parameters

Parameter	Description
`<0-65535>`	Specifies the weight value. A value of 0 indicates that this parameter is not set.

show access-policy

Show access policy configurations.

Syntax

- `show access-policy`
- `show access-policy by-mac`
- `show access-policy snmp-group`
- `show access-policy WORD<0-15>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
by-mac	Show access policy by-mac information.
snmp-group	Show access-policy snmp-group information.
WORD<0-15>	Specifies an acess policy name.

show alarm database

Show the contents of alarm-log buffers

Syntax

- `show alarm database`
- `show alarm database alarm-id WORD<0-32>`
- `show alarm database alarm-status WORD<0-32>`
- `show alarm database alarm-type WORD<0-32>`
- `show alarm database event-code <0x0-0x00FFFFFF | 0x0-0x0>`
- `show alarm database module WORD<0-100>`
- `show alarm database severity WORD<0-25>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`alarm-id WORD<0-32>`	Alarm ID.
`alarm-status WORD<0-32>`	Alarm status
`alarm-type WORD<0-32>`	Specifies the type of alarm.
`event-code <0x0-0x00FFFFFF | 0x0-0x0>`	Event Code
`module WORD<0-100>`	Module
`severity WORD<0-25>`	Severity

show alarm statistics

Show the statistics of alarm-log buffers

Syntax

- `show alarm statistics`

Default

None

Command mode

User EXEC

show application slamon agent

Display the configuration information of the SLA Mon agent application.

Syntax

- `show application slamon agent`

Default

None

Command mode

Privileged EXEC

show autotopology

View topology message status to view the interconnections between Layer 2 devices in a network.

Syntax

- `show autotopology nmm-table`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
nmm-table	Show topology table information

show banner

Show banner information

Syntax

- `show banner`

Default

None

Command mode

User EXEC

show basic config

Display the basic switch configuration.

Syntax

- `show basic config`

Default

None

Command mode

User EXEC

show bgp ipv6 aggregates

Display BGP IPv6 aggregates information.

Syntax

- `show bgp ipv6 aggregates`
- `show bgp ipv6 aggregates WORD<1-256>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
WORD <1-256>	Specifies IPv6 prefix and length in the range of 1 to 256
WORD <1-256>	Specifies the IPv6 prefix and length.

show bgp ipv6 imported-routes

Display BGP ipv6 imported-routes information.

Syntax

- `show bgp ipv6 imported-routes`
- `show bgp ipv6 imported-routes WORD<1-256>`
- `show bgp ipv6 imported-routes WORD<1-256> longer-prefixes`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`longer-prefixes`	Shows long prefixes. the longer-prefixes indicate the mask length from any specified prefix to 32 (for example show from prefix A.B.C.D/len to A.B.C.D/32.)
`WORD <1-256>`	Specifies the IPv6 prefix and length.

show bgp ipv6 networks

Display information about BGP network configurations.

Syntax

- `show bgp ipv6 networks`
- `show bgp ipv6 networks WORD<1-256>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
WORD <1-256>	Specifies IPv6 prefix and length in the range of 1 to 256

show bgp ipv6 redistributed-routes

Display BGP ipv6 redistributed-routes information.

Syntax

- `show bgp ipv6 redistributed-routes`

Default

None

Command mode

User EXEC

show bgp ipv6 route

Display information about BGP IPv6 routes.

Syntax

- `show bgp ipv6 route`
- `show bgp ipv6 route community {disable|enable}`
- `show bgp ipv6 route ipv6 WORD<1-256>`
- `show bgp ipv6 route WORD <1-256>`
- `show bgp ipv6 route WORD<1-256> longer-prefixes`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`community {disable|enable}`	Enables or disables the display of community attributes.
`ipv6 WORD<1-256>`	Specifies an IPv6 address.
`longer-prefixes`	Shows long prefixes. the longer-prefixes indicate the mask length from any specified prefix to 32 (for example show from prefix A.B.C.D/len to A.B.C.D/32.)
`WORD <1-256>`	Specifies IPv6 address and length in the range of 1 to 256

show boot config

Display the configuration to view current or changed settings for the boot parameters.

Syntax

- `show boot config choice`
- `show boot config flags`
- `show boot config general`
- `show boot config host`
- `show boot config running-config`
- `show boot config running-config verbose`
- `show boot config sio`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
choice	Shows the current boot configuration choices.
flags	Shows the current flag settings.
general	Shows system information.
host	Shows the current host configuration.
running-config	Displays the current boot configuration. verbose includes all possible information. If you omit verbose, the system displays only the values that you changed from their default value.
running-config verbose	Identifies the current CP module.
sio	Specifies the current configuration of the CP module serial port.

show brouter

Display brouter ports information.

Syntax

- `show brouter`
- `show brouter <1-4059>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
<1-4059>	Specifies the VLAN ID.

show cfm

Display CFM information.

Syntax

- `show cfm maintenance-association`
- `show cfm maintenance-domain`
- `show cfm maintenance-endpoint`
- `show cfm spbm`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`maintenance-association`	Display maintenance associations list
`maintenance-domain`	Display maintenance domains list
`maintenance-endpoint`	Display maintenance end-points list
`spbm`	Display cfm spbm

show cli info

Display general Console settings

Syntax

- `show cli info`

Default

None

Command mode

User EXEC

show clilog

Verify the configuration and view the log file. This command only applies to log files generated by releases prior to Release 3.2. The command is replaced by show logging file module clilog.

Syntax

- `show clilog`

Default

None

Command mode

User EXEC

show cli password

Display CLI usernames and passwords.

Syntax

- `show cli password`

Default

None

Command mode

User EXEC

show clock

Display the current time.

Syntax

- `show clock`
- `show clock detail`
- `show clock time-zone`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`detail`	Displays detailed date information.
`time-zone`	Displays the local time-zone configuration.

show core-files

Display the core files generated by the exception dump command.

Syntax

- `show core-files`
- `show core-files {slot[-slot][,...]}`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`{slot[-slot][,...]}`	Specifies the slot number to display the core files. Valid slots is 1.

show eapol auth-diags interface

Display the Extensible Authentication Protocol (EAPoL) Authenticator diagnostics to manage network performance.

Syntax

- `show eapol auth-diags interface`
- `show eapol auth-diags interface gigabitethernet`
- `show eapol auth-diags interface gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show eapol auth-diags interface vlan <1-4059>`
- `show eapol auth-diags interface vlan <1-4059>{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port in one of the following formats: a single slot and port (3/1), a range of slots and ports (3/2-3/4), or a series of slots and ports (3/2,5/3,6/2).
`gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Specifies the type of interface displayed.
`vlan <1-4059>`	Specifies the VLAN for which to show the statistics.

show eapol auth-stats interface

Display the Authenticator statistics to manage network performance.

Syntax

- `show eapol auth-stats interface`
- `show eapol auth-stats interface gigabitEthernet`
- `show eapol auth-stats interface gigabitEthernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show eapol auth-stats interface vlan <1-4059>`
- `show eapol auth-stats interface vlan <1-4059> slot/port[-slot/port][,...]`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port in one of the following formats: a single slot and port (3/1), a range of slots and ports (3/2-3/4), or a series of slots and ports (3/2,5/3,6/2).
`gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Specifies the type of interface displayed.
`vlan <1-4059>`	Specifies the VLAN for which to show the statistics.

show eapol multihost non-eap-mac status

Display non-EAP client MAC information on a port.

Syntax

- `show eapol multihost non-eap-mac status`
- `show eapol multihost non-eap-mac status interface gigabitEthernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port in one of the following formats: a single slot and port (3/1), a range of slots and ports (3/2-3/4), or a series of slots and ports (3/2,5/3,6/2).
`gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Specifies the type of interface displayed.
`vlan <1-4059>`	Specifies the VLAN for which to show the statistics.

show eapol multihost-session-stats interface

Display the manage mode parameters for the specified interface type.

Syntax

- `show eapol multihost-session-stats interface`
- `show eapol multihost-session-stats interface gigabitEthernet [{slot/port[-slot/port][,...]}]`
- `show eapol multihost-session-stats interface vlan <1-4059>`
- `show eapol multihost-session-stats interface vlan <1-4059> [{slot/port[-slot/port][,...]}]`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port in one of the following formats: a single slot and port (3/1), a range of slots and ports (3/2-3/4), or a series of slots and ports (3/2,5/3,6/2).
`gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Specifies the type of interface displayed.
`vlan <1-4059>`	Specifies the VLAN for which to show the statistics.

show eapol port

Display Extensible Authentication Protocol (EAPoL) information for the specified port or interface type.

Syntax

- `show eapol port {slot/port}`
- `show eapol port interface gigabitEthernet`
- `show eapol port interface gigabitEthernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show eapol port interface vlan <1-4059>`
- `show eapol port interface vlan <1-4059> [{slot/port[/sub-port][-slot/port[/sub-port]][,...]}]`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`{slot/port}`	Identifies the slot and port.
`gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Specifies the type of interface displayed.
`vlan <1-4059>`	Specifies the VLAN for which to show the statistics.

show eapol session interface

View EAPoL session statistics to manage network performance.

Syntax

- `show eapol session interface [gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}] [vlan <1-4059>]`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Specifies the type of interface displayed.
`vlan <1-4059>`	Specifies the VLAN for which to show the statistics.

show eapol session-stats interface

Display the port Extensible Authentication Protocol (EAPoL) authenticator session statistics for the specified interface type.

Syntax

- `show eapol session-stats interface`
- `show eapol session-stats interface gigabitethernet`
- `show eapol session-stats interface gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show eapol session-stats interface vlan <1-4059>`
- `show eapol session-stats interface[vlan <1-4059>[{slot/port[/sub-port][-slot/port[/sub-port]][,...]}]`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port in one of the following formats: a single slot and port (3/1), a range of slots and ports (3/2-3/4), or a series of slots and ports (3/2,5/3,6/2).
`gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Specifies the type of interface displayed.
`vlan <1-4059>`	Specifies the VLAN for which to show the statistics.

show eapol status interface

Display the port Extensible Authentication Protocol (EAPoL) operation statistics for the specified interface type.

Syntax

- `show eapol status interface`
- `show eapol status interface gigabitEthernet`
- `show eapol status interface gigabitEthernet {slot/port[-slot/port][,...]}`
- `show eapol status interface vlan <1-4059>`
- `show eapol status interface vlan <1-4059> {slot/port[-slot/port][,...]}`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port in one of the following formats: a single slot and port (3/1), a range of slots and ports (3/2-3/4), or a series of slots and ports (3/2,5/3,6/2).
`gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Specifies the type of interface displayed.
`vlan <1-4059>`	Specifies the VLAN for which to show the statistics.

show eapol system

Display the current Extensible Authentication Protocol (EAPoL) setting on the switch.

Syntax

- `show eapol system`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`config`	Shows eapol system configured values.

show fdb-filter

Show forwarding database filter information.

Syntax

- `show fdb-filter`

Default

None

Command mode

User EXEC

show filter acl

Display filter access control list (ACL) configuration information.

Syntax

- `show filter acl`
- `show filter acl <1-2048>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
<1-2048>	Specifies an access control list (ACL) ID from 1 to 2048.

show filter acl ace

Display the filter access control list (ACL) access control entry (ACE) configuration information.

Syntax

- `show filter acl ace`
- `show filter acl ace <1-2048>`
- `show filter acl ace <1-2048> <1-2000>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`<1-2048>`	Specifies an access control entry (ACE) ID from 1 to 2000.
`<1-2048> <1-2000>`	Specifies an access control list (ACL) ID from 1 to 2048.

show filter acl action

Display the filter access control list (ACL) advanced information.

Syntax

- `show filter acl action`
- `show filter acl action <1-2048>`
- `show filter acl action <1-2048> <1-2000>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`<1-2048>`	Specifies an access control entry (ACE) ID from 1 to 2000.
`<1-2048> <1-2000>`	Specifies an access control list (ACL) ID from 1 to 2048.

show filter acl arp

Display the filter access control list (ACL) ARP operation configuration information.

Syntax

- `show filter acl arp`
- `show filter acl arp <1-2048>`
- `show filter acl arp <1-2048> <1-2000>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`<1-2048>`	Specifies an access control entry (ACE) ID from 1 to 2000.
`<1-2048> <1-2000>`	Specifies an access control list (ACL) ID from 1 to 2048.

show filter acl config

Review your configuration to ensure that it is correct.

Syntax

- `show filter acl config`
- `show filter acl config <1-2048>`
- `show filter acl config <1-2048> <1-2000>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`<1-2048>`	Specifies an access control entry (ACE) ID from 1-2000.
`<1-2048> <1-2000>`	Specifies an access control list (ACL) ID from 1 to 2048.

show filter acl ethernet

Display the filter access control list (ACL) Ethernet configuration information.

Syntax

- `show filter acl ethernet`
- `show filter acl ethernet <1-2048>`
- `show filter acl ethernet <1-2048> <1-2000>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`<1-2048>`	Specifies an access control entry (ACE) ID from 1 to 2000.
`<1-2048> <1-2000>`	Specifies an access control list (ACL) ID from 1-2048.

show filter acl ip

Display the filter access control list (ACL) IP configuration information.

Syntax

- `show filter acl ip`
- `show filter acl ip <1-2048>`
- `show filter acl ip <1-2048> <1-2000>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`<1-2048>`	Specifies an access control entry (ACE) ID from 1 to 2000.
`<1-2048> <1-2000>`	Specifies an access control list (ACL) ID from 1 to 2048.

show filter acl protocol

Display the filter access control list (ACL) protocol configuration information.

Syntax

- `show filter acl protocol`
- `show filter acl protocol <1-2048>`
- `show filter acl protocol <1-2048> <1-2000>`

Default

None

Command mode

Privileged EXEC

show filter acl statistics

View port statistics to ensure that the access control entry (ACE) operates correctly.

Syntax

- `show filter acl statistics`
- `show filter acl statistics <1-2048>`
- `show filter acl statistics <1-2048> <1-2000>`
- `show filter acl statistics <1-2048> qos`
- `show filter acl statistics <1-2048> security`
- `show filter acl statistics all`
- `show filter acl statistics default`
- `show filter acl statistics default <1-2048>`
- `show filter acl statistics global`
- `show filter acl statistics global <1-2048>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`<1-2048>`	Shows global statistics for access control entry.
`<1-2048> <1-2000>`	Shows all statistics for all access control entries.
`<1-2048> qos`	Shows traffic statistics for access control entry.
`<1-2048> security`	Shows global statistics for access control entry.
`all`	Specifies access control list (ACL) ID.
`default`	Shows statistics for Quality of Service (QoS) access control entries.
`default <1-2048>`	Specifies the access control list (ACL) and the ACE ID.
`global <1-2048>`	Shows statistics for security access control entries.

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show ftp-access

Show the maximum FTP sessions.

Syntax

- `show ftp-access`

Default

None

Command mode

User EXEC

show fulltech

Run all show commands and, optionally, capture the output to a file.

Syntax

- `show fulltech`
- `show fulltech file WORD<1-99>`
- `show fulltech khi`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`file WORD<1-99>`	Specifies the file name in the range of 1 to 99 for which you need the logs to be displayed. WORD<1-99> specifies the filename.
`khi`	show full tech khi info

show history

Shows a list of previously used commands. You can use this command in any mode, beginning with Privileged EXEC. The output shows the last 32 commands used in the active session.

Syntax

- `show history`

Default

None

Command mode

Privileged EXEC

show hosts

Query the DNS host for information about host addresses. You can enter either a hostname or an IP address. If you enter the hostname, this command shows the IP address corresponding to the hostname and if you enter an IP address, this command shows the hostname for the IP address.

Syntax

- `show hosts WORD<0-256>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
WORD<0-256>	Specifies one of the following the name of the host DNS server as a string of 0-256 characters. the IP address of the host DNS server in a.b.c.d format.

show interfaces gigabitethernet

Show configuration information for GigabitEthernet ports.

Syntax

- `show interfaces gigabitEthernet`
- `show interfaces gigabitEthernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show interfaces gigabitEthernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]} <1-4059>`

Default

None

Command mode

Privileged EXEC

show interfaces gigabitethernet channelize

Display the channelization information on ports.

Syntax

- `show interfaces gigabitEthernet channelize detail {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show interfaces gigabitEthernet channelize detail`
- `show interfaces gigabitEthernet channelize {slot/port[-slot/port][,...]}`
- `show interfaces gigabitEthernet channelize`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`{slot/port[-slot/port][,...]}`	Display the channelization information for the base port list.
`detail {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Display the detailed channelization information for sub-ports.

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show interfaces gigabitethernet config

Show the configuration for specific ports and VLANs to manage network performance.

Syntax

- `show interfaces gigabitEthernet config`
- `show interfaces gigabitEthernet config <1-4059>`
- `show interfaces gigabitEthernet config {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.
`<1-4059>`	Identifies the slot and port.

show interfaces gigabitethernet fdb-entry

Show the forwarding database (FDB) entries for the port.

Syntax

- `show interfaces gigabitEthernet fdb-entry`
- `show interfaces gigabitEthernet fdb-entry <1-4059>`
- `show interfaces gigabitEthernet fdb-entry {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.
`<1-4059>`	Specifies the VLAN ID.

show interfaces gigabitethernet high-secure

Show the high-secure configuration for the port.

Syntax

- `show interfaces gigabitEthernet high-secure {slot/port[/sub-port][-slot/port[/sub-port]][,...]} <1-4059>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.
`<1-4059>`	Specifies the VLAN ID.

show interfaces gigabitethernet interface

Show general port information.

Syntax

- `show interfaces gigabitEthernet interface`
- `show interfaces gigabitEthernet interface <1-4059>`
- `show interfaces gigabitEthernet interface {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.
`<1-4059>`	Specifies the VLAN ID.

show interfaces gigabitethernet l1-config

Show Layer 1 configuration information for the port.

Syntax

- `show interfaces gigabitEthernet l1-config`
- `show interfaces gigabitEthernet l1-config <1-4059>`
- `show interfaces gigabitEthernet l1-config {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.
`<1-4059>`	Specifies the VLAN ID.

show interfaces gigabitethernet name

Show port names and general configuration information.

Syntax

- `show interfaces gigabitEthernet name`
- `show interfaces gigabitEthernet name <1-4059>`
- `show interfaces gigabitEthernet name {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.
`<1-4059>`	Specifies the VLAN ID.

show interfaces gigabitethernet ospf

Shows OSPF port information.

Syntax

- `show interfaces gigabitEthernet ospf`
- `show interfaces gigabitEthernet ospf <1-4059>`
- `show interfaces gigabitEthernet ospf {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.
`<1-4059>`	Specifies the VLAN ID.

show interfaces gigabitethernet private-vlan

Shows Private VLAN information for the port.

Syntax

- `show interfaces gigabitethernet private-vlan <2-4059>`
- `show interfaces gigabitethernet private-vlan {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.
`<2-4059>`	Specifies the VLAN ID.

show interfaces gigabitethernet rate-limit

Show rate-limit configuration information for the port.

Syntax

- `show interfaces gigabitEthernet rate-limit`
- `show interfaces gigabitEthernet rate-limit <1-4059>`
- `show interfaces gigabitEthernet rate-limit {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

Privileged EXEC

show interfaces gigabitethernet shape

Show the configuration for egress rate-limiting on the port.

Syntax

- `show interfaces gigabitEthernet shape`
- `show interfaces gigabitEthernet shape {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.

show interfaces gigabitethernet slpp

Display the simple loop prevention protocol (SLPP) configuration information for the port.

Syntax

- `show interfaces gigabitEthernet slpp`
- `show interfaces gigabitEthernet slpp {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.

show interfaces gigabitethernet state

Shows the state of the port.

Syntax

- `show interfaces gigabitEthernet state`
- `show interfaces gigabitEthernet state <1-4059>`
- `show interfaces gigabitEthernet state {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.
`<1-4059>`	Specifies the VLAN ID.

show interfaces gigabitethernet statistics

Display the statistics of a port, for all ports, or for a VLAN.

Syntax

- `show interfaces gigabitEthernet statistics`
- `show interfaces gigabitEthernet statistics {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show interfaces gigabitEthernet statistics rate-limiting`

Default

None

Command mode

Privileged EXEC

show interfaces gigabitethernet statistics dhcp-relay

Show Dynamic Host Configuration Protocol (DHCP) Relay information to view DHCP parameter information for one port, for all ports, or for a VLAN.

Syntax

- `show interfaces gigabitEthernet statistics dhcp-relay`
- `show interfaces gigabitEthernet statistics dhcp-relay {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show interfaces gigabitEthernet statistics dhcp-relay vrf WORD<0-16>`
- `show interfaces gigabitEthernet statistics dhcp-relay vrfids WORD<0-512>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Displays all statistics by port.
`vrf WORD<0-16>`	Displays all statistics by port.
`vrfids WORD<0-512>`	Specifies the slot and the port number.

show interfaces gigabitethernet statistics lacp

Display individual Link Aggregation Control Protocol (LACP) statistics for specific ports to manage network performance.

Syntax

- `show interfaces gigabitEthernet statistics lacp`
- `show interfaces gigabitEthernet statistics lacp {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	The name of the slot. The range is 0 to 16.

show interfaces gigabitethernet statistics rmon

Display individual Remote Network Monitoring (RMON) statistics for specific ports to manage network performance.

Syntax

- `show interfaces gigabitEthernet statistics rmon`
- `show interfaces gigabitEthernet statistics rmon {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show interfaces gigabitEthernet statistics rmon history`
- `show interfaces gigabitEthernet statistics rmon history {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Displays all statistics by port.
`history`	Displays all statistics by port.
`history {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Displays all statistics by port.

show interfaces gigabitethernet statistics verbose

Display individual verbose statistics for specific ports to manage network performance.

Syntax

- `show interfaces gigabitEthernet statistics verbose`
- `show interfaces gigabitEthernet statistics verbose {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Displays Remote Network Monitoring (RMON) history statistics.

show interfaces gigabitethernet vlan

Show VLAN information for the port.

Syntax

- `show interfaces gigabitEthernet vlan`
- `show interfaces gigabitEthernet vlan <1-4059>`
- `show interfaces gigabitEthernet vlan {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Displays all statistics by port.
`<1-4059>`	Displays all statistics by VLAN.

show interfaces gigabitethernet vrfs

Show VRF-association information for the port..

Syntax

- `show interfaces gigabitEthernet vrfs`
- `show interfaces gigabitEthernet vrfs {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show interfaces gigabitEthernet vrfs vrf WORD<0-16>`
- `show interfaces gigabitEthernet vrfs vrfids WORD<0-512>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.
`vrf WORD<0-16>`	Specifies a VRF instance by name.
`vrfids WORD<0-512>`	Specifies a range of VRFs by ID number.

show interfaces loopback

Show loopback interface information

Syntax

- `show interfaces loopback vrf WORD <0-16> vrfids WORD<0-512>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`vrf WORD<0-16>`	Displays the loopback information for the associated VRF name. WORD<0-16> specifies the VRF name in the range of 0 to 16 characters.
`vrfids WORD<0-512>`	Displays the loopback configuration for the specified VRF IDs. WORD<0-512> specifies the VRF IDs in the range of 0 to 512.

show interfaces mgmtethernet

Show configuration information for MgmtEthernet ports.

Syntax

- `show interfaces mgmtEthernet`

Default

None

Command mode

Privileged EXEC

show interfaces mgmtethernet config-L1

Show port config-L1 information.

Syntax

- `show interfaces mgmtethernet config-L1`

Default

None

Command mode

Privileged EXEC

show interfaces mgmtethernet error

Show port general error information

Syntax

- `show interfaces mgmtethernet error {collision|verbose}`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
collision	Shows management port collision error information.
verbose	Displays all statistics by management port.

show interfaces mgmtethernet statistics

Display individual statistics for specific management ports to manage network performance.

Syntax

- `show interfaces mgmtEthernet statistics`
- `show interfaces mgmtEthernet statistics verbose`

Default

None

Command mode

Privileged EXEC

show interfaces vlan

Show basic and advanced VLAN information.

Syntax

- `show interfaces vlan`
- `show interfaces vlan <1-4059>`

Default

None

Command mode

Privileged EXEC

show interfaces vlan arp

Display Address Resolution Protocol (ARP) information for the VLAN.

Syntax

- `show interfaces vlan arp`
- `show interfaces vlan arp <1-4059>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
<1-4059>	Specifies the VLAN ID.

show interfaces vlan autolearn-mac

Show bridging autolearn MAC address information for VLANs.

Syntax

- `show interfaces vlan autolearn-mac`

Default

None

Command mode

Privileged EXEC

show interfaces vlan dhcp-relay

Show Dynamic Host Configuration Protocol (DHCP) information for the VLAN.

Syntax

- `show interfaces vlan dhcp-relay`
- `show interfaces vlan dhcp-relay <1-4059>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
<1-4059>	Specifies the VLAN ID.

show interfaces vlan ip

Show the IP configuration for the VLAN.

Syntax

- `show interfaces vlan ip`
- `show interfaces vlan ip <1-4059>`
- `show interfaces vlan ip vrf WORD<0-16>`
- `show interfaces vlan ip vrfids WORD<0-512>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`<1-4059>`	Specifies the VLAN ID.
`vrf WORD<0-16>`	Specifies the VLAN ID. Displays ip address for particular vrf
`vrfids WORD<0-512>`	Displays ip address information for particular vrfids.

show interfaces vlan manual-edit-mac

Display the manually-edited bridging MAC address information for VLANs.

Syntax

- `show interfaces vlan manual-edit-mac`

Default

None

Command mode

Privileged EXEC

show interfaces vlan nlb-mode

Show the Network Load Balancer (NLB) configuration for the VLAN.

Syntax

- `show interfaces vlan nlb-mode`
- `show interfaces vlan nlb-mode <1-4059>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
<1-4059>	Specifies the VLAN ID.

show interfaces vlan vlan-bysrcmac

Show source MAC-based VLAN information.

Syntax

- `show interfaces vlan vlan-bysrcmac`

Default

None

Command mode

Privileged EXEC

show interfaces vlan vrfs

Show VRF-association information for the VLAN.

Syntax

- `show interfaces vlan vrfs`
- `show interfaces vlan vrfs <1-4059>`
- `show interfaces vlan vrfs {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show interfaces vlan vrfs vrf WORD<0-16>`
- `show interfaces vlan vrfs vrfids WORD<0-512>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`vrfids WORD<0-512>`	Specifies a range of VRFs by ID number.
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.
`vrf WORD<0-16>`	Specifies a VRF instance by name.

show ip arp

Show ARP information to view the configuration information in the ARP table.

Syntax

- `show ip arp`
- `show ip arp {A.B.C.D}`
- `show ip arp gigabitEthernet {slot/port}`
- `show ip arp gigabitEthernet {slot/port} vrf WORD<0-16>`
- `show ip arp gigabitEthernet {slot/port} vrfids WORD<0-512>`
- `show ip arp -s {A.B.C.D} {A.B.C.D}`
- `show ip arp spbm-tunnel-as-mac`
- `show ip arp vlan <1-4059>`
- `show ip arp vrf WORD<0-16>`
- `show ip arp vrfids WORD<0-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
{A.B.C.D}	Specifies the specific subnet for the table.
gigabitEthernet {slot/port}	Specifies the specific subnet for the table.
gigabitEthernet {slot/port} vrf WORD<0-16>	Specifies the name of the VRF. The total number of ARPs listed in the summary line of the show ip arp display represents the total number of ARPs on the chassis including all VRFs (which includes the Mgmt Router VRF).
gigabitEthernet {slot/port} vrfids WORD<0-512>	Specifies the VRF ID. The total number of ARPs listed in the summary line of the show ip arp display represents the total number of ARPs on the chassis, including all VRFs (which includes the Mgmt Router VRF).

-s {A.B.C.D} {A.B.C.D}	Specifies the network IP address for the table.
spbm-tunnel-as-mac	Displays the remote host name in the TUNNEL column for the SPBM ARP entry.
vlan <1-4059>	Displays ARP entries for a particular VLAN ID. Use these parameters to display ARP table information specifically for: vrf WORD<0-16> - the VLAN VRF name vrfids WORD<0-512> - the VLAN VRF ID.
vrf WORD<0-16>	Specifies the name of the VRF. The total number of ARPs listed in the summary line of the show ip arp display represents the total number of ARPs on the chassis including all VRFs (which includes the Mgmt Router VRF).
vrfids WORD<0-512>	Specifies the VRF ID. The total number of ARPs listed in the summary line of the show ip arp display represents the total number of ARPs on the chassis, including all VRFs (which includes the Mgmt Router VRF).

show ip arp interface

Show ARP port information to display data about the specified port, all ports, or the VLAN.

Syntax

- `show ip arp interface`
- `show ip arp interface gigabitethernet`
- `show ip arp interface gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show ip arp interface vlan <1-4059>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.
`vlan <1-4059>`	Specifies the VLAN ID.

show ip bgp aggregates

Display information about current aggregate addresses.

Syntax

- `show ip bgp aggregates [<prefix/len>] [vrf WORD<1-16>] [vrfids WORD<0-255>]`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`<prefix/len>`	Specifies the IP address and the mask length (the length can be 0 to 32).
`vrf WORD<1-16>`	Specifies a VRF instance by name.
`vrfids WORD <0-512>`	Specifies a range of VRFs by ID number.

show ip bgp cidr-only

Display information about classless interdomain routing (CIDR) routes.

Syntax

- `show ip bgp cidr-only [<prefix/len>] [vrf WORD<1-16>] [vrfids WORD<0-512>]`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`<prefix/len>`	Specifies an exact match of the prefix. This is an IP address and an integer value between 0 and 32 in the format a.b.c.d/xx.
`vrf WORD<1-16>`	Specifies a VRF instance by name.
`vrfids WORD<0-512>`	Specifies a range of VRFs by ID number.

show ip bgp confederation

View BGP confederation information on the switch.

Syntax

- `show ip bgp confederation`

Default

None

Command mode

User EXEC

show ip bgp dampened-paths

Display information about flap-dampened routes to determine unreliable routes.

Syntax

- `show ip bgp dampened-paths <A.B.C.D> [<prefix/len>] [longer-prefixes] [vrf WORD<1-16>] [vrfids WORD<0-512>]`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`<prefix/len>`	Shows paths with this prefix. The prefix is the IP address and exact mask length (must be an integer value between 0 and 32).
`longer-prefixes`	Shows long prefixes. The longer-prefixes indicate the mask length from any specified prefix to 32 (for example, show from prefix a.b.c.d/len to a.b.c./32).
`vrf WORD<1-16>`	Specifies a VRF instance by name.
`vrfids WORD<0-512>`	Specifies a range of VRFs by ID number.

show ip bgp flap-damp-config

Display global information about flap-dampening.

Syntax

- `show ip bgp flap-damp-config [<prefix/len>] [vrf WORD<1-16>] [vrfids WORD<0-512>]`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`[<prefix/len>]`	Specifies the exact match the prefix {a,b,c,d/len}.
`vrf WORD<1-16>`	Displays BGP configuration for a particular VRF.
`vrfids WORD<0-512>`	Specifies the VRF ID in the range of 0 to 512.

show ip bgp imported-routes

Display information about BGP imported routes.

Syntax

- `show ip bgp imported-routes [<prefix/len>][longer-prefixes] [vrf WORD<1-16>] [vrfids WORD<0-512>]`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`<prefix/len>`	Shows paths with this prefix. The prefix is the IP address and exact mask length (must be an integer value between 0 and 32).
`longer-prefixes`	Shows long prefixes. The longer-prefixes indicate the mask length from any specified prefix to 32 (for example, show from prefix a.b.c.d/len to a.b.c./32).
`vrf WORD<1-16>`	Specifies a VRF instance by name.
`vrfids WORD<0-512>`	Specifies a range of VRFs by ID number.

show ip bgp neighbors

Display information about BGP peer advertised routes, peer routes, and IP VPN BGP peers.

Syntax

- `show ip bgp neighbors [{A.B.C.D}] [advertised-routes][<prefix/len>] [vrf WORD<1-16>] [vrfids WORD<0-512>]`
- `show ip bgp neighbors [{A.B.C.D}][vrf WORD<1-16>][vrfids WORD<0-512>]`
- `show ip bgp neighbors {A.B.C.D} routes [<prefix/len>][community <disable|enable>] [longer-prefixes] [vrf WORD<1-16>] [vrfids WORD<0-512>]`
- `show ip bgp neighbors {A.B.C.D} stats [vrf WORD<1-16>][vrfids WORD<0-512>]`
- `show ip bgp neighbors {A.B.C.D} vpnv4 [<prefix/len>][community <disable|enable>] [ext-community][longer-prefixes] [vrf WORD<1-16>] [vrfids WORD<0-512>]`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`<prefix/len>`	Shows paths with this prefix. The prefix is the IP address and exact mask length (must be an integer value between 0 and 32).
`advertised-routes`	Displays information about BGP peer advertised routes.
`community`	Enables the display of community attributes.
`ext-community`	Enables the display of extended community attributes.
`longer-prefixes`	Shows long prefixes. The longer-prefixes indicate the mask length from any specified prefix to 32 (for example, show from prefix a.b.c.d/len to a.b.c.d/32).
`routes`	Displays information about BGP peer routes.
`stats`	Displays statistics information for BGP peers.
`vpnv4`	Displays information about IP VPN BGP peers.
`vrf WORD<1-16>`	Specifies a VRF instance by name.
`vrfids`	

WORD<0-512>	Specifies a range of VRFs by ID number.

show ip bgp networks

Display information about BGP network configurations.

Syntax

- `show ip bgp networks [<prefix/len>] [vrf WORD<1-16>] [vrfids WORD<0-255>]`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`<prefix/len>`	Shows networks with this prefix. The prefix is the IP address and exact mask length (must be an integer value between 0 and 32).
`vrf WORD<1-16>`	Specifies a VRF instance by name.
`vrfids WORD<0-255>`	Specifies a range of VRFs by ID number.

show ip bgp peer-group

Display information about BGP peer groups.

Syntax

- `show ip bgp peer-group [WORD<0-1536>] [vrf WORD<1-16>] [vrfids WORD<0-512>]`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`vrf WORD<1-16>`	Specifies a VRF instance by name.
`vrfids WORD<0-512>`	Specifies a range of VRFs by ID number.
`WORD<0-1536>`	Specifies the name of the peer group.

show ip bgp redistributed-routes

View BGP redistribution information on the switch.

Syntax

- `show ip bgp redistributed-routes <prefix/len> vrf WORD<1-16> vrfids WORD<0-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`<prefix/len>`	Shows paths with this prefix. The prefix is the IP address and exact mask length (must be an integer value between 0 and 32).
`vrf WORD<1-16>`	Specifies a VRF instance by name.
`vrfids WORD<0-512>`	Specifies a range of VRFs by ID number.

show ip bgp route

Display information about BGP routes.

Syntax

- `show ip bgp route [<prefix/len>] [longer-prefixes][community <enable|disable>] [ip <A.B.C.D>][vrf WORD<1-16>] [vrfids WORD<0-512>]`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`<prefix/len>`	Shows paths with this prefix. The prefix is the IP address and exact mask length (must be an integer value between 0 and 32).
`community <enable|disable>`	Enables or disables the display of community attributes.
`ip <A.B.C.D>`	Specifies an IP address.
`longer-prefixes`	Shows long prefixes. The longer-prefixes indicate the mask length from any specified prefix to 32 (for example, show from prefix a.b.c.d/len to a.b.c./32).
`vrf WORD<1-16>`	Specifies a VRF instance by name.
`vrfids WORD<0-512>`	Specifies a range of VRFs by ID number.

show ip bgp stats

View Border Gateway Protocol (BGP) statistics.

Syntax

- `show ip bgp stats`
- `show ip bgp stats vrf WORD<1-16>`
- `show ip bgp stats vrf WORD<1-16> vrfids WORD<0-512>`
- `show ip bgp stats vrfids WORD<0-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`vrf WORD<1-16>`	Specifies a VRF instance by name.
`vrfids WORD<0-512>`	Specifies a range of VRFs by ID number.

show ip bgp summary

Display summarized information about Border Gateway Protocol (BGP).

Syntax

- `show ip bgp summary [vrf WORD<1-16>] [vrfids WORD<0-512>]`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`vrf WORD<1-16>`	Specifies a VRF instance by name.
`vrfids WORD <0-512>`	Specifies a range of VRFs by ID number.

show ip dhcp-relay

Display relay information to show relay information about Dynamic Host Configuration Protocol (DHCP) routes and counters.

Syntax

- show ip dhcp-relay counters
- show ip dhcp-relay counters option82
- show ip dhcp-relay counters vrf WORD<0-16>
- show ip dhcp-relay counters vrfids WORD<0-512>
- show ip dhcp-relay fwd-path
- show ip dhcp-relay fwd-path vrf WORD<0-16>
- show ip dhcp-relay fwd-path vrfids WORD<0-512>
- show ip dhcp-relay interface
- show ip dhcp-relay interface gigabitethernet
- show ip dhcp-relay interface gigabitethernet <1-4059>
- show ip dhcp-relay interface gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- show ip dhcp-relay interface gigabitethernet vrf WORD<0-16>
- show ip dhcp-relay interface gigabitethernet vrfids WORD<0-512>
- show ip dhcp-relay interface vlan
- show ip dhcp-relay interface vlan <1-4059>
- show ip dhcp-relay interface vrf WORD<0-16>
- show ip dhcp-relay interface vrfids WORD<0-512>

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
counters	Displays the count of DHCP Relay requests and replies.
fwd-path	Displays information about DHCP Relay forward paths.
gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}	Identifies the slot and port.
interface	Specifies the interface.
option82	Shows statistics for the relay agent option.
vlan <1-4059>	Specifies the VLAN ID.
vrf WORD<0-16>	Specifies the name of the VRF.
vrfids <0-512>	Specifies the ID of the VRF. The value is an integer in the range of 0 to 512.

show ip directed-broadcast

Show the interface status for direct broadcast.

Syntax

- `show ip directed-broadcast interface`
- `show ip directed-broadcast interface GigabitEthernet`
- `show ip directed-broadcast interface GigabitEthernet {slot/port}`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`interface GigabitEthernet {slot/port}`	Identifies the slot in one of the following formats: a single slot (3), a range of slots (3-4), or a series of slots (3,5,6).

show ip dns

View the DNS client system status.

Syntax

- `show ip dns`

Default

None

Command mode

User EXEC

show ip ecmp

Display the prefix list of routes with number of ECMP paths.

Syntax

- show ip ecmp max-path
- show ip ecmp max-path vrf WORD<0-16>
- show ip ecmp max-path vrfids WORD<0-512>
- show ip ecmp pathlist-1
- show ip ecmp pathlist-1 vrf WORD<0-16>
- show ip ecmp pathlist-1 vrfids WORD<0-512>
- show ip ecmp pathlist-2
- show ip ecmp pathlist-2 vrf WORD<0-16>
- show ip ecmp pathlist-2 vrfids WORD<0-512>
- show ip ecmp pathlist-3
- show ip ecmp pathlist-3 vrf WORD<0-16>
- show ip ecmp pathlist-3 vrfids WORD<0-512>
- show ip ecmp pathlist-4
- show ip ecmp pathlist-4 vrf WORD<0-16>
- show ip ecmp pathlist-4 vrfids WORD<0-512>
- show ip ecmp pathlist-5
- show ip ecmp pathlist-5 vrf WORD<0-16>
- show ip ecmp pathlist-5 vrfids WORD<0-512>
- show ip ecmp pathlist-6
- show ip ecmp pathlist-6 vrf WORD<0-16>
- show ip ecmp pathlist-6 vrfids WORD<0-512>
- show ip ecmp pathlist-7
- show ip ecmp pathlist-7 vrf WORD<0-16>

- `show ip ecmp pathlist-7 vrfids WORD<0-512>`
- `show ip ecmp pathlist-8`
- `show ip ecmp pathlist-8 vrf WORD<0-16>`
- `show ip ecmp pathlist-8 vrfids WORD<0-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`max-path`	Configures the maximum number of Equal Cost Multipath (ECMP) paths.
`vrf WORD<0-16>`	Displays the prefix list of routes for a particular VRF. WORD<0-16> specifies the VRF name.
`vrfids WORD<0-512>`	Displays the prefix list of routes for a particular VRF ID. WORD<0-512> specifies the VRF ID.

show ip forward-protocol udp

Display the UDP protocol table with the UDP port numbers for each supported or designated protocol.

Syntax

- `show ip forward-protocol udp`
- `show ip forward-protocol udp interface`
- `show ip forward-protocol udp interface {A.B.C.D}`
- `show ip forward-protocol udp interface vrf WORD<0-16>`
- `show ip forward-protocol udp interface vrfids WORD<0-512>`
- `show ip forward-protocol udp vrf WORD<0-16>`
- `show ip forward-protocol udp vrfids WORD<0-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`interface <A.B.C.D>`	Displays information about the UDP interface for all IP addresses or a specified IP address.
`portfwd`	Displays the UDP port forwarding table.
`portfwdlist <1-1000>`	Displays the UDP port forwarding list table for the specified list or all lists on the switch. <1-1000> specifies the port forward list ID.
`vrf WORD<0-16>`	Specifies the name of the VRF in the range of 0 to 16 characters.
`vrfids <0-512>`	Specifies the ID of the port and is an integer in the range of 0 to 512.

show ip forward-protocol udp portfwd

View and confirm the port forward entry configuration.

Syntax

- `show ip forward-protocol udp portfwd`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`vrf WORD<0-16>`	Specifies the name of the VRF in the range of 0 to 16 characters.
`vrfids <0-512>`	Specifies the ID of VRF and is an integer between 0 and 512.

show ip forward-protocol udp portfwdlist

View and confirm the configuration setting on the IP forwarding list.

Syntax

- `show ip forward-protocol udp portfwdlist`
- `show ip forward-protocol udp portfwdlist <1-1000>`
- `show ip forward-protocol udp portfwdlist vrf WORD<0-16>`
- `show ip forward-protocol udp portfwdlist vrfids WORD<0-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`<1-1000>`	Specifies the port forward list id which is an integer in the range of 1 to 1000.
`vrf WORD<0-16>`	Specifies the name of the VRF in the range of 0 to 16 characters.
`vrfids <0-512>`	Specifies the ID of the port and is an integer in the range of 0 to 512.

show ip igmp access

Displays information about the Internet Group Management Protocol (IGMP) multicast access control groups. If you do not specify a VRF name or range of VRF IDs, the results show information for the Global Router. If you do specify a VRF name or range of VRF IDs, the results show information only for the VRFs you specify.

Syntax

- `show ip igmp access`
- `show ip igmp access vrf WORD<0-16>`
- `show ip igmp access vrfids WORD<0-512>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`vrf WORD<0-16>`	Specifies a VRF by name.
`vrfids <0-512>`	Specifies a VRF by ID.

show ip igmp cache

Displays information about the IGMP cache. If you do not specify a VRF name or range of VRF IDs, the results show information for the Global Router. If you do specify a VRF name or range of VRF IDs, the results show information only for the VRFs you specify.

Syntax

- `show ip igmp cache`
- `show ip igmp cache vrf WORD<0-16>`
- `show ip igmp cache vrfids WORD<0-512>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`vrf WORD<0-16>`	Specifies a VRF by name.
`vrfids <0-512>`	Specifies a VRF by ID.

show ip igmp group

Displays information about a statically configured or dynamically learned IGMP group. If you do not specify a VRF name or range of VRF IDs, the results show information for the Global Router. If you do specify a VRF name or range of VRF IDs, the results show information only for the VRFs you specify.

Syntax

- `show ip igmp group`
- `show ip igmp group vrf WORD<0-16>`
- `show ip igmp group vrfids WORD<0-512>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`vrf WORD<0-16>`	Specifies a VRF by name.
`vrfids <0-512>`	Specifies a VRF by ID.

show ip igmp group count

Displays the number of entries in the IGMP group. If you do not specify a VRF name or range of VRF IDs, the results show information for the Global Router. If you do specify a VRF name or range of VRF IDs, the results show information only for the VRFs you specify.

Syntax

- `show ip igmp group count`
- `show ip igmp group count vrf WORD<0-16>`
- `show ip igmp group count vrfids WORD<0-512>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`vrf WORD<0-16>`	Specifies a VRF by name.
`vrfids <0-512>`	Specifies a VRF by ID.

show ip igmp group group <A.B.C.D>

Displays information for a specific group address. If you do not specify a VRF name or range of VRF IDs, the results show information for the Global Router. If you do specify a VRF name or range of VRF IDs, the results show information only for the VRFs you specify.

Syntax

- `show ip igmp group group {A.B.C.D}`
- `show ip igmp group group {A.B.C.D} detail`
- `show ip igmp group group {A.B.C.D} detail port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show ip igmp group group {A.B.C.D} detail port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} vlan <1-4059>`
- `show ip igmp group group {A.B.C.D} detail port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} vrf WORD<0-16>`
- `show ip igmp group group {A.B.C.D} detail port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} vrfids WORD<0-512>`
- `show ip igmp group group {A.B.C.D} detail vlan <1-4059>`
- `show ip igmp group group {A.B.C.D} detail vlan <1-4059> port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show ip igmp group group {A.B.C.D} detail vrf WORD<0-16>`
- `show ip igmp group group {A.B.C.D} detail vrfids WORD<0-512>`
- `show ip igmp group group {A.B.C.D} vrf WORD<0-16>`
- `show ip igmp group group {A.B.C.D} vrfids WORD<0-512>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
detail	Displays Internet Group Management Protocol version 3 (IGMPv3)-specific data

`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.
`vlan <1-4059>`	Specifies a VLAN ID.
`vrf WORD<0-16>`	Specifies a VRF by name.
`vrfids <0-512>`	Specifies a VRF by ID.

show ip igmp group group <A.B.C.D> tracked-members

Displays all the tracked members for a specific group. If you do not specify a VRF name or range of VRF IDs, the results show information for the Global Router. If you do specify a VRF name or range of VRF IDs, the results show information only for the VRFs you specify.

Syntax

- `show ip igmp group group {A.B.C.D} tracked-members`
- `show ip igmp group group {A.B.C.D} tracked-members member-subnet {A.B.C.D/X}`
- `show ip igmp group group {A.B.C.D} tracked-members member-subnet {A.B.C.D/X} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show ip igmp group group {A.B.C.D} tracked-members member-subnet {A.B.C.D/X} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} source-subnet {A.B.C.D/X}`
- `show ip igmp group group {A.B.C.D} tracked-members member-subnet {A.B.C.D/X} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} source-subnet {A.B.C.D/X} vlan <1-4059>`
- `show ip igmp group group {A.B.C.D} tracked-members member-subnet {A.B.C.D/X} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} source-subnet {A.B.C.D/X} vrf WORD<0-16>`
- `show ip igmp group group {A.B.C.D} tracked-members member-subnet {A.B.C.D/X} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} source-subnet {A.B.C.D/X} vrfids WORD<0-512>`
- `show ip igmp group group {A.B.C.D} tracked-members member-subnet {A.B.C.D/X} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} vlan <1-4059>`
- `show ip igmp group group {A.B.C.D} tracked-members member-subnet {A.B.C.D/X} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} vlan <1-4059> source-subnet {A.B.C.D/X}`
- `show ip igmp group group {A.B.C.D} tracked-members member-subnet {A.B.C.D/X} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} vrf WORD<0-16>`
- `show ip igmp group group {A.B.C.D} tracked-members member-subnet {A.B.C.D/X} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} vrfids WORD<0-512>`
- `show ip igmp group group {A.B.C.D} tracked-members member-subnet {A.B.C.D/X} source-subnet {A.B.C.D/X}`
- `show ip igmp group group {A.B.C.D} tracked-members member-subnet {A.B.C.D/X} source-subnet {A.B.C.D/X} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show ip igmp group group {A.B.C.D} tracked-members member-subnet {A.B.C.D/X} source-subnet {A.B.C.D/X} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} vlan <1-4059>`

- show ip igmp group group {A.B.C.D} tracked-members member-subnet {A.B.C.D/X} source-subnet {A.B.C.D/X} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} vrf WORD<0-16>
- show ip igmp group group {A.B.C.D} tracked-members member-subnet {A.B.C.D/X} source-subnet {A.B.C.D/X} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} vrfids WORD<0-512>
- show ip igmp group group {A.B.C.D} tracked-members member-subnet {A.B.C.D/X} source-subnet {A.B.C.D/X} vlan <1-4059>
- show ip igmp group group {A.B.C.D} tracked-members member-subnet {A.B.C.D/X} source-subnet {A.B.C.D/X} vlan <1-4059> port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- show ip igmp group group {A.B.C.D} tracked-members member-subnet {A.B.C.D/X} source-subnet {A.B.C.D/X} vrf WORD<0-16>
- show ip igmp group group {A.B.C.D} tracked-members member-subnet {A.B.C.D/X} source-subnet {A.B.C.D/X} vrfids WORD<0-512>
- show ip igmp group group {A.B.C.D} tracked-members member-subnet {A.B.C.D/X} vlan <1-4059>
- show ip igmp group group {A.B.C.D} tracked-members member-subnet {A.B.C.D/X} vlan <1-4059> port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- show ip igmp group group {A.B.C.D} tracked-members member-subnet {A.B.C.D/X} vlan <1-4059> port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} source-subnet {A.B.C.D/X}
- show ip igmp group group {A.B.C.D} tracked-members member-subnet {A.B.C.D/X} vlan <1-4059> source-subnet {A.B.C.D/X}
- show ip igmp group group {A.B.C.D} tracked-members member-subnet {A.B.C.D/X} vlan <1-4059> source-subnet {A.B.C.D/X} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- show ip igmp group group {A.B.C.D} tracked-members member-subnet {A.B.C.D/X} vrf WORD<0-16>
- show ip igmp group group {A.B.C.D} tracked-members member-subnet {A.B.C.D/X} vrfids WORD<0-512>
- show ip igmp group group {A.B.C.D} tracked-members port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- show ip igmp group group {A.B.C.D} tracked-members port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} member-subnet {A.B.C.D/X}
- show ip igmp group group {A.B.C.D} tracked-members port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} member-subnet {A.B.C.D/X} source-subnet {A.B.C.D/X}
- show ip igmp group group {A.B.C.D} tracked-members port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} member-subnet {A.B.C.D/X} source-subnet {A.B.C.D/X} vlan <1-4059>
- show ip igmp group group {A.B.C.D} tracked-members port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} member-subnet {A.B.C.D/X} source-subnet {A.B.C.D/X} vrf WORD<0-16>
- show ip igmp group group {A.B.C.D} tracked-members port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} member-subnet {A.B.C.D/X} source-subnet {A.B.C.D/X} vrfids WORD<0-512>

- show ip igmp group group {A.B.C.D} tracked-members port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} member-subnet {A.B.C.D/X} vlan <1-4059>
- show ip igmp group group {A.B.C.D} tracked-members port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} member-subnet {A.B.C.D/X} vlan <1-4059> source-subnet {A.B.C.D/X}
- show ip igmp group group {A.B.C.D} tracked-members port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} member-subnet {A.B.C.D/X} vrf WORD<0-16>
- show ip igmp group group {A.B.C.D} tracked-members port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} member-subnet {A.B.C.D/X} vrfids WORD<0-512>
- show ip igmp group group {A.B.C.D} tracked-members port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} source-subnet {A.B.C.D/X}
- show ip igmp group group {A.B.C.D} tracked-members port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} source-subnet {A.B.C.D/X} member-subnet {A.B.C.D/X}
- show ip igmp group group {A.B.C.D} tracked-members port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} source-subnet {A.B.C.D/X} member-subnet {A.B.C.D/X} vlan <1-4059>
- show ip igmp group group {A.B.C.D} tracked-members port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} source-subnet {A.B.C.D/X} member-subnet {A.B.C.D/X} vrf WORD<0-16>
- show ip igmp group group {A.B.C.D} tracked-members port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} source-subnet {A.B.C.D/X} member-subnet {A.B.C.D/X} vrfids WORD<0-512>
- show ip igmp group group {A.B.C.D} tracked-members port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} source-subnet {A.B.C.D/X} vlan <1-4059>
- show ip igmp group group {A.B.C.D} tracked-members port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} source-subnet {A.B.C.D/X} vlan <1-4059> member-subnet {A.B.C.D/X}
- show ip igmp group group {A.B.C.D} tracked-members port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} source-subnet {A.B.C.D/X} vrf WORD<0-16>
- show ip igmp group group {A.B.C.D} tracked-members port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} source-subnet {A.B.C.D/X} vrfids WORD<0-512>
- show ip igmp group group {A.B.C.D} tracked-members port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} vlan <1-4059>
- show ip igmp group group {A.B.C.D} tracked-members port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} vlan <1-4059> member-subnet {A.B.C.D/X}
- show ip igmp group group {A.B.C.D} tracked-members port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} vlan <1-4059> member-subnet {A.B.C.D/X} source-subnet {A.B.C.D/X}
- show ip igmp group group {A.B.C.D} tracked-members port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} vlan <1-4059> source-subnet {A.B.C.D/X}
- show ip igmp group group {A.B.C.D} tracked-members port {slot/port[/sub-port][-

slot/port[/sub-port]][,...]} vlan <1-4059> source-subnet {A.B.C.D/X} member-subnet {A.B.C.D/X}

- show ip igmp group group {A.B.C.D} tracked-members port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} vrf WORD<0-16>
- show ip igmp group group {A.B.C.D} tracked-members port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} vrfids WORD<0-512>
- show ip igmp group group {A.B.C.D} tracked-members source-subnet {A.B.C.D/X}
- show ip igmp group group {A.B.C.D} tracked-members source-subnet {A.B.C.D/X} member-subnet {A.B.C.D/X}
- show ip igmp group group {A.B.C.D} tracked-members source-subnet {A.B.C.D/X} member-subnet {A.B.C.D/X} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- show ip igmp group group {A.B.C.D} tracked-members source-subnet {A.B.C.D/X} member-subnet {A.B.C.D/X} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} vlan <1-4059>
- show ip igmp group group {A.B.C.D} tracked-members source-subnet {A.B.C.D/X} member-subnet {A.B.C.D/X} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} vrf WORD<0-16>
- show ip igmp group group {A.B.C.D} tracked-members source-subnet {A.B.C.D/X} member-subnet {A.B.C.D/X} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} vrfids WORD<0-512>
- show ip igmp group group {A.B.C.D} tracked-members source-subnet {A.B.C.D/X} member-subnet {A.B.C.D/X} vlan <1-4059>
- show ip igmp group group {A.B.C.D} tracked-members source-subnet {A.B.C.D/X} member-subnet {A.B.C.D/X} vlan <1-4059> port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- show ip igmp group group {A.B.C.D} tracked-members source-subnet {A.B.C.D/X} member-subnet {A.B.C.D/X} vrf WORD<0-16>
- show ip igmp group group {A.B.C.D} tracked-members source-subnet {A.B.C.D/X} member-subnet {A.B.C.D/X} vrfids WORD<0-512>
- show ip igmp group group {A.B.C.D} tracked-members source-subnet {A.B.C.D/X} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- show ip igmp group group {A.B.C.D} tracked-members source-subnet {A.B.C.D/X} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} member-subnet {A.B.C.D/X}
- show ip igmp group group {A.B.C.D} tracked-members source-subnet {A.B.C.D/X} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} member-subnet {A.B.C.D/X} vlan <1-4059>
- show ip igmp group group {A.B.C.D} tracked-members source-subnet {A.B.C.D/X} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} member-subnet {A.B.C.D/X} vrf WORD<0-16>
- show ip igmp group group {A.B.C.D} tracked-members source-subnet {A.B.C.D/X} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} member-subnet {A.B.C.D/X} vrfids WORD<0-512>
- show ip igmp group group {A.B.C.D} tracked-members source-subnet {A.B.C.D/X} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} vlan <1-4059>
- show ip igmp group group {A.B.C.D} tracked-members source-subnet {A.B.C.D/X} port

{slot/port[/sub-port][-slot/port[/sub-port]][,...]} vlan <1-4059> member-subnet {A.B.C.D/X}

- show ip igmp group group {A.B.C.D} tracked-members source-subnet {A.B.C.D/X} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} vrf WORD<0-16>
- show ip igmp group group {A.B.C.D} tracked-members source-subnet {A.B.C.D/X} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} vrfids WORD<0-512>
- show ip igmp group group {A.B.C.D} tracked-members source-subnet {A.B.C.D/X} vlan <1-4059>
- show ip igmp group group {A.B.C.D} tracked-members source-subnet {A.B.C.D/X} vlan <1-4059> member-subnet {A.B.C.D/X}
- show ip igmp group group {A.B.C.D} tracked-members source-subnet {A.B.C.D/X} vlan <1-4059> member-subnet {A.B.C.D/X} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- show ip igmp group group {A.B.C.D} tracked-members source-subnet {A.B.C.D/X} vlan <1-4059> port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- show ip igmp group group {A.B.C.D} tracked-members source-subnet {A.B.C.D/X} vlan <1-4059> port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} member-subnet {A.B.C.D/X}
- show ip igmp group group {A.B.C.D} tracked-members source-subnet {A.B.C.D/X} vrf WORD<0-16>
- show ip igmp group group {A.B.C.D} tracked-members source-subnet {A.B.C.D/X} vrfids WORD<0-512>
- show ip igmp group group {A.B.C.D} tracked-members vlan <1-4059>
- show ip igmp group group {A.B.C.D} tracked-members vlan <1-4059> member-subnet {A.B.C.D/X}
- show ip igmp group group {A.B.C.D} tracked-members vlan <1-4059> member-subnet {A.B.C.D/X} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- show ip igmp group group {A.B.C.D} tracked-members vlan <1-4059> member-subnet {A.B.C.D/X} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} source-subnet {A.B.C.D/X}
- show ip igmp group group {A.B.C.D} tracked-members vlan <1-4059> member-subnet {A.B.C.D/X} source-subnet {A.B.C.D/X}
- show ip igmp group group {A.B.C.D} tracked-members vlan <1-4059> member-subnet {A.B.C.D/X} source-subnet {A.B.C.D/X} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- show ip igmp group group {A.B.C.D} tracked-members vlan <1-4059> port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- show ip igmp group group {A.B.C.D} tracked-members vlan <1-4059> port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} member-subnet {A.B.C.D/X}
- show ip igmp group group {A.B.C.D} tracked-members vlan <1-4059> port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} member-subnet {A.B.C.D/X} source-subnet {A.B.C.D/X}
- show ip igmp group group {A.B.C.D} tracked-members vlan <1-4059> port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} source-subnet {A.B.C.D/X}
- show ip igmp group group {A.B.C.D} tracked-members vlan <1-4059> port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} source-subnet {A.B.C.D/X} member-subnet {A.B.C.D/X}
- show ip igmp group group {A.B.C.D} tracked-members vlan <1-4059> source-subnet {A.B.C.D/X}

- `show ip igmp group group {A.B.C.D} tracked-members vlan <1-4059> source-subnet {A.B.C.D/X} member-subnet {A.B.C.D/X}`
- `show ip igmp group group {A.B.C.D} tracked-members vlan <1-4059> source-subnet {A.B.C.D/X} member-subnet {A.B.C.D/X} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show ip igmp group group {A.B.C.D} tracked-members vlan <1-4059> source-subnet {A.B.C.D/X} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show ip igmp group group {A.B.C.D} tracked-members vlan <1-4059> source-subnet {A.B.C.D/X} port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} member-subnet {A.B.C.D/X}`
- `show ip igmp group group {A.B.C.D} tracked-members vrf WORD<0-16>`
- `show ip igmp group group {A.B.C.D} tracked-members vrfids WORD<0-512>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`member-subnet {A.B.C.D/X}`	Specifies the IP address and mask of the IGMP member.
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.
`source-subnet {A.B.C.D/X}`	Specifies the source IP address and the subnet mask.
`vlan <1-4059>`	Specifies a VLAN ID.
`vrf WORD<0-16>`	Specifies a VRF by name.
`vrfids <0-512>`	Specifies a VRF by ID.

show ip igmp group member-subnet

Displays information for a specific IP address and mask of the IGMP member. If you do not specify a VRF name or range of VRF IDs, the results show information for the Global Router. If you do specify a VRF name or range of VRF IDs, the results show information only for the VRFs you specify.

Syntax

- `show ip igmp group member-subnet {A.B.C.D/X}`
- `show ip igmp group member-subnet {A.B.C.D/X} vrf WORD<0-16>`
- `show ip igmp group member-subnet {A.B.C.D/X} vrfids WORD<0-512>`
- `show ip igmp group member-subnet default`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
{A.B.C.D/X}	Specifies the IP address and mask of the IGMP member.
default	Shows information for the default IP address.
vrf WORD<0-16>	Specifies a VRF by name.
vrfids <0-512>	Specifies a VRF by ID.

show ip igmp interface

Displays information about the interfaces where Internet Group Management Protocol (IGMP) is enabled. If you do not specify a VRF name or range of VRF IDs, the results show information for the Global Router. If you do specify a VRF name or range of VRF IDs, the results show information only for the VRFs you specify.

Syntax

- `show ip igmp interface`
- `show ip igmp interface gigabitethernet`
- `show ip igmp interface gigabitethernet <1-4059>`
- `show ip igmp interface gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show ip igmp interface vlan`
- `show ip igmp interface vlan <1-4059>`
- `show ip igmp interface vlan vrf WORD<0-16>`
- `show ip igmp interface vlan vrfids WORD<0-512>`
- `show ip igmp interface vrf WORD<0-16>`
- `show ip igmp interface vrfids WORD<0-512>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`<1-4059>`	Specifies the VLAN ID.
`gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Specifies the port.
`interface`	Shows Internet Group Management Protocol (IGMP) interfaces.
`vlan <1-4059>`	Specifies the VLAN ID.
`vrf WORD<0-16>`	Specifies a VRF by name.
`vrfids <0-512>`	Specifies a VRF by ID.

VSP 8000 Series Release 4.2.1
NN47227-104 VSP 8000 Series Avaya Command Line Reference Guide
Version 05.01 June 2015

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show ip igmp mrdisc

Displays information about the Internet Group Management Protocol (IGMP) multicast discovery routes. If you do not specify a VRF name or range of VRF IDs, the results show information for the Global Router. If you do specify a VRF name or range of VRF IDs, the results show information only for the VRFs you specify.

Syntax

- `show ip igmp mrdisc`
- `show ip igmp mrdisc vrf WORD<0-16>`
- `show ip igmp mrdisc vrfids WORD<0-512>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`vrf WORD<0-16>`	Specifies a VRF by name.
`vrfids <0-512>`	Specifies a VRF by ID.

show ip igmp mrdisc neighbors

Display information about the Internet Group Management Protocol (IGMP) multicast router discovery neighbors. If you do not specify a VRF name or range of VRF IDs, the results show information for the Global Router. If you do specify a VRF name or range of VRF IDs, the results show information only for the VRFs you specify.

Syntax

- `show ip igmp mrdisc neighbors`
- `show ip igmp mrdisc neighbors vrf WORD<0-16>`
- `show ip igmp mrdisc neighbors vrfids WORD<0-512>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`vrf WORD<0-16>`	Specifies a VRF by name.
`vrfids <0-512>`	Specifies a VRF by ID.

show ip igmp router-alert

Display the status of Internet Group Management Protocol (IGMP) router alert. If you do not specify a VRF name or range of VRF IDs, the results show information for the Global Router. If you do specify a VRF name or range of VRF IDs, the results show information only for the VRFs you specify.

Syntax

- `show ip igmp router-alert`
- `show ip igmp router-alert vrf WORD<0-16>`
- `show ip igmp router-alert vrfids WORD<0-512>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`vrf WORD<0-16>`	Specifies a VRF by name.
`vrfids <0-512>`	Specifies a VRF by ID.

show ip igmp sender

Display information about the Internet Group Management Protocol (IGMP) senders.

Syntax

- `show ip igmp sender`
- `show ip igmp sender group {A.B.C.D}`
- `show ip igmp sender group {A.B.C.D} vrf WORD<0-16>`
- `show ip igmp sender group {A.B.C.D} vrfids WORD<0-512>`
- `show ip igmp sender member-subnet {A.B.C.D/X}`
- `show ip igmp sender member-subnet {A.B.C.D/X} vrf WORD<0-16>`
- `show ip igmp sender member-subnet {A.B.C.D/X} vrfids WORD<0-512>`
- `show ip igmp sender member-subnet default`
- `show ip igmp sender vrf WORD<0-16>`
- `show ip igmp sender vrfids WORD<0-512>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`vrf WORD<0-16>`	Specifies a VRF by name.
`vrfids <0-512>`	Specifies a VRF by ID.

show ip igmp snooping

Display the status of Internet Group Management Protocol (IGMP) snoop.

Syntax

- `show ip igmp snooping`
- `show ip igmp snooping vrf WORD<0-16>`
- `show ip igmp snooping vrfids WORD<0-512>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`vrf WORD<0-16>`	Specifies a VRF by name.
`vrfids <0-512>`	Specifies a VRF by ID.

show ip igmp snoop-trace

View multicast group trace information for Internet Group Management Protocol (IGMP) snoop.

Syntax

- `show ip igmp snoop-trace [source <A.B.C.D>] [group <A.B.C.D>]`
- `show ip igmp snoop-trace group {A.B.C.D} vrf WORD<0-16>`
- `show ip igmp snoop-trace group {A.B.C.D} vrfids WORD<0-512>`
- `show ip igmp snoop-trace source {A.B.C.D} vrf WORD<0-16>`
- `show ip igmp snoop-trace source {A.B.C.D} vrfids WORD<0-512>`
- `show ip igmp snoop-trace vrf WORD<0-16>`
- `show ip igmp snoop-trace vrfids WORD<0-512>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`group <A.B.C.D>`	Specifies the multicast group address.
`source <A.B.C.D>`	Specifies the multicast source address.
`vrf WORD<0-16>`	Specifies a VRF by name.
`vrfids <0-512>`	Specifies a VRF by ID.

show ip igmp ssm

Display the Source Specific Multicast (SSM) group range and the status of dynamic learning.

Syntax

- `show ip igmp ssm`
- `show ip igmp ssm vrf WORD<0-16>`
- `show ip igmp ssm vrfids WORD<0-512>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`vrf WORD<0-16>`	Specifies a VRF by name.
`vrfids <0-512>`	Specifies a VRF by ID.

show ip igmp ssm-map

Display the list of Source Specific Multicast (SSM) channels.

Syntax

- `show ip igmp ssm-map`
- `show ip igmp ssm-map vrf WORD<0-16>`
- `show ip igmp ssm-map vrfids WORD<0-512>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`vrf WORD<0-16>`	Specifies a VRF by name.
`vrfids <0-512>`	Specifies a VRF by ID.

show ip igmp static

Display information about the static and blocked ports for the Internet Group Management Protocol (IGMP)-enabled interfaces.

Syntax

- `show ip igmp static`
- `show ip igmp static vrf WORD<0-16>`
- `show ip igmp static vrfids WORD<0-512>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`vrf WORD<0-16>`	Specifies a VRF by name.
`vrfids <0-512>`	Specifies a VRF by ID.

show ip igmp stream-limit

Display multicast stream limitation information for the ports on a specific interface.

Syntax

- `show ip igmp stream-limit interface`
- `show ip igmp stream-limit interface vrf WORD<0-16>`
- `show ip igmp stream-limit interface vrfids WORD<0-512>`
- `show ip igmp stream-limit port`
- `show ip igmp stream-limit port vrf WORD<0-16>`
- `show ip igmp stream-limit port vrfids WORD<0-512>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`interface`	Specifies the type of interface to include in the output. The results display all ports using stream limitation on the selected interface type.
`port`	Specifies the Internet Group Management Protocol (IGMP) stream limitation port details.
`vrf WORD<0-16>`	Specifies a VRF by name.
`vrfids <0-512>`	Specifies a VRF by ID.

show ip igmp sys

View the current fast leave mode configuration and Internet Group Management Protocol (IGMP) system parameters on the switch.

Syntax

- `show ip igmp sys`
- `show ip igmp sys vrf WORD<0-16>`
- `show ip igmp sys vrfids WORD<0-512>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`vrf WORD<0-16>`	Specifies a VRF by name.
`vrfids <0-512>`	Specifies a VRF by ID.

show ip interface

Shows the IP configuration for an interface.

Syntax

- `show ip interface`
- `show ip interface gigabitethernet`
- `show ip interface gigabitethernet <1-4059>`
- `show ip interface gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show ip interface vrf WORD<0-16>`
- `show ip interface vrfids WORD<0-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`gigabitethernet <1-4059>`	Specifies the VLAN ID.
`gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.
`vrf WORD<0-16>`	Specifies the name of the VRF.
`vrfids WORD<0-512>`	Specifies the VRF ID in the range of 0 to 512.

show ip irdp

Confirm that the Router Discovery is enabled.

Syntax

- `show ip irdp`
- `show ip irdp interface gigabitethernet`
- `show ip irdp interface gigabitethernet <1-4059>`
- `show ip irdp interface gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show ip irdp interface vlan`
- `show ip irdp interface vlan <1-4059>`
- `show ip irdp vrf WORD<0-16>`
- `show ip irdp vrfids WORD<0-512>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`interface vlan`	Show route discovery per interface information
`vrf WORD<0-16>`	Show route discovery for a particular vrf
`vrfids WORD<0-512>`	Show route discovery for particular vrfids

show ip isis redistribute

Display the redistribution configuration.

Syntax

- `show ip isis redistribute`
- `show ip isis redistribute vrf WORD<0-16>`
- `show ip isis redistribute vrf WORD<0-16> vrfids WORD<0-512>`
- `show ip isis redistribute vrfids WORD<0-512>`

Default

None

Command mode

User EXEC

show ip mroute hw-resource-usage

View multicast hardware resource usage.

Syntax

- `show ip mroute hw-resource-usage`
- `show ip mroute hw-resource-usage vrf WORD<0-16>`
- `show ip mroute hw-resource-usage vrfids WORD<0-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`vrf WORD<0-16>`	Specifies a VRF by name.
`vrfids WORD<0-512>`	Specifies a VRF by ID.

show ip mroute interface

Display information about the multicast routes set up on the switch for a specific interface.

Syntax

- `show ip mroute interface gigabitethernet {slot/port[-slot/port][,....]}`
- `show ip mroute interface vrf WORD<0-16>`
- `show ip mroute interface vrfids WORD<0-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`vrf WORD<0-16>`	Specifies a VRF by name.
`vrfids WORD<0-512>`	Specifies a VRF by ID.

show ip mroute next-hop

Display information about the next hop for the multicast routes set up on the switch.

Syntax

- `show ip mroute next-hop`
- `show ip mroute next-hop vrf WORD<0-16>`
- `show ip mroute next-hop vrfids WORD<0-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`vrf WORD<0-16>`	Specifies a VRF by name.
`vrfids WORD<0-512>`	Specifies a VRF by ID.

show ip mroute route

Display information about the multicast routes set up on the switch.

Syntax

- `show ip mroute route`
- `show ip mroute route vrf WORD<0-16>`
- `show ip mroute route vrfids WORD<0-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`vrf WORD<0-16>`	Specifies a VRF.
`vrfids WORD<0-512>`	Specifies a VRF ID.

show ip mroute static-source-group

Display information about the static source groups on the current interface.

Syntax

- `show ip mroute static-source-group`
- `show ip mroute static-source-group <A.B.C.D>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
<A.B.C.D>	Specifies the IP address.

show ip ospf

Display OSPF configuration information to ensure accuracy.

Syntax

- `show ip ospf`

Default

None

Command mode

User EXEC

show ip ospf accept

Display information about the configured OSPF entries.

Syntax

- `show ip ospf accept`
- `show ip ospf accept vrf WORD<0-16>`
- `show ip ospf accept vrfids WORD<0-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`accept vrf WORD<0-16>`	Displays ospf configuration for particular vrf
`accept vrfids WORD<0-512>`	Enter vrf ids

show ip ospf area

Display OSPF area information to ensure accuracy.

Syntax

- `show ip ospf area`
- `show ip ospf area vrf WORD<0-16>`
- `show ip ospf area vrfids WORD<0-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`vrf WORD<0-16>`	Specifies a VRF by name.
`vrfids WORD<0-512>`	Specifies a range of VRF IDs.

show ip ospf area-range

Display OSPF area range configuration information to ensure accuracy.

Syntax

- `show ip ospf area-range`
- `show ip ospf area-range vrf WORD<0-16>`
- `show ip ospf area-range vrfids WORD<0-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`vrf WORD<0-16>`	Specifies a VRF by name.
`vrfids WORD<0-512>`	Specifies a range of VRF IDs.

show ip ospf ase

View the link-state database to determine externally learned routing information.

Syntax

- `show ip ospf ase`
- `show ip ospf ase metric-type`
- `show ip ospf ase metric-type <1-2>`
- `show ip ospf ase vrf WORD<0-16>`
- `show ip ospf ase vrfids WORD<0-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`metric-type <1-2>`	Specifies the metric type as a string of 1 to 2 characters.
`vrf WORD<0-16>`	Identifies the VRF by name.
`vrfids WORD<0-512>`	Specifies a VRF by ID.

show ip ospf authentication

Display OSPF authentication information to ensure accuracy.

Syntax

- `show ip ospf authentication interface`
- `show ip ospf authentication interface gigabitethernet`
- `show ip ospf authentication interface gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show ip ospf authentication interface vlan`
- `show ip ospf authentication interface vlan <1-4059>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`interface gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Specifies the authentication interface type.

show ip ospf default-cost

Display OSPF default cost information to ensure accuracy.

Syntax

- `show ip ospf default-cost`
- `show ip ospf default-cost vrf WORD<0-16>`
- `show ip ospf default-cost vrfids WORD<0-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`vrf WORD<0-16>`	Specifies a VRF by name.
`vrfids WORD<0-512>`	Specifies a range of VRF IDs.

show ip ospf host-route

Display the host route OSPF information to ensure accuracy.

Syntax

- `show ip ospf host-route`
- `show ip ospf host-route vrf WORD<0-16>`
- `show ip ospf host-route vrfids WORD<0-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`vrf WORD<0-16>`	Specifies a VRF by name.
`vrfids WORD<0-512>`	Specifies a range of VRF IDs.

show ip ospf ifstats

Use statistics to help you monitor Open Shortest Path First (OSPF) performance.

Syntax

- `show ip ospf ifstats`
- `show ip ospf ifstats detail`
- `show ip ospf ifstats mismatch`
- `show ip ospf ifstats vlan <1-4059>`
- `show ip ospf ifstats vrf WORD<0-16>`
- `show ip ospf ifstats vrfids WORD<0-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`detail`	Displays the details of the OSPF.
`mismatch`	Specifies the number of times the area ID is not matched.
`vlan <1-4059>`	Specifies a VLAN ID.
`vrf WORD<0-16>`	Specifies a VRF instance by VRF name.
`vrfids WORD<0-512>`	Specifies a VRF or range of VRFs by ID.

show ip ospf int-auth

Display OSPF authentication information to ensure accuracy.

Syntax

- `show ip ospf int-auth`
- `show ip ospf int-auth vrf WORD<0-16>`
- `show ip ospf int-auth vrfids WORD<0-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`vrf WORD<0-16>`	Displays ospf authentication configuration for a particular VRF.
`vrfids WORD<0-512>`	Specifies a range of VRF IDs.

show ip ospf interface

Display OSPF information on a particular interface to ensure accuracy.

Syntax

- `show ip ospf interface`
- `show ip ospf interface gigabitethernet`
- `show ip ospf interface gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show ip ospf interface vlan`
- `show ip ospf interface vlan <1-4059>`
- `show ip ospf interface vrf WORD<0-16>`
- `show ip ospf interface vrfids WORD<0-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Displays gigabitethernets port and vlan ids information.
`vlan <1-4059>`	Displays ospf information on vlans
`vrf WORD<0-16>`	Displays ospf configuration for a particular VRF.
`vrfids WORD<0-512>`	Specifies a range of VRF IDs.

show ip ospf int-timers

Display OSPF timers information to ensure accuracy.

Syntax

- `show ip ospf int-timers`
- `show ip ospf int-timers vrf WORD<0-16>`
- `show ip ospf int-timers vrfids WORD<0-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`vrf WORD<0-16>`	Displays ospf timer configuration for a particular VRF.
`vrfids WORD<0-512>`	Specifies a range of VRF IDs.

show ip ospf lsdb

View the area advertisements and other information contained in the link-state database (LSD) to ensure correct OSPF operations.

Syntax

- show ip ospf lsdb
- show ip ospf lsdb adv-rtr {A.B.C.D}
- show ip ospf lsdb adv-rtr {A.B.C.D} vrf WORD<0-16>
- show ip ospf lsdb adv-rtr {A.B.C.D} vrfids WORD<0-512>
- show ip ospf lsdb area {A.B.C.D}
- show ip ospf lsdb area {A.B.C.D} vrf WORD<0-16>
- show ip ospf lsdb area {A.B.C.D} vrfids WORD<0-512>
- show ip ospf lsdb detail
- show ip ospf lsdb detail vrf WORD<0-16>
- show ip ospf lsdb detail vrfids WORD<0-512>
- show ip ospf lsdb lsa-type <0-7>
- show ip ospf lsdb lsa-type <0-7> vrf WORD<0-16>
- show ip ospf lsdb lsa-type <0-7> vrfids WORD<0-512>
- show ip ospf lsdb lsid {A.B.C.D}
- show ip ospf lsdb lsid {A.B.C.D} vrf WORD<0-16>
- show ip ospf lsdb lsid {A.B.C.D} vrfids WORD<0-512>
- show ip ospf lsdb vrf WORD<0-16>
- show ip ospf lsdb vrfids WORD<0-512>

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
adv-rtr <A.B.C.D>	Specifies the advertising router.
area <A.B.C.D>	Specifies the OSPF area.
detail	Provides detailed output.
lsa-type <0-7>	Specifies the link-state advertisement type in the range of 0 to 7.
lsid <A.B.C.D>	Specifies the link-state ID.
vrf WORD<0-16>	Specifies a VRF by name.
vrfids WORD<0-512>	Specifies a range of VRF IDs.

show ip ospf neighbor

Displays OSPF NBMA neighbor information.

Syntax

- `show ip ospf neighbor`
- `show ip ospf neighbor vrf WORD<0-16>`
- `show ip ospf neighbor vrfids WORD<0-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`vrf WORD<0-16>`	Specifies a VRF by name.
`vrfids WORD<0-512>`	Specifies a range of VRF IDs.

show ip ospf port-error

Check OSPF errors for administrative and troubleshooting purposes.

Syntax

- `show ip ospf port-error`
- `show ip ospf port-error port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show ip ospf port-error port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} vrf WORD<0-16>`
- `show ip ospf port-error port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} vrfids WORD<0-512>`
- `show ip ospf port-error vrf WORD<0-16>`
- `show ip ospf port-error vrfids WORD<0-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} vrfids WORD<0-512>`	Specifies the slot and the port number.
`vrf WORD<0-16>`	Specifies a VRF by name.
`vrfids WORD<0-512>`	Specifies a range of VRF IDs.

show ip ospf redistribute

Displays the OSPF redistribution configuration information.

Syntax

- `show ip ospf redistribute`
- `show ip ospf redistribute vrf WORD<0-16>`
- `show ip ospf redistribute vrfids WORD<0-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`vrf WORD<0-16>`	Specifies a VRF by name.
`vrfids WORD<0-512>`	Specifies a range of VRF IDs.

show ip ospf stats

Use statistics to help you monitor Open Shortest Path First (OSPF) performance.

Syntax

- `show ip ospf stats`
- `show ip ospf stats vrf WORD<0-16>`
- `show ip ospf stats vrfids WORD<0-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`vrf WORD<0-16>`	Specifies a VRF instance by VRF name.
`vrfids WORD<0-512>`	Specifies a VRF or range of VRFs by ID.

show ip ospf virtual-link

Displays the OSPF virtual link information to ensure accuracy.

Syntax

- `show ip ospf virtual-link {A.B.C.D} {A.B.C.D}`
- `show ip ospf virtual-link {A.B.C.D} {A.B.C.D} vrf WORD<0-16>`
- `show ip ospf virtual-link {A.B.C.D} {A.B.C.D} vrfids WORD<0-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`{A.B.C.D} {A.B.C.D}`	Specifies a range of VRF IDs.
`{A.B.C.D} {A.B.C.D} vrf WORD<0-16>`	Specifies the area ID and the virtual interface ID. The first IP address specifies the area ID and the second specifies the virtual interface ID.
`{A.B.C.D} {A.B.C.D} vrfids WORD<0-512>`	Displays OSPF configuration for a particular VRF. Specifies a VRF by name.

show ip pim

Verify the configuration by displaying the global status of PIM on the switch.

Syntax

- `show ip pim`

Default

None

Command mode

User EXEC

show ip pim active-rp

Displays information about the active rendezvous point (RP) for all groups or a specific group.

Syntax

- `show ip pim active-rp group <A.B.C.D>`

Default

None

Command mode

User EXEC

show ip pim bsr

Displays information about the bootstrap router (BSR) for this PIM-SM domain.

Syntax

- `show ip pim bsr`

Default

None

Command mode

User EXEC

show ip pim interface

Displays information about the PIM-SM interface setup on the switch.

Syntax

- `show ip pim interface [gigabitethernet [{slot/port[/sub-port][-slot/port[/sub-port]][,...]}] [<1-4059>]`
- `show ip pim interface vlan [<1-4059>]`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`<1-4059>`	Specifies the VLAN ID.
`gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Displays configuration settings for the gigabitethernet interface.
`vlan [<1-4059>]`	Displays configuration setting for a VLAN interface.

show ip pim mode

Show the PIM mode (SM or SSM) configuration on the switch.

Syntax

- `show ip pim mode`

Default

None

Command mode

User EXEC

show ip pim mroute

Displays PIM multicast route information from the route table.

Syntax

- `show ip pim mroute terse`
- `show ip pim mroute terse group {A.B.C.D}`
- `show ip pim mroute terse source {A.B.C.D}`
- `show ip pim mroute terse source {A.B.C.D} group {A.B.C.D}`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`group {A.B.C.D}`	Specifies the multicast group address.
`source {A.B.C.D}`	Specifies the source IP address.
`terse`	Excludes the VLAN timers from the command output.

show ip pim neighbor

Displays information about the neighboring routers configured with PIM-SM.

Syntax

- `show ip pim neighbor`

Default

None

Command mode

User EXEC

show ip pim rp-candidate

Displays information about the candidate rendezvous points for the PIM-SM domain.

Syntax

- `show ip pim rp-candidate`

Default

None

Command mode

User EXEC

show ip pim rp-hash

Displays information about the rendezvous points (RPs) for this PIM-SM domain.

Syntax

- `show ip pim rp-hash`

Default

None

Command mode

User EXEC

show ip pim static-rp

Displays the static rendezvous point (RP) table.

Syntax

- `show ip pim static-rp`

Default

None

Command mode

User EXEC

show ip pim virtual-neighbor

Display the virtual neighbor.

Syntax

- `show ip pim virtual-neighbor`

Default

None

Command mode

User EXEC

show ip prefix-list

Display the prefix list.

Syntax

- `show ip prefix-list`
- `show ip prefix-list prefix {A.B.C.D}`
- `show ip prefix-list vrf WORD<0-16>`
- `show ip prefix-list vrfids WORD<0-512>`
- `show ip prefix-list WORD<1-64>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`prefix {A.B.C.D}`	Adds a prefix entry to the prefix list. {A.B.C.D} is the IP address.
`vrf WORD<0-16>`	Shows prefix list for particular VRF ids. The ID of the VRF and is an integer in the range of 0 to 512.
`vrfids WORD<0-512>`	Renames the specified prefix list. The name length is from 1 to 64 characters.
`WORD<1-64>`	Shows prefix list information for a particular VRF.

show ip rip

Display RIP configuration information to ensure the configuration is accurate.

Syntax

- `show ip rip`
- `show ip rip vrf WORD<0-16>`
- `show ip rip vrfids WORD<0-512>`

Default

None

Command mode

User EXEC

show ip rip interface

Display Routing Information Protocol (RIP) information for each interface.

Syntax

- `show ip rip interface`
- `show ip rip interface {A.B.C.D}`
- `show ip rip interface ports`
- `show ip rip interface ports {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show ip rip interface ports {slot/port[/sub-port][-slot/port[/sub-port]][,...]} vlan <1-4059>`
- `show ip rip interface vlan`
- `show ip rip interface vlan <1-4059>`
- `show ip rip interface vrf WORD<0-16>`
- `show ip rip interface vrfids WORD<0-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`{A.B.C.D}`	Shows RIP information for port configurations. {slot/port[/sub-port][-slot/port[/sub-port]][,...]} specifies the port.
`ports {slot/port[/sub-port][-slot/port[/sub-port]][,...]} vlan <1-4059>`	Shows configurations based on an IP address assigned to a VLAN.
`vlan <1-4059>`	Shows RIP configuration information for a particular VLAN. <1-4059> specifies the VLAN ID.
`vrf WORD<0-16>`	Specifies the VRF instance by name. When applying a redistribution instance that redistributes from a nonzero VRF to VRF 0 (the global router), do not specify the destination VRF; only specify the source VRF.

`vrfids WORD<0-512>`	Specifies a range of VRF IDs.

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show ip rip redistribute

Display the RIP redistribution configuration information.

Syntax

- `show ip rip redistribute`
- `show ip rip redistribute vrf WORD<0-16>`
- `show ip rip redistribute vrfids WORD<0-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`vrf WORD<0-16>`	Specifies the VRF instance by name. When applying a redistribution instance that redistributes from a nonzero VRF to VRF 0 (the global router), do not specify the destination VRF; only specify the source VRF.
`vrfids WORD<0-512>`	Specifies a range of VRF IDs.

show ip route

Display the IP route information.

Syntax

- show ip route
- show ip route {A.B.C.D}
- show ip route alternative
- show ip route count-summary
- show ip route -s {A.B.C.D/X}
- show ip route -s default
- show ip route spbm-nh-as-mac
- show ip route static
- show ip route static {A.B.C.D}
- show ip route static {A.B.C.D} -s {A.B.C.D} {A.B.C.D}
- show ip route static {A.B.C.D} vrf WORD<0-16>
- show ip route static {A.B.C.D} vrfids WORD<0-512>
- show ip route static -s {A.B.C.D} {A.B.C.D}
- show ip route static -s {A.B.C.D} {A.B.C.D} vrf WORD<0-16>
- show ip route static -s {A.B.C.D} {A.B.C.D} vrfids WORD<0-512>
- show ip route static vrf WORD<0-16>
- show ip route static vrfids WORD<0-512>
- show ip route vrf WORD<0-16>
- show ip route vrfids WORD<0-512>

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
{A.B.C.D}	Specifies the IP address of the route to the network.
alternative	Displays the alternative routes.
count-summary	Displays ip route count summary.
preference	Show route preference information
-s <A.B.C.D/X>	Indicates the IP address and subnet mask for which to display routes.
-s default	Specifies the default subnet.
spbm-nh-as-mac	show spbm route next hop as mac
static -s {A.B.C.D} {A.B.C.D} vrf WORD<0-16>	Shows static route information.
vrf WORD<0-16>	Specifies a VRF instance by VRF name.
vrfids WORD<0-512>	Specifies a VRF instance by VRF number.

show ip route preference

Display the IP route preference information to confirm that the configuration is correct.

Syntax

- `show ip route preference`
- `show ip route preference vrf WORD<1-16>`
- `show ip route preference vrfids WORD<0-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`vrf WORD<1-16>`	Specifies a VRF instance by VRF name.
`vrfids WORD<0-512>`	Specifies a VRF instance by VRF number.

show ip routing

Display the ip routing configuration information.

Syntax

- `show ip routing`
- `show ip routing vrf WORD<0-16>`
- `show ip routing vrfids WORD<0-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`vrf WORD<0-16>`	Display the ip routing configuration information.
`vrfids WORD<0-512>`	Display the ip routing configuration information.

show ip rsmlt

Show IP Routed Split MultiLink Trunking (RSMLT) information to view data about all RSMLT interfaces.

Syntax

- `show ip rsmlt`
- `show ip rsmlt local`
- `show ip rsmlt peer`
- `show ip rsmlt vrf WORD<0-16>`
- `show ip rsmlt vrfids WORD<0-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`[<local|peer>]`	Specifies values for the local or peer switch.
`vrf WORD<0-16>`	Displays IP routing for a VRF.
`vrfids WORD<0-512>`	Displays IP routing for a range of VRFs.

show ip rsmlt edge-support

Display Routed Split MultiLink Trunking (RSMLT)-edge status information.

Syntax

- `show ip rsmlt edge-support`

Default

None

Command mode

User EXEC

show ip tcp connections

Displays the information on the TCP connections.

Syntax

- `show ip tcp connections`

Default

None

Command mode

User EXEC

show ip tcp properties

View global properties on the IP TCP.

Syntax

- `show ip tcp properties`

Default

None

Command mode

User EXEC

show ip tcp statistics

View TCP statistics to manage network performance.

Syntax

- `show ip tcp statistics`

Default

None

Command mode

User EXEC

show ip udp endpoints

Displays ip udp endpoints information.

Syntax

- `show ip udp endpoints`

Default

None

Command mode

User EXEC

show ip udp statistics

Display UDP statistics information.

Syntax

- `show ip udp statistics`

Default

None

Command mode

User EXEC

show ipv6 address

View IPv6 address entries.

Syntax

- `show ipv6 address interface`
- `show ipv6 address interface gigabitethernet [{slot/port[/sub-port][-slot/port[/sub-port]][,...]}]`
- `show ipv6 address interface ip WORD<0-46>`
- `show ipv6 address interface tunnel <1-2000>`
- `show ipv6 address interface vlan [ <1-4059>]`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
{slot/port[/sub-port][-slot/port[/sub-port]][,...]}	Identifies the slot and port in one of the following formats: a single slot and port (3/1), a range of slots and ports (3/2-3/4), or a series of slots and ports (3/2,5/3,6/2).
<1-4059>	Specifies the VLAN ID.
tunnel <1-2000>	Displays the address entries specific to a tunnel ID.
WORD<0-46>	Specifies an IPv6 address.

show ipv6 dcache

Display the destination cache to see next-hop addresses for destinations. The destination cache is only populated or updated when IPv6 packets originate locally on the central processor of the switch.

Syntax

- `show ipv6 dcache [gigabitethernet {slot/port}] [mgmtethernet {slot/port}] [tunnel <1-2000>] [vlan <1-4059>]`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
{slot/port}	Identifies the slot and port.
<1-2000>	Specifies the tunnel ID.
<1-4059>	Specifies the VLAN ID.

show ipv6 dhcp-relay

Display IPv6 Dynamic Host Configuration Protocol (DHCP) Relay information to show relay information about DHCP routes and counters.

Syntax

- `show ipv6 dhcp-relay counters`
- `show ipv6 dhcp-relay fwd-path`
- `show ipv6 dhcp-relay interface [gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}] [vlan <1-4059>]`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
counters	Displays the count of DHCP Relay requests and replies.
fwd-path	Displays information about DHCP Relay forward paths.
gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}	Identifies the slot and port in one of the following formats: a single slot and port (3/1), a range of slots and ports (3/2-3/4), or a series of slots and ports (3/2,5/3,6/2).
vlan <1-4059>	Specifies the VLAN ID.

show ipv6 forwarding

Show IPv6 forwarding information.

Syntax

- `show ipv6 forwarding`

Default

`The default is disabled.`

Command mode

User EXEC

show ipv6 global

Show global IPv6 configuration information.

Syntax

- `show ipv6 global`

Default

None

Command mode

User EXEC

show ipv6 interface

Show IPv6 information for all or specific interfaces.

Syntax

- show ipv6 interface gigabitethernet [{slot/port[/sub-port][-slot/port[/sub-port]][,...]}]
- show ipv6 interface icmpstatistics
- show ipv6 interface icmpstatistics [vlan <1-4059>]
- show ipv6 interface icmpstatistics gigabitEthernet [{slot/port[/sub-port][-slot/port[/sub-port]][,...]}]
- show ipv6 interface icmpstatistics mgmtEthernet [{slot/port[/sub-port][-slot/port[/sub-port]][,...]}]
- show ipv6 interface icmpstatistics tunnel <1-2000>
- show ipv6 interface mgmtEthernet [{slot/port[/sub-port][-slot/port[/sub-port]][,...]}]
- show ipv6 interface statistics
- show ipv6 interface statistics gigabitEthernet [{slot/port[/sub-port][-slot/port[/sub-port]][,...]}]
- show ipv6 interface statistics mgmtEthernet [{slot/port[/sub-port][-slot/port[/sub-port]][,...]}]
- show ipv6 interface statistics tunnel <1-2000>
- show ipv6 interface statistics vlan <1-4059>
- show ipv6 interface tunnel <1-2000>
- show ipv6 interface vlan [<1-4059>]

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
gigabitEthernet	

{slot/port[/sub-port][-slot/port[/sub-port]][,...]}	Displays IPv6 interface information for gigabitEthernet as one of the following: a single slot and port (3/1) a range of slots and ports (3/2-3/4, a series of slots and ports (3/2,5/3,6/2)
icmpstatistics [gigabitEthernet | mgmtEthernet | tunnel | vlan]	Shows IPv6 ICMP statistics for the interface as follows: gigabitEthernetdisplays interface gigabitEthernet configurations, mgmtEthernet-displays interface mgmtEthernet configurations, tunnel-displays interface tunnel configurations, vlan -displays vlan interface configurations.
mgmtEthernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}	Displays IPv6 interface information for mgmtEthernet as one of the following: a single slot and port (3/1) a range of slots and ports (3/2-3/4, a series of slots and ports (3/2,5/3,6/2)
statistics [gigabitEthernet | mgmtEthernet | tunnel | vlan]	Shows IPv6 interface statistics as follows: gigabitEthernet- displays interface gigabitEthernet configurations mgmtEthernet-displays interface mgmtEthernet configurations tunnel- displays interface tunnel configurations vlan -displays vlan interface configurations
tunnel <1-2000>	Displays IPv6 interface information for a tunnel. The tunnel ID is expressed as a value from 1 to 2000.
vlan <1-4059>	Displays IPv6 interface information for a VLAN. The VLAN ID is expressed as a value from 1 to 4084.

show ipv6 ipsec interface (for a port)

Display the Internet Protocol Security (IPsec) information on an Ethernet interface. The command only works on an interface where you enable IPv6. If you do not enable IPv6 on the interface, the command displays as an error to the user.

Syntax

- `show ipv6 ipsec interface`
- `show ipv6 ipsec interface gigabitethernet {slot/port[-slot/port][,...]}`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Specifies the slot and port.

show ipv6 ipsec interface (for a VLAN)

Display the Internet Protocol Security (IPsec) information on an VLAN interface. The command only works on an interface where you enable IPv6. If you do not enable IPv6 on the interface, the command displays as an error to the user.

Syntax

- `show ipv6 ipsec interface`
- `show ipv6 ipsec interface vlan <1-4059>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`vlan <1-4059>`	Specifies the VLAN.

show ipv6 ipsec policy

Display Internet Protcol Security (IPsec) policy information.

Syntax

- `show ipv6 ipsec policy all`
- `show ipv6 ipsec policy interface WORD<1-32>`
- `show ipv6 ipsec policy name WORD<1-32>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`all`	Displays all of the IPsec policies on the switch.
`interface WORD<1-32>`	Displays a specific IPsec policy based on the policy name on the interface.
`name WORD<1-32>`	Dsiplays the IPsec policy based on the name of the policy.

show ipv6 ipsec sa

Display Internet Protocol Security (IPsec) security association information.

Syntax

- `show ipv6 ipsec sa all`
- `show ipv6 ipsec sa name WORD<1-32>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`all`	Displays all of the IPsec security association information.
`name WORD<1-32>`	Displays information about a specific IPsec security association.

show ipv6 ipsec sa-policy

Display Internet Protocol Security (IPsec) security associations linked to a particular IPsec policy.

Syntax

- `show ipv6 ipsec sa-policy`

Default

None

Command mode

User EXEC

show ipv6 ipsec statistics gigabitethernet

Display statistics for Internet Protocol Security (IPsec) for an Ethernet interface.

Syntax

- `show ipv6 ipsec statistics gigabitethernet {slot/port[-slot/port][,...]}`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`gigabitethernet {slot/port[-slot/port][,...]}`	Identifies the slot and port in one of the following formats: a single slot and port (3/1), a range of slots and ports (3/2-3/4), or a series of slots and ports (3/2,5/3,6/2).

show ipv6 ipsec statistics system

Display statistics for Internet Protocol Security (IPsec) for the system.

Syntax

- `show ipv6 ipsec statistics system`

Default

None

Command mode

User EXEC

show ipv6 ipsec statistics vlan

Display statistics for Internet Protocol Security (IPsec) for an VLAN interface.

Syntax

- `show ipv6 ipsec statistics vlan <1-4059>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`vlan <1-4059>`	Displays IPv6 interface information for a VLAN. The VLAN ID is expressed as a value from 1 to 4059.

show ipv6 nd

View neighbor discovery interface configuration.

Syntax

- `show ipv6 nd interface gigabitethernet [{slot/port[/sub-port][-slot/port[/sub-port]][,...]}]`
- `show ipv6 nd interface vlan [<1-4059>]`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
{slot/port[/sub-port][-slot/port[/sub-port]][,...]}	Identifies the slot and port in one of the following formats: a single slot and port (3/1), a range of slots and ports (3/2-3/4), or a series of slots and ports (3/2,5/3,6/2).
<1-4059>	Specifies the VLAN ID.

show ipv6 nd-prefix

View all configured neighbor discovery prefixes.

Syntax

- `show ipv6 nd-prefix [detail]`
- `show ipv6 nd-prefix interface gigabitethernet [{slot/port[/sub-port][-slot/port[/sub-port]][,...]}]`
- `show ipv6 nd-prefix interface vlan [<1-4059>]`
- `show ipv6 nd-prefix vlan [<1-4059>]`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
{slot/port[/sub-port][-slot/port[/sub-port]][,...]}	Identifies the slot and port in one of the following formats: a single slot and port (3/1), a range of slots and ports (3/2-3/4), or a series of slots and ports (3/2,5/3,6/2).
<1-4059>	Specifies the VLAN ID.
detail	Shows detailed information.

show ipv6 neighbor

View entries in the neighbor cache.

Syntax

- `show ipv6 neighbor`
- `show ipv6 neighbor interface gigbitethernet {slot/port}`
- `show ipv6 neighbor interface mgmtEthernet {slot/port}`
- `show ipv6 neighbor interface mlt <1-512>`
- `show ipv6 neighbor interface vlan <1-4059>`
- `show ipv6 neighbor type <1-4>`
- `show ipv6 neighbor WORD<0-46>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
{slot/port}	Identifies the slot and port for the interface.
<1-4059>	Specifies the VLAN ID.
<1-512>	Specifies the MLT ID.
type <1-4>	Specifies the type of mapping: 1: other, 2: dynamic, 3: static, or 4: local.
WORD<0-46>	Specifies the neighbor address.

show ipv6 ospf

Show the IPv6 OSPFv3 global configuration.

Syntax

- `show ipv6 ospf`

Default

None

Command mode

User EXEC

show ipv6 ospf area

Show the IPv6 OSPFv3 area configuration.

Syntax

- `show ipv6 ospf area`

Default

None

Command mode

User EXEC

show ipv6 ospf area-range

Show the IPv6 OSPFv3 range configuration.

Syntax

- `show ipv6 ospf area-range`

Default

None

Command mode

User EXEC

show ipv6 ospf ase

Show the IPv6 OSPFv3 as-external LSAs.

Syntax

- `show ipv6 ospf ase [metric-type <1-2>]`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`metric-type <1-2>`	Specifies the external type.

show ipv6 ospf interface

Show the IPv6 OSPFv3 interface configuration.

Syntax

- `show ipv6 ospf interface [gigabitEthernet {slot/port}] [vlan <1-4059>]`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
{slot/port]	Specifies the slot and port.
<1-4059>	Specifies the VLAN ID.

show ipv6 ospf int-timers

Show the IPv6 OSPFv3 interface timers.

Syntax

- `show ipv6 ospf int-timers`

Default

None

Command mode

User EXEC

show ipv6 ospf lsdb

Show the IPv6 OSPFv3 Link-state database configuration.

Syntax

- `show ipv6 ospf lsdb [adv-rtr {A.B.C.D}] [area {A.B.C.D}] [detail][interface gigabitEthernet {slot/port}] [interface vlan <1-4059>] [lsa-type <1-9>] [lsid <0-4294967295>] [scope <1-3>] [tunnel <1-2000>]`

Default

None

Command mode

User EXEC

show ipv6 ospf nbma-nbr interface

Show the IPv6 OSPFv3 NBMA neighbor configuration.

Syntax

- `show ipv6 ospf nbma-nbr interface gigabitEthernet {slot/port} [WORD<1-46>]`
- `show ipv6 ospf nbma-nbr interface vlan <1-4059> [WORD<1-46>]`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`{slot/port}`	Specifies the slot and port.
`<1-4059>`	Specifies the VLAN ID.
`WORD<1-46>`	Specifies an IPv6 address.

show ipv6 ospf neighbor

Show the IPv6 OSPFv3 neighbor configuration.

Syntax

- `show ipv6 ospf neighbor`

Default

None

Command mode

User EXEC

show ipv6 ospf redistribute

Show the IPv6 OSPFv3 redistribution configuration.

Syntax

- `show ipv6 ospf redistribute`

Default

None

Command mode

User EXEC

show ipv6 ospf statistics

Show the IPv6 OSPFv3 statistics.

Syntax

- `show ipv6 ospf statistics`

Default

None

Command mode

User EXEC

show ipv6 prefix-list

Show IPv6 prefix-list information.

Syntax

- `show ipv6 prefix-list`
- `show ipv6 prefix-list prefix WORD<1-256>`
- `show ipv6 prefix-list WORD<1-64>`

Default

`None`

Command mode

User EXEC

Command parameters

Parameter	Description
`prefix`	Specifies the prefix.
`prefix-list`	Shows IPv6 prefix-list information.
`WORD<1-64>`	Specifies the prefix-list name.

show ipv6 route

Show IPv6 routes for the switch.

Syntax

- `show ipv6 route [count-summary] [dest WORD<0-46> ][gigabitethernet {slot/port}][next-hop WORD<0-46> ][static] [tunnel <1-2000>] [vlan <1-4059>]`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
{slot/port}	{slot/port}
count-summary	Shows the total number of OSPF, RIP, BGP, static, and local routes.
dest WORD<0-46>	Shows the route to a specific IPv6 address.
next-hop WORD<0-46>	Shows the route to a specific IPv6 next hop.
static	Shows static IPv6 routes.
tunnel <1-2147477248>	Shows route entries for a specific tunnel ID.
vlan <1-4059>	Shows route entries for a specific VLAN ID.

show ipv6 route preference

Display the IPv6 route preference information to confirm that the configuration is correct.

Syntax

- `show ipv6 route preference`

Default

None

Command mode

User EXEC

show ipv6 tcp

You can display IPv6 TCP information. Check the health of connections, from the switch perspective, as they traverse the network detect intermittent connectivity detect attacks on resources determine which applications are active by checking the port numbers view statistics about TCP connections

Syntax

- `show ipv6 tcp <connections|listener|properties|statistics>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
connections	Displays IPv6 TCP connection table information that includes: local port remote port local address remote address state.
listener	Displays IPv6 TCP listener table information that includes: local port and local address.
properties	Displays IPv6 TCP global properties information that includes: RtoAlgorithm - the timeout value used for retransmitting unacknowledged octets. RtoMin -the minimum time, in milliseconds, permitted by a TCP implementation for the retransmission timeout. RtoMax - the maximum time (in milliseconds) permitted by a TCP implementation for the transmissions timeout. MaxConn - the maximum connections for the device.
statistics	Displays IPv6 TCP global statistics information that includes: ActiveOpens, PassiveOpens, AttemptFails, EstabResets, CurrEstab, InSegs, OutSegs, RetransSegs, InErrs, OutRsts, HCInSegs, and HCOutSegs.

show ipv6 trace

Show the status of IPv6 trace commands.

Syntax

- `show ipv6 trace <base|forwarding|nd|ospf|rtm|transport>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`<base|forwarding|nd|ospf|rtm|transport>`	Shows the status for the selected type of trace command.

show ipv6 tunnel

Shows information about configured IPv6 tunnels, for example, operational state or addresses.

Syntax

- `show ipv6 tunnel [<1-2000>] [detail] [local {A.B.C.D}][remote {A.B.C.D}]`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
<1-2000>	Shows configuration information for a specific tunnel ID.
detail	Shows detailed configuration information, for example, the operational status and origin.
local {A.B.C.D}	Shows configuration information for a specific local endpoint address.
remote {A.B.C.D}	Shows configuration information for a specific remote endpoint address.

show ipv6 udp

Show IPv6 User Datagram Protocol (UDP) information.

Syntax

- `show ipv6 udp`
- `show ipv6 udp endpoints`
- `show ipv6 udp local_addr WORD<0-128> [{slot/port}]`
- `show ipv6 udp remote_addr WORD<0-128> [{slot/port}]`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`endpoints`	Shows IPv6 UDP information for the endpoints.
`local_addr WORD<0-128> [{slot/port}]`	Shows IPv6 UDP information for a local IPv6 address or slot and port.
`remote_addr WORD<0-128> [{slot/port}]`	Shows IPv6 UDP information for a remote IPv6 address or slot and port.

show ipv6 vrrp

Shows the global status of Virtual Router Redundancy Protocol (VRRP) for IPv6.

Syntax

- `show ipv6 vrrp`

Default

None

Command mode

User EXEC

show ipv6 vrrp address

Display address information for a specific link-local address or virtual router ID.

Syntax

- `show ipv6 vrrp address`
- `show ipv6 vrrp address link-local WORD<0-127>`
- `show ipv6 vrrp address vrid <1-255>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`link-local WORD<0-127>`	Displays information by link-local IPv6 address.
`vrid <1-255>`	Displays information by virtual router ID.

show ipv6 vrrp interface

Shows the extended Virtual Router Redundancy Protocol (VRRP) configuration for all interfaces or for a specific interface.

Syntax

- `show ipv6 vrrp interface [verbose]`
- `show ipv6 vrrp interface gigabitethernet[{slot/port[/sub-port][-slot/port[/sub-port]][,...]}] [verbose]`
- `show ipv6 vrrp interface vlan [<1-4059>] [verbose]`
- `show ipv6 vrrp interface vrid <1-255> [verbose]`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
{slot/port[/sub-port][-slot/port[/sub-port]][,...]}	Identifies the slot and port in one of the following formats: a single slot and port (3/1), a range of slots and ports (3/2-3/4), or a series of slots and ports (3/2,5/3,6/2).
<1-255>	Displays information by virtual router ID.
<1-4059>	Specifies the VLAN ID.
verbose	Displays extended information.

show ipv6 vrrp interface gigabitethernet statistics

Shows the IPv6 gigabitEthernet interface statistics.

Syntax

- `show ipv6 vrrp interface gigabitethernet statistics [slot/port[-slot/port][,....]] [verbose]`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`statistics`	Displays the IPv6 interface gigabitEthernet statistics.
`statistics[slot/port[-slot/port][,....]]`	Displays the IPv6 statistics for a port.
`verbose`	Displays extended information.

show ipv6 vrrp statistics

Views VRRP for IPv6 statistics to manage network performance.

Syntax

- `show ipv6 vrrp statistics [link-local WORD<0-127>][vrid <1-255>]`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
<1-255>	Displays information by virtual router ID.
WORD<0-127>	Displays information by link-local IPv6 address.

show ip vrf

Use the following command to view VRF configurations.

Syntax

- `show ip vrf`
- `show ip vrf max-routes`
- `show ip vrf vrfids WORD<0-512>`
- `show ip vrf WORD<0-16>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`max-routes`	Displays max routes for vrf
`vrfids WORD<0-512>`	Enter name
`WORD<0-16>`	Enter vrf ids

show ip vrrp

Display the global Virtual Router Redundancy Protocol (VRRP) configuration.

Syntax

- `show ip vrrp`

Default

None

Command mode

User EXEC

show ip vrrp address

Display basic Virtual Router Redundancy Protocol (VRRP) configuration information about the specified port, all ports, or the VLAN.

Syntax

- `show ip vrrp address`
- `show ip vrrp address addr {A.B.C.D}`
- `show ip vrrp address vrf WORD<0-16>`
- `show ip vrrp address vrfids WORD<0-512>`
- `show ip vrrp address vrid <1-255>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`addr {A.B.C.D}`	Specifies the IP address of the master VRRP.
`vrf WORD<0-16>`	Specifies the name of the VRF.
`vrfids WORD<0-512>`	Specifies the ID of the VRF and is an integer in the range of 0 to 512.
`vrid <1-255>`	Specifies a unique integer value that represents the virtual router ID in the range 1 to 255. The virtual router acts as the default router for one or more assigned addresses.

show ip vrrp interface

Display Virtual Router Redundancy Protocol (VRRP) information about the interface.

Syntax

- `show ip vrrp interface`
- `show ip vrrp interface verbose`
- `show ip vrrp interface vrf WORD<0-16>`
- `show ip vrrp interface vrfids WORD<0-512>`
- `show ip vrrp interface vrid <1-255>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`gigabitEthernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Shows the VRRP interface gigabitEthernet configurations.
`verbose`	Shows all available information about the VRRP interfaces.
`vlan <1-4059>`	Shows the VRRP interface gigabitEthernet configurations.
`vrf WORD<0-16>`	Shows all available information about the VRRP interfaces.
`vrfids WORD<0-512>`	Specifies the VLAN that contains the VRRP. <1-4059> specifies the VLAN ID n the range of 1 to 4084.

show ip vrrp interface gigabitEthernet

Display the Virtual Router Redundancy Protocol (VRRP) interface gigabitEthernet configurations.

Syntax

- `show ip vrrp interface gigabitethernet`
- `show ip vrrp interface gigabitethernet <1-4059>`
- `show ip vrrp interface gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show ip vrrp interface gigabitethernet verbose`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Specifies the slot/port number of a range of ports.
`<1-4059>`	Specifies the VLAN ID in the range of 1 to 4084.
`verbose`	Displays all available information about the VRRP interface gigabitEthernet configurations.

show ip vrrp interface gigabitEthernet statistics

Display statistics for Virtual Router Redundancy Protocol (VRRP) ports.

Syntax

- `show ip vrrp interface gigabitethernet statistics`
- `show ip vrrp interface gigabitethernet statistics {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show ip vrrp interface gigabitethernet statistics {slot/port[/sub-port][-slot/port[/sub-port]][,...]} verbose`

Default

None

Command mode

User EXEC

show ip vrrp interface vlan

Show the extended Virtual Router Redundancy Protocol (VRRP) configuration for all VLANs on the switch or for the specified VLAN.

Syntax

- `show ip vrrp interface vlan`
- `show ip vrrp interface vlan <1-4059>`
- `show ip vrrp interface vlan {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show ip vrrp interface vlan verbose`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Specifies the slot/port number of a range of ports.
`vlan <1-4059>`	Specifies the VLAN ID in the range of 1 to 4084.
`vrf WORD<0-16>`	Specifies the name of the VRF.
`vrfids WORD<0-512>`	Specifies the ID of the VRF and is an integer in the range of 0 to 512.

show ip vrrp statistics

Display Virtual Router Redundancy Protocol (VRRP) statistics.

Syntax

- `show ip vrrp statistics`
- `show ip vrrp statistics address {A.B.C.D}`
- `show ip vrrp statistics vrf WORD<0-16>`
- `show ip vrrp statistics vrfids WORD<0-512>`
- `show ip vrrp statistics vrid <1-255>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
address {A.B.C.D}	Specifies the address of the backup VRRP.
vrf WORD<0-16>	Specifies the VRF name.
vrfids WORD<0-512>	Specifies the ID of the VRF and is an integer in the range of 0 to 512.
vrid <1-255>	Specifies a unique integar value that represents the virtual router ID in the range of 1 to 255. The virtual router acts as the default router for one or more assigned addresses.

show i-sid

Display all configured service instance identifiers (I-SID) along with their types, ports/mlt.

Syntax

- `show i-sid`
- `show i-sid <1-16777215>`
- `show i-sid elan-transparent`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
<1-16777215>	Specifies a service instance identifier (I-SID).
elantransparent	Specifies the elan-transparent (Transparent UNI) based service instance identifiers (I-SID).

show i-sid mac-address-entry

Display all C-MACs learnt on T-UNI ports for a given ISID.

Syntax

- `show i-sid mac-address-entry`
- `show i-sid mac-address-entry <1-16777215>`
- `show i-sid mac-address-entry mac <0x00:0x00:0x00:0x00:0x00:0x00>`
- `show i-sid mac-address-entry port <{slot/port[/sub-port][-slot/port[/sub-port]][,...]}>`
- `show i-sid mac-address-entry remote`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
{slot/port[/sub-port][-slot/port[/sub-port]][,...]}	Specifies the slot and the port number of the port at which C-MAC is learnt.
<0x00:0x00:0x00:0x00:0x00:0x00>	Specifies a MAC id.
<1-16777215>	Specifies a service instance identifier (I-SID).

show isis

Display the global Intermediate-System-to-Intermediate-System (IS-IS) configuration.

Syntax

- `show isis`

Default

None

Command mode

User EXEC

show isis adjacencies

Display Intermediate-System-to-Intermediate-System (IS-IS) adjacencies.

Syntax

- `show isis adjacencies`

Default

None

Command mode

User EXEC

show isis area

Display the Intermediate-System-to-Intermediate-System (IS-IS) area address.

Syntax

- `show isis area`

Default

None

Command mode

User EXEC

show isis int-auth

Display the Intermediate-System-to-Intermediate-System (IS-IS) interface authentication configuration.

Syntax

- `show isis int-auth`

Default

None

Command mode

User EXEC

show isis int-ckt-level

Display the Intermediate-System-to-Intermediate-System (IS-IS) circuit level parameters.

Syntax

- `show isis int-ckt-level`

Default

None

Command mode

User EXEC

show isis int-counters

Display Intermediate-System-to-Intermediate-System (IS-IS) interface counters.

Syntax

- `show isis int-counters`

Default

None

Command mode

User EXEC

show isis interface

Display Intermediate-System-to-Intermediate-System (IS-IS) interface configuration and status parameters (including adjacencies).

Syntax

- `show isis interface`
- `show isis interface { l1 | l2 | l12 }`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`{ l1 | l2 | l12 }`	Displays the interface information for the specified level: l1 (Level 1), l2 (Level 2), l12 (Level 1 and 2). The switch is a Level 1 router, which means it has only Level 1 links and can route within only one area. Level 1 routers route only within their assigned area and cannot route outside that area. Level 2 routers route between areas and toward other domains. Level 1/Level 2 routers route within an assigned area and between areas. Level 1/Level 2 routers maintain both a Level 1 Link State Database and a Level 2 Link State Database.

show isis int-l1-cntl-pkts

Display Intermediate-System-to-Intermediate-System (IS-IS) Level 1 control packet counters.

Syntax

- `show isis int-l1-cntl-pkts`

Default

None

Command mode

User EXEC

show isis int-l2-cntl-pkts

Display Intermediate-System-to-Intermediate-System (IS-IS) Level 2 control packet counters. This command is not supported in the current release. The current release supports only IS-IS level 1.

Syntax

- `show isis int-l2-cntl-pkts`

Default

None

Command mode

User EXEC

show isis int-timers

Display Intermediate-System-to-Intermediate-System (IS-IS) interface timers.

Syntax

- `show isis int-timers`

Default

None

Command mode

User EXEC

show isis lsdb

Display the Intermediate-System-to-Intermediate-System (IS-IS) Link State Database (LSDB).

Syntax

- `show isis lsdb`
- `show isis lsdb detail`
- `show isis lsdb level { l1 | l2 | l12 }`
- `show isis lsdb local`
- `show isis lsdb lspid xxxx.xxxx.xxxx.xx-xx - 8 bytes`
- `show isis lsdb sysid xxxx.xxxx.xxxx - 6 bytes`
- `show isis lsdb tlv <1-186>`
- `show isis lsdb tlv <1-186> sub-tlv <1-3>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`detail`	Displays detailed information, which includes the Link State Packet (LSP) ID, the level of the external router, the maximum age of the LSP, the LSP sequence number and the LSP checksum.
`level { l1 | l2 | l12 }`	Displays the link state database for the specified level: l1 (Level 1), l2 (Level 2), or l12 (Level 1 and 2). The switch is a Level 1 router, which means it has only Level 1 links and can route within only one area. Level 1 routers route only within their assigned area and cannot route outside that area. Level 2 routers route between areas and toward other domains. Level 1/Level 2 routers route within an assigned area and between areas. Level 1/Level 2 routers maintain both a Level 1 link state database and a Level 2 Link State database.
`local`	Displays information on the local link state database.
`lspid xxxx.xxxx.xxxx.xx-xx - 8 bytes`	Displays the link state database for the specified Link State Packet (LSP) ID. The LSP ID is assigned to external IS-IS routing devices.

sysid xxxx.xxxx.xxxx - 6 bytes	Displays the link state database for a specified sub-Type-Length-Value (TLV). Shortest Path Bridging MAC (SPBM) employs Intermediate-System-to-Intermediate-System (IS-IS) as the interior gateway protocol and implements additional TLVs to support additional functionality. TLVs exist inside IS-IS packets and Sub-TLVs exist as additional information in TLVs.
tlv <1-186>	Displays the link state database for the specified system ID.
tlv <1-186> sub-tlv <1-3>	Displays the link state database for a specified Type-Length-Value (TLV). Shortest Path Bridging MAC (SPBM) employs Intermediate-System-to-Intermediate-System (IS-IS) as the interior gateway protocol and implements additional TLVs to support additional functionality. TLVs exist inside IS-IS packets and give additional information.

show isis manual-area

Display Intermediate-System-to-Intermediate-System (IS-IS) areas.

Syntax

- `show isis manual-area`

Default

None

Command mode

User EXEC

show isis net

Display Intermediate-System-to-Intermediate-System (IS-IS) net information.

Syntax

- `show isis net`

Default

None

Command mode

User EXEC

show isis spbm

Display isis spbm related info.

Syntax

- `show isis spbm`

Default

None

Command mode

User EXEC

show isis spbm ip-multicast-route vsn-isid

Displays IP multicast route information by VSN I-SID.

Syntax

- show isis spbm ip-multicast-route vsn-isid <1-16777215>
- show isis spbm ip-multicast-route vsn-isid <1-16777215> detail
- show isis spbm ip-multicast-route vsn-isid <1-16777215> group {A.B.C.D}
- show isis spbm ip-multicast-route vsn-isid <1-16777215> group {A.B.C.D} detail
- show isis spbm ip-multicast-route vsn-isid <1-16777215> group {A.B.C.D} source {A.B.C.D}
- show isis spbm ip-multicast-route vsn-isid <1-16777215> group {A.B.C.D} source {A.B.C.D} detail
- show isis spbm ip-multicast-route vsn-isid <1-16777215> group {A.B.C.D} source {A.B.C.D} source-beb WORD<1-255>
- show isis spbm ip-multicast-route vsn-isid <1-16777215> group {A.B.C.D} source {A.B.C.D} source-beb WORD<1-255> detail
- show isis spbm ip-multicast-route vsn-isid <1-16777215>
- show isis spbm ip-multicast-route vsn-isid <1-16777215> detail
- show isis spbm ip-multicast-route vsn-isid <1-16777215> group {A.B.C.D}
- show isis spbm ip-multicast-route vsn-isid <1-16777215> group {A.B.C.D} detail
- show isis spbm ip-multicast-route vsn-isid <1-16777215> group {A.B.C.D} source {A.B.C.D}
- show isis spbm ip-multicast-route vsn-isid <1-16777215> group {A.B.C.D} source {A.B.C.D} detail
- show isis spbm ip-multicast-route vsn-isid <1-16777215> group {A.B.C.D} source {A.B.C.D} source-beb WORD<1-255>
- show isis spbm ip-multicast-route vsn-isid <1-16777215> group {A.B.C.D} source {A.B.C.D} source-beb WORD<1-255> detail

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
<1-16777215>	Specifies the VSN I-SID.
detail	Displays detailed route information.
group {A.B.C.D}	Displays route information by multicast group address.
source {A.B.C.D}	Displays information for the source IP address.
source-beb WORD<0-255>	Displays information for a specific backbone edge bridge.

show isis spbm ip-unicast-fib

Display isis spbm ip unicast-fib.

Syntax

- `show isis spbm ip-unicast-fib`
- `show isis spbm ip-unicast-fib all`
- `show isis spbm ip-unicast-fib id <1-16777215>`
- `show isis spbm ip-unicast-fib spbm-nh-as-mac`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`all`	Displays the IP unicast Forwarding Information Base (FIB) entries for all VRFs.
`id <1-16777215>`	Displays the IP unicast Forwarding Information Base (FIB) for the given service instance identifier (I-SID) value.
`spbm-nh-as-mac`	Displays the next hop Backbone MAC entry in the IP unicast Forwarding Information Base (FIB).

show isis spbm i-sid

Display isis spbm i-sid information.

Syntax

- `show isis spbm i-sid { all | config | discover }`
- `show isis spbm i-sid { all | config | discover } id <1-16777215>`
- `show isis spbm i-sid { all | config | discover } nick-name x.xx.xx - 2.5 bytes`
- `show isis spbm i-sid { all | config | discover } vlan <0-4084>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`{ all | config | discover }`	all: Displays all service instance identifier (I-SID) entries; config:Displays the configured I-SID entries provided that there is another switch in the SPBM cloud with the same I-SID; and discover: Displays discovered I-SID entries.
`{ all | config | discover } id <1-16777215>`	Displays service instance identifier (I-SID) information for the specified I-SID.
`{ all | config | discover } nick-name x.xx.xx - 2.5 bytes`	Displays service instance identifier (I-SID) information for the specified nick-name.
`{ all | config | discover } vlan <0-4084>`	Displays service instance identifier (I-SID) information for the specified Shortest Path Bridging MAC (SPBM) VLAN.

show isis spbm multicast-fib

Display isis spbm multicast-fib.

Syntax

- `show isis spbm multicast-fib`
- `show isis spbm multicast-fib i-sid <1-16777215>`
- `show isis spbm multicast-fib nick-name x.xx.xx - 2.5 bytes`
- `show isis spbm multicast-fib summary`
- `show isis spbm multicast-fib vlan <2-4059>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`i-sid <1-16777215>`	Displays the FIB for the specified I-SID.
`nick-name x.xx.xx - 2.5 bytes`	Displays the FIB for the specified nickname.
`summary`	Displays a summary of the FIB.
`vlan <1-4059>`	Specifies the VLAN ID for which to display the FIB.

show isis spbm nick-name

Show isis spbm nick-name info.

Syntax

- `show isis spbm nick-name`

Default

None

Command mode

User EXEC

show isis spbm unicast-fib

Display isis spbm unicast-fib.

Syntax

- `show isis spbm unicast-fib`
- `show isis spbm unicast-fib b-mac 0x00:0x00:0x00:0x00:0x00:0x00`
- `show isis spbm unicast-fib summary`
- `show isis spbm unicast-fib vlan <2-4059>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
b-mac 0x00:0x00:0x00:0x00:0x00:0x00	Displays the Forwarding Information Base (FIB) entry for the specified Backbone MAC (BMAC).
summary	Displays a summary of the Forwarding Information Base (FIB).
vlan <2-4059>	Displays the Forwarding Information Base (FIB) entry for the specified Shortest Path Bridging MAC (SPBM) VLAN.

show isis spbm unicast-tree

Display isis spbm unicast-tree.

Syntax

- `show isis spbm unicast-tree <2-4059>`
- `show isis spbm unicast-tree <2-4059> destination xxxx.xxxx.xxxx - 6 bytes`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`<2-4059>`	Displays the unicast tree for the specified destination.
`<2-4059> destination xxxx.xxxx.xxxx - 6 bytes`	Specifies the Shortest Path Bridging MAC (SPBM) Backbone VLAN ID.

show isis statistics

Display isis statistics.

Syntax

- `show isis statistics`

Default

None

Command mode

User EXEC

show isis system-id

Display isis system-id.

Syntax

- `show isis system-id`

Default

None

Command mode

User EXEC

show khi cpp

View key health information about the control processors.

Syntax

- `show khi cpp port-statistics`
- `show khi cpp port-statistics {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`port-statistics`	Identifies the slot and port.
`port-statistics {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Specifies the slot number.

show khi performance

View the performance of the various components of the switch by checking their key health indicators.

Syntax

- `show khi performance buffer-pool`
- `show khi performance buffer-pool {slot[-slot][,...]}`
- `show khi performance cpu`
- `show khi performance cpu {slot[-slot][,...]}`
- `show khi performance memory`
- `show khi performance memory {slot[-slot][,...]}`
- `show khi performance process`
- `show khi performance process {slot[-slot][,...]}`
- `show khi performance pthread`
- `show khi performance pthread {slot[-slot][,...]}`
- `show khi performance slabinfo`
- `show khi performance slabinfo {slot[-slot][,...]}`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`buffer-pool {slot[-slot][,...]}`	Indicates khi of the buffer-pool on the switch. {slot [-slot] [,...]} specifies the slot number.
`cpu {slot[-slot][,...]}`	Indicates khi of the CPU on the switch. {slot [-slot][,...]} specifies the slot number.
`memory {slot[-slot][,...]}`	Indicates khi of memory on the switch. {slot [-slot][,...]} specifies the slot number.
`process {slot[-`	Indicates khi of the process on the switch. {slot [-slot][,...]} specifies

`slot][,...]}`	the slot number.
`pthread {slot[-slot][,...]}`	Indicates khi of pthread on the switch. {slot [-slot][,...]} specifies the slot number.
`slabinfo {slot[-slot][,...]}`	Indicates khi of the slab information on the switch. {slot[-slot] [,...]} specifies the slot number.

show lacp

View Link Aggregation Control Protocol (LACP) configuration information to determine the LACP parameters and to ensure your configuration is correct.

Syntax

- show lacp
- show lacp actor-admin interface
- show lacp actor-admin interface gigabitethernet
- show lacp actor-admin interface gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- show lacp actor-admin interface gigabitethernet vid <1-4059>
- show lacp actor-oper interface
- show lacp actor-oper interface gigabitethernet
- show lacp actor-oper interface gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- show lacp actor-oper interface gigabitethernet vid <1-4059>
- show lacp extension interface
- show lacp extension interface gigabitethernet
- show lacp extension interface gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- show lacp extension interface gigabitethernet vid <1-4059>
- show lacp partner-admin interface
- show lacp partner-admin interface gigabitethernet
- show lacp partner-admin interface gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- show lacp partner-admin interface gigabitethernet vid <1-4059>
- show lacp partner-oper interface
- show lacp partner-oper interface gigabitethernet
- show lacp partner-oper interface gigabitethernet {slot/port[/sub-port][-slot/port[/sub-

port]][,...]}

- show lacp partner-oper interface gigabitethernet vid <1-4059>

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
actor-admin interface gigabitethernet	Shows LACP timer information for all interfaces or the specified interface. <1-4059> is the VLAN ID or list of VLAN IDs to show only ports attached to a particular VLAN. {slot/port[/sub-port][-slot/port[/sub-port]][,...]} is the slot and port list.
actor-admin interface gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}	Shows LACP actor administrative information for all interfaces or the specified interface. <1-4059> is the VLAN ID or list of VLAN IDs to show only ports attached to a particular VLAN. {slot/port[/sub-port][-slot/port[/sub-port]][,...]} is the slot and port list.
actor-admin interface gigabitethernet vid <1-4059>	Shows LACP actor operational information for all interfaces or the specified interface. <1-4059> is the VLAN ID or list of VLAN IDs to show only ports attached to a particular VLAN. {slot/port[/sub-port][-slot/port[/sub-port]][,...]} is the slot and port list.
actor-oper interface gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}	Shows all LACP port configuration information for all interfaces or the specified interface.
actor-oper interface gigabitethernet vid <1-4059>	Shows the MLT LACP information for all MLTs or the specific MLT index.
extension interface gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}	Shows LACP partner administrative information for all interfaces or the specified interface. <1-4059> is the VLAN ID or list of VLAN IDs to show only ports attached to a particular VLAN. {slot/port[/sub-port][-slot/port[/sub-port]][,...]} is the slot and port list.
extension interface gigabitethernet vid <1-4059>	Shows LACP partner operational information for all interfaces or the specified interface. <1-4059> is the VLAN ID or list of VLAN IDs to show only ports attached to a particular VLAN. {slot/port[/sub-port][-slot/port[/sub-port]][,...]} is the slot and port list.

show lacp interface

View Link Aggregation Control Protocol (LACP) statistics for each port to monitor LACP performance of the port.

Syntax

- `show lacp interface`
- `show lacp interface gigabitethernet`
- `show lacp interface gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show lacp interface gigabitethernet vid <1-4059>`
- `show lacp interface mlt`
- `show lacp interface mlt <64-6399>`
- `show lacp interface mlt id <1-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Specifies the slot and the port number.
`<mlt|gigabitethernet>`	Specifies the interface type for LACP. The ifindex of the MLT ranges from 64 to 6399.
`vid <1-4059>`	Shows only ports attached to a particular VLAN id in the range of 1 to 4084.

show license

Display the existing software licenses on the platform.

Syntax

- `show license`

Default

None

Command mode

User EXEC

show link-flap-detect

Show link-flap-detect configuration.

Syntax

- `show link-flap-detect`

Default

None

Command mode

Privileged EXEC

show logging

Use this command to display logging information.

Syntax

- `show logging config`
- `show logging info`
- `show logging level`
- `show logging transferFile <1-10>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`info`	Displays the logging information.
`level`	Displays the configuration of event logging.
`transferFile <1-10>`	Displays the current level parameter settings and next level directories. <1-10> specifies the TFTP/FTP host IP address.

show logging file

View log files by file name, category, severity, or CP module to identify possible problems.

Syntax

- `show logging file`
- `show logging file alarm`
- `show logging file CPU WORD<0-100>`
- `show logging file event-code WORD<0-10>`
- `show logging file module WORD<0-100>`
- `show logging file name-of-file WORD<1-99>`
- `show logging file save-to-file WORD<1-99>`
- `show logging file severity WORD<0-25>`
- `show logging file tail`
- `show logging file vrf WORD<0-32>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
alarm	Displays alarm log entries.
CPU WORD<0-100>	Filters and list the logs according to the CP module that generated it. Specify a string length of 0-25 characters. To specify multiple filters, separate each CP module by the vertical bar (|), for example, CPU1|CPU2.
event-code WORD<0-10>	Specifies a number that precisely identifies the event reported. WORD<0-10> specifies the event code in the format: {0x0-0x00FFFFFF| 0x0-0x00FFFFFF}.
module	Filters and list the logs according to module. Specify a string length of 0-100 characters. Categories include SNMP, EAP, RADIUS, RMON, WEB, STG, IGMP, HW, MLT, FILTER,

WORD<0-100>	QOS, CLILOG, SW, CPU, IP, VLAN, IPMC, IP-RIP, OSPF, PIM, POLICY, RIP, and SNMPLOG. To specify multiple filters, separate each category by the vertical bar (|), for example, OSPF|FILTER|QOS. Use the command show logging file module clilog to view the ACLI log. Use the command show logging file module snmplog to view the SNMP log.
name-of-file WORD<1-99>	Displays the valid logs from this file. For example, /intflash/logcopy.txt. You cannot use this command on the current log file-the file into which the messages are currently logged). Specify a string length of 1-99 characters.
save-to-file WORD<1-99>	Redirects the output to the specified file and removes all encrypted information. The tail option is not supported with the save-to-file option.
severity WORD<0-25>	Filters and list the logs according to severity. Choices include INFO, ERROR, WARNING, FATAL. To specify multiple filters, separate each severity by the vertical bar (|), for example, ERROR|WARNING|FATAL.
tail	Shows the last results first.
vrf WORD<0-32>	Specifies the name of a VRF instance to show log messages that only pertain to that VRF.

show mac-address-table aging-time

Display forwarding database aging time for all VLANs globally.

Syntax

- `show mac-address-table aging-time`

Default

None

Command mode

User EXEC

show macsec connectivity-association

Display the connectivity-association (CA) details. For security reasons, the CA key is not displayed.

Syntax

- `show macsec connectivity-association`
- `show macsec connectivity-association WORD<5-15>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
WORD<5-15>	Specifies a connectivity-association name. It is a 5 to 15 character alphanumeric string.

show macsec statistics

Shows the MACsec statistics from the following groups: • general statistics • secure-channel inbound statistics • secure-channel outbound statistics

Syntax

- `show macsec statistics portnum`
- `show macsec statistics portnum secure-channel inbound`
- `show macsec statistics portnum secure-channel outbound`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
portnum	Specifies the MACsec enabled port number. Displays the following MACsec statistics for the interface: TxUntaggedPkts, TxTooLongPkts, RxUntaggedPkts, RxNoTag Pkts, RxBadTag Pkts, RxUnknownSci Pkts, RxNoSci Pkts, and RxOverrun Pkts.
secure-channel inbound	Displays the following MACsec statistics for the interface: SCStatsUnusedSAPkts, SCStatsNoUsingSAPkts, SCStatsLatePkts, SCStatsNotValidPkts, SCStatsInvalidPkts, SCStatsDelayedPkts, SCStatsUncheckedPkts, SCStatsOKPkts, SCStatsOctetsValidated, and SCStatsOctetsDecrypted.
secure-channel outbound	Displays the following MACsec statistics for the interface: Protected SC Pkts, Encrypted SC pkts, Protected SC bytes, and Encrypted SC bytes.

show macsec status

Display the following information for MACsec enabled interfaces: • MACsec status • MACsec encryption status • MACsec replay protect status and window • CAK in MD5 checksum format

Syntax

- `show macsec status`
- `show macsec status <portnum>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<portnum>	Specifies the MACsec enabled port number.

show mirror-by-port

Show mirror-by-port diagnostic information.

Syntax

- `show mirror-by-port`

Default

None

Command mode

User EXEC

show mlt

Display MultiLink Trunking (MLT) information, including port type, port members and designated ports.

Syntax

- `show mlt`
- `show mlt <1-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
<1-512>	Specifies the MLT ID. The value ranges from 1-512.

show mlt error collision

View information about collision errors to obtain information about collision errors in the specified MLT, or for all MLTs.

Syntax

- `show mlt error collision`
- `show mlt error collision <1-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
<1-512>	Specifies the MLT ID. The value ranges from 1-512.

show mlt error main

View information about Ethernet errors to display information about the types of Ethernet errors sent and received by the specified MLT or all MLTs.

Syntax

- `show mlt error main`
- `show mlt error main <1-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
<1-512>	Specifies the MLT ID. The value ranges from 1-512.

show mlt stats

View MLT statistics to display MultiLinkTrunking statistics for the switch or for the specified MLT ID.

Syntax

- `show mlt stats`
- `show mlt stats <1-512>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
<1-512>	Specifies the MLT ID. The value ranges from 1-512.

show monitor-statistics

Display monitor timer configurations, including duration and interval.

Syntax

- `show monitor-statistics`

Default

None

Command mode

User EXEC

show ntp

View the Network Time Protocol (NTP) server status statistics.

Syntax

- `show ntp`
- `show ntp key`
- `show ntp server`
- `show ntp statistics`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`key`	Specifies to show NTP authentication key information.
`server`	Specifies to show NTP server information.
`statistics`	Specifies to show NTP statistics information.

show pluggable-optical-modules

View Digital Diagnostic Interface (DDI) module information to view SFP and SFP+ manufacturing information and characteristics, temperature and voltage information, and configuration details.

Syntax

- `show pluggable-optical-modules basic`
- `show pluggable-optical-modules basic {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show pluggable-optical-modules config`
- `show pluggable-optical-modules detail`
- `show pluggable-optical-modules detail {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show pluggable-optical-modules temperature`
- `show pluggable-optical-modules temperature {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show pluggable-optical-modules voltage`
- `show pluggable-optical-modules voltage {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
{slot/port[/sub-port][-slot/port[/sub-port]][,...]}	Optionally, Identifies the slot and port.
basic	Shows basic SFP and SFP+ information.
config	Shows pluggable optical modules configuration information.
detail	Shows detailed SFP and SFP+ information.
temperature	Shows SFP and SFP+ temperature information.
voltage	Shows SFP and SFP+ voltage information.

Version 05.01 June 2015

Avaya.com/support

show qos 802.1p-override

Display the 802.1p override status for a port or VLAN.

Syntax

- `show qos 802.1p-override`
- `show qos 802.1p-override gigabitEthernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show qos 802.1p-override vlan <1-4059>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`gigabitEthernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.
`vlan <1-4059>`	Specifies the VLAN ID.

show qos cosq-stats

Show qos cos queue statistics.

Syntax

- `show qos cosq-stats`
- `show qos cosq-stats cpu-port`
- `show qos cosq-stats interface`
- `show qos cosq-stats interface {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`cpu-port`	Show Qos Cosq Stats on cpu port
`interface {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Show Qos Cosq Stats on port

show qos egressmap

Display the Quality of Service (QoS) egress mappings.

Syntax

- `show qos egressmap`
- `show qos egressmap 1p`
- `show qos egressmap 1p <0-7>`
- `show qos egressmap ds`
- `show qos egressmap ds <0-7>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
1p	Displays the QoS level to IEEE 802.1p priority mapping. Specifies the QoS level. Each QoS level has a default IEEE 1P value: level 0 - 1 , level 1 - 0, level 2 - 2, level 3 - 3, level 4 - 4, level 5 - 5, level 6 - 6, and level 7 - 7. The system reserves level 7 for Network Control.
1p <0-7>	Displays the QoS level to IEEE 802.1p priority mapping.
ds	Displays the QoS level to DS byte mapping. Each QoS level has a default DSCP mapping: level 0 - 0, level 1 - 0, level 2 - 10, level 3 - 18, level 4 - 26, level 5 - 34, level 6 - 46, and level 7 - 46.
ds <0-7>	Displays the QoS level to DS byte mapping.

show qos ingressmap

Ensure the accuracy of the ingress configuration.

Syntax

- `show qos ingressmap`
- `show qos ingressmap 1p`
- `show qos ingressmap 1p <0-7>`
- `show qos ingressmap ds`
- `show qos ingressmap ds <0-63>`

Default

`None`

Command mode

User EXEC

Command parameters

Parameter	Description
`1p <0-7>`	Show IEEE 1p to Qos level mapping
`ds <0-63>`	ShowDS Byte to Qos level mapping

show qos rate-limiting

Show port ingress rate-limit information.

Syntax

- `show qos rate-limiting interface gigabitEthernet`
- `show qos rate-limiting interface gigabitEthernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

User EXEC

show qos shaper

Display egress rate-limiting information for an interface.

Syntax

- `show qos shaper interface gigabitEthernet`
- `show qos shaper interface gigabitEthernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`interface gigabitEthernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.

show radius

Display the global status of Remote Access Dial-In User Services (RADIUS) information.

Syntax

- `show radius`

Default

None

Command mode

User EXEC

show radius-server

Display the Remote Access Dial-In User Services (RADIUS) server information.

Syntax

- `show radius-server`
- `show radius-server statistics`

Default

None

Command mode

User EXEC

show radius snmp

Display the global status of Remote Access Dial-In User Services (RADIUS) information.

Syntax

- `show radius snmp`

Default

None

Command mode

User EXEC

show rmon

View Remote Network Monitoring (RMON) settings to see information about alarms, various statistics, events, the status of RMON on the switch, RMON address map, or control tables.

Syntax

- `show rmon`
- `show rmon address-map`
- `show rmon alarm`
- `show rmon application-host-stats WORD<1-64>`
- `show rmon ctl-table`
- `show rmon event`
- `show rmon history`
- `show rmon log`
- `show rmon network-host-stats`
- `show rmon protocol-dist-stats`
- `show rmon stats`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`address-map`	Displays the RMON control tables on the switch.
`alarm`	Displays Remote Network Monitoring (RMON) alarm information on the switch.
`application-host-stats WORD<1-64>`	Displays RMON application host statistics on the switch. WORD<1-64> specifies one of the following application protocols: TCP, UDP, FTP, TELNET, HTTP, RLOGIN, SSH, TFTP, SNMP, HTTPS.
`ctl-table`	Displays the RMON address map on the switch.
`event`	Displays RMON events information on the switch.
`history`	Displays RMON history on the switch.

log	Displays RMON log information on the switch.
network-host-stats	Displays RMON network host statistics on the switch.
protocol-dist-stats	Displays RMON protocol distribution statistics on the switch.
stats	Displays RMON statistics information on the switch.

show route-map

Display current information about the IP route policy.

Syntax

- `show route-map`
- `show route-map detail`
- `show route-map vrf WORD<0-16>`
- `show route-map vrfids WORD<0-512>`
- `show route-map WORD<1-64>`
- `show route-map WORD<1-64> seq <1-65535>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`detail`	Specifies the long format information of the route map.
`vrf WORD<0-16>`	Specifies the name of the VRF.
`vrfids WORD<0-512>`	Specifies the ID of the VRF and is an integer in the range of 0 to 512.
`WORD<1-64> seq <1-65535>`	Displays a route policy with a policy name and a sequence number. WORD<1-64> is the policy name. seq <1-65535> is the sequence number.

show running-config

Display the current switch configuration.

Syntax

- `show running-config`
- `show running-config module { boot|cfm|cli|diag|filter|ip|isis|lacp|mlt|naap|nsna|ntp|port|qos|radius|rmon|slpp|spbm|stg|sys|vlan|web }`
- `show running-config verbose`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`module { boot|cfm|cli|diag|filter|ip|isis|lacp|mlt|naap|nsna|ntp|port|qos|radius|rmon|slpp|spbm|stg|sys|vlan|web }`	Specifies the command group for which you request configuration settings.
`verbose`	Specifies the complete list of configuration information on the switch.

show slot

Show slot configuration for the interface modules.

Syntax

- `show slot`

Default

None

Command mode

Privileged EXEC

show slpp

Use Simple Loop Prevention Protocol (SLPP) information to view loop information.

Syntax

- `show slpp`

Default

None

Command mode

User EXEC

show slpp interface

Show Simple Loop Prevention Protocol (SLPP) information for a port so that you can view the loop information for a port.

Syntax

- `show slpp interface GigabitEthernet`
- `show slpp interface GigabitEthernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`GigabitEthernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.

show smlt

View all ports for a single port SMLT to ensure the correct ports are configured.

Syntax

- `show smlt mlt`

Default

`None`

Command mode

User EXEC

Command parameters

Parameter	Description
`mlt`	Displays SMLT information for the MLT interface.

show snmplog

View the contents of the Simple Network Management Protocol (SNMP) log. This command only applies to log files generated by releases prior to Release 3.2. The command is replaced by show logging file module snmplog

Syntax

- `show snmplog`

Default

None

Command mode

User EXEC

show snmp-server

Display Simple Network Management Protocol (SNMP) system information to view trap and authentication profiles.

Syntax

- `show snmp-server`
- `show snmp-server community`
- `show snmp-server context`
- `show snmp-server group`
- `show snmp-server host`
- `show snmp-server notify-filter`
- `show snmp-server user`
- `show snmp-server view`
- `show snmp-server view viewname WORD<0-32>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`community`	Displays the SNMP community table.
`context`	Displays vacm context table.
`group`	Displays SNMP group access table.
`host`	Displays SNMP host details.
`notify-filter`	Displays SNMP notify-filter details.
`user`	Displays SNMP users.
`view`	Displays SNMP MIB view table.
`view viewname WORD<0-32>`	Displays the view for a particular view name.

show software

Display unpacked software releases information.

Syntax

- `show software`
- `show software detail`
- `show software release WORD<1-99>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`detail`	Displays software release in detail mode.
`release WORD<1-99>`	Specifies a specific software release to be displayed in the range of 1 to 99.

show spanning-tree config

Query the change detection setting to show the port information.

Syntax

- `show spanning-tree config`

Default

None

Command mode

User EXEC

show spanning-tree mstp config

View the Multiple Spanning Tree Protocol (MSTP) configurations to display the MSTP-related bridge-level VLAN and region information.

Syntax

- `show spanning-tree mstp config`

Default

None

Command mode

User EXEC

show spanning-tree mstp msti config

Display the configuration for one or all Multiple Spanning Tree Protocol (MSTP) instance IDs.

Syntax

- `show spanning-tree mstp msti config`
- `show spanning-tree mstp msti config <1-63>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
<1-63>	Specifies the MSTP instance ID.

show spanning-tree mstp msti port

Shows the configuration, role, or statistics information of an MSTP port.

Syntax

- `show spanning-tree mstp msti port config`
- `show spanning-tree mstp msti port config {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show spanning-tree mstp msti port role`
- `show spanning-tree mstp msti port role {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show spanning-tree mstp msti port statistics`
- `show spanning-tree mstp msti port statistics {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`config {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Shows the configuration information of an MSTP port.
`role {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Shows the role information of an MSTP port.

show spanning-tree mstp port config

Show mstp port configurations.

Syntax

- `show spanning-tree mstp port config {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
{slot/port[/sub-port][-slot/port[/sub-port]][,...]}	Displays the MSTP port information.

show spanning-tree mstp port role

Display Multiple Spanning Tree Protocol (MSTP) port information.

Syntax

- `show spanning-tree mstp port role {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Displays the MSTP port configurations, which display MSTP-related bridge-level VLAN and region information.

show spanning-tree mstp port statistics

Display Multiple Spanning Tree Protocol (MSTP) Multiple Spanning Tree Instance (MSTI) information to ensure the feature is configured correctly for your network.

Syntax

- `show spanning-tree mstp port statistics`
- `show spanning-tree mstp port statistics {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Displays the MSTP port information to display the MSTP, CIST port, and MSTI port information maintained by every port of the common spanning tree.

show spanning-tree mstp statistics

Display Multiple Spanning Tree Protocol (MSTP) statistics to see MSTP related bridge-level statistics.

Syntax

- `show spanning-tree mstp statistics`

Default

None

Command mode

User EXEC

show spanning-tree mstp status

View the Multiple Spanning Tree Protocol (MSTP) status to display the MSTP- related status information known by the selected bridge.

Syntax

- `show spanning-tree mstp status`

Default

None

Command mode

User EXEC

show spanning-tree rstp config

View the global Rapid Spanning Tree Protocol (RSTP) configuration information to display the RSTP configuration details.

Syntax

- `show spanning-tree rstp config`

Default

None

Command mode

User EXEC

show spanning-tree rstp port config

Configure Ethernet Rapid Spanning Tree Protocol (RSTP) parameters to set RSTP parameters for the port.

Syntax

- `show spanning-tree rstp port config`
- `show spanning-tree rstp port config {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Shows RSTP port configuration.

show spanning-tree rstp port role

View the Rapid Spanning Tree Protocol (RSTP) role to display the RSTP information.

Syntax

- `show spanning-tree rstp port role`
- `show spanning-tree rstp port role {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Shows the RSTP port role.

show spanning-tree rstp port statistics

View the Rapid Spanning Tree Protocol (RSTP) information for a selected port to display the RSTP related configuration information for the selected port.

Syntax

- `show spanning-tree rstp port statistics`
- `show spanning-tree rstp port statistics {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Shows RSTP port statistics.

show spanning-tree rstp port status

View the Rapid Spanning Tree Protocol (RSTP) status for a port to display the RSTP related status information for a selected port.

Syntax

- `show spanning-tree rstp port status`
- `show spanning-tree rstp port status {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.

show spanning-tree rstp statistics

View Rapid Spanning Tree Protocol (RSTP) statistics to manage network performance.

Syntax

- `show spanning-tree rstp statistics`

Default

None

Command mode

User EXEC

show spanning-tree rstp status

View the Rapid Spanning Tree Protocol (RSTP) status to display the RSTP related status information for the selected bridge.

Syntax

- `show spanning-tree rstp status`

Default

None

Command mode

User EXEC

show spanning-tree status

Show stp status.

Syntax

- `show spanning-tree status`

Default

None

Command mode

User EXEC

show spbm

Display the status (enabled or disabled) and the ethertype for Shortest Path Bridging MAC (SPBM).

Syntax

- `show spbm`

Default

None

Command mode

User EXEC

show ssh

Verify that Secure Shell (SSH) services are enabled on the switch and display SSH configuration information to ensure that the SSH parameters are properly configured.

Syntax

- `show ssh global`
- `show ssh session`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`global`	Displays global system SSH information.
`session`	Displays the current session SSH information.

show ssh rekey

Shows information about key exchange between server and client.

Syntax

- `show ssh rekey`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
info	Shows information about key exchange between server and client.

show sys dns

Shows the DNS default domain name.

Syntax

- `show sys dns`

Default

None

Command mode

User EXEC

show sys force-msg

Shows the message control force message pattern settings.

Syntax

- `show sys force-msg`

Default

None

Command mode

User EXEC

show sys-info

Display the system status and technical information on the hardware components of the switch.

Syntax

- `show sys-info`
- `show sys-info card`
- `show sys-info fan`
- `show sys-info led`
- `show sys-info power`
- `show sys-info temperature`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
card	Specifies information about the application-specific integrated circuit (ASIC) installed on each module.
fan	Specifies information about all the installed modules, including cooling modules, and firmware for the CF devices.
led	Specifies information about installed cooling modules.
power	Specifies information about installed power supplies.
temperature	Specifies information about temperature.

show syslog

View the syslog information to ensure accuracy.

Syntax

- `show syslog`

Default

None

Command mode

User EXEC

show syslog host

View the syslog host information to ensure accuracy.

Syntax

- `show syslog host <1-10>`

Default

None

Command mode

User EXEC

show sys mgid-usage

Shows the multicast group ID (MGID) usage for VLANs, SPBM, and multicast traffic.

Syntax

- `show sys mgid-usage`

Default

None

Command mode

User EXEC

show sys msg-control

Shows the system message control function status (activated or disabled).

Syntax

- `show sys msg-control`

Default

None

Command mode

User EXEC

show sys mtu

Shows system maximum transmission unit (MTU) information.

Syntax

- `show sys mtu`

Default

None

Command mode

User EXEC

show sys power

View power information for the chassis.

Syntax

- `show sys power`
- `show sys power global`
- `show sys power power-supply`
- `show sys power slot`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`global`	Shows a summary of the power redundancy settings.
`power-supply`	Shows detailed power information for each power supply.
`slot`	Shows detailed power information for each slot.

show sys setting

Shows system settings.

Syntax

- `show sys setting`

Default

None

Command mode

User EXEC

show sys software

Verify that the image and configuration are loaded properly.

Syntax

- `show sys software`

Default

None

Command mode

User EXEC

show sys topology-ip

Shows the circuitless IP set.

Syntax

- `show sys topology-ip`

Default

None

Command mode

User EXEC

show tacacs

show TACACS information.

Syntax

- `show tacacs`

Default

None

Command mode

Privileged EXEC

show tech

Display technical information about the status of the system and complete information about the hardware components, software components, and operation of the system.

Syntax

- `show tech`

Default

None

Command mode

User EXEC

show telnet-access

Show the maximum number of Telnet sessions.

Syntax

- `show telnet-access`

Default

None

Command mode

User EXEC

show trace cfm

Shows the configuration status for CFM trace.

Syntax

- `show trace cfm`

Default

None

Command mode

User EXEC

show trace file

View the trace results.

Syntax

- `show trace file`
- `show trace file tail`

Default

`None`

Command mode

User EXEC

Command parameters

Parameter	Description
`tail`	Show file from tail

show trace level

Show the current trace level for all modules.

Syntax

- `show trace level`

Default

None

Command mode

User EXEC

show trace modid-list

Show the relationship between level number and module ID to use with the trace tool.

Syntax

- `show trace modid-list`

Default

None

Command mode

User EXEC

show trace spbm isis

View trace results.

Syntax

- `show trace spbm isis`

Default

None

Command mode

User EXEC

show trace sub-system

Show trace sub-system name.

Syntax

- `show trace sub-system`

Default

None

Command mode

User EXEC

show unsupported-lastset

Display the last set of masked commands in the release.

Syntax

- `show unsupported-lastset`

Default

None

Command mode

User EXEC

show users

Display a list of users who are logged on to the system.

Syntax

- `show users`

Default

None

Command mode

User EXEC

show virtual-ist

Show virtual IST information.

Syntax

- `show virtual-ist`

Default

None

Command mode

User EXEC

show virtual-ist stat

Display stat for virtual ist.

Syntax

- `show virtual-ist stat`

Default

None

Command mode

User EXEC

show vlacp

Display Virtual Link Aggregation Control Protocol (VLACP) global information.

Syntax

- `show vlacp`

Default

None

Command mode

User EXEC

show vlacp interface

Show vlacp interface information

Syntax

- `show vlacp interface`
- `show vlacp interface gigabitethernet`
- `show vlacp interface gigabitethernet {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show vlacp interface gigabitethernet vid <1-4059>`

Default

None

Command mode

User EXEC

show vlan advance

View the advanced parameters to display the advanced parameters for the specified VLAN or for all VLANs.

Syntax

- `show vlan advance`
- `show vlan advance <1-4059>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
<1-4059>	Specifies the port or range of ports.

show vlan autolearn-mac

View autolearned MAC addresses.

Syntax

- `show vlan autolearn-mac`

Default

None

Command mode

User EXEC

show vlan basic

View the VLAN information to display the basic configuration for all VLANs or a specified VLAN.

Syntax

- `show vlan basic`
- `show vlan basic <1-4059>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
<1-4059>	Specifies the VLAN ID in a range of 1 to 4084.

show vlan brouter-port

View the brouter port information to display the brouter port VLAN information for all VLANs on the switch or for the specified VLAN.

Syntax

- `show vlan brouter-port`

Default

None

Command mode

User EXEC

show vlan i-sid

Display the customer VLAN (C-VLAN) to instance service identifier (I-SID) associations.

Syntax

- `show vlan i-sid`
- `show vlan i-sid <1-4059>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
<1-4059>	Specifies the VLAN ID. If you do not specify the VLAN ID, the output includes all VLANs.

show vlan mac-address-entry

View forwarding database (FDB) filters to display the FDB filters for the specified VLAN.

Syntax

- `show vlan mac-address-entry`
- `show vlan mac-address-entry <1-4059>`
- `show vlan mac-address-entry mac 0x00:0x00:0x00:0x00:0x00:0x00`
- `show vlan mac-address-entry port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `show vlan mac-address-entry spbm-tunnel-as-mac`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`<1-4059>`	Specifies the VLAN ID in a range of 1 to 4084.
`mac 0x00:0x00:0x00:0x00:0x00:0x00`	Specifies the MAC address.
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Specifies the port or range of ports in either slot or port format.
`spbm-tunnel-as-mac`	Discovers where entries are learned. The TUNNEL column indicates where in the SPBM network an entry is learned.

show vlan mac-address-static

View the database status, MAC address, and QoS levels to display the static forwarding database status.

Syntax

- `show vlan mac-address-static`
- `show vlan mac-address-static <1-4059>`
- `show vlan mac-address-static mac 0x00:0x00:0x00:0x00:0x00:0x00`
- `show vlan mac-address-static port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`<1-4059>`	Specifies the port or range of ports in either slot or port format.
`mac 0x00:0x00:0x00:0x00:0x00:0x00`	Specifies the VLAN ID in a range of 1 to 4059.
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Specifies the MAC address.

show vlan manual-edit-mac

Show the list of manually edited MAC addresses and the associated ports.

Syntax

- `show vlan manual-edit-mac`

Default

None

Command mode

User EXEC

show vlan members

View the VLAN port member status to display the port member status for all VLANs on the switch or for the specified VLAN.

Syntax

- `show vlan members`
- `show vlan members <1-4059>`
- `show vlan members null-vlan`
- `show vlan members port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`<1-4059>`	Specifies the port or range of ports. Important: Entering a port {slot/port[-slot/port][,...]} is optional. If you enter a port{slot/port[-slot/port] [,...]}, the command shows information for the port. Without the port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}, the command shows information for all the ports.
`null-vlan`	Specifies the VLAN ID in the range of 1 to 4059. Entering a VLAN ID is optional. When you enter a VLAN ID, the command shows information for the specified VLAN or port. Without the VLAN ID the command shows information for all the configured VLANs.
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Displays ports in a null VLAN. The switch supports a placeholder for ports that is called a null port-based VLAN or unassigned VLAN.

show vlan nodal-mep

Display the nodal Maintenance Endpoint (MEP) configuration. The Nodal B-VLAN MEPs created on the CP and function as if they are connected to the virtual interface of the given B-VLAN. Because of this they are supported for both port and MLT based B-VLANs. To support this behavior a MAC entry is added to the FDB and a new CFM data path table containing the B-VLAN and MP level are added to direct CFM frames to the CP as required.

Syntax

- `show vlan nodal-mep`
- `show vlan nodal-mep <1-4059>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
<1-4059>	Specifies the VLAN ID.

show vlan nodal-mip-level

Display the nodal Maintenance Intermediate Point (MIP) level configuration. The Nodal MIP is associated with a B-VLAN. VLAN and level are sufficient to specify the Nodal MIP entity. The Nodal MIP MAC address is the SPBM system ID for the node on which it resides. If the fastpath sends a message to the CP, the MIP responds if it is not the target and the MEP responds if it is the target.

Syntax

- `show vlan nodal-mip-level`
- `show vlan nodal-mip-level <1-4059>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
<1-4059>	Specifies the VLAN ID.

show vlan private-vlan

Show the private VLAN association.

Syntax

- `show vlan private-vlan <2-4059>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
<2-4059>	Specifies the VLAN ID.

show vlan remote-mac-table

Display customer VLAN (C-VLAN) remote-mac-table information.

Syntax

- `show vlan remote-mac-table <1-4059>`
- `show vlan remote-mac-table <1-4059> alternative`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`<1-4059>`	Specifies the VLAN ID.
`<1-4059> alternative`	Shows the table in the alternative way.

show web-server

Display the web server information.

Syntax

- `show web-server`

Default

None

Command mode

User EXEC

shutdown

Disable an Ethernet module before you remove it from the chassis to minimize traffic loss. Traffic does not flow on a disabled module.

Syntax

- `default shutdown`
- `default shutdown port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `no shutdown`
- `no shutdown port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `shutdown`
- `shutdown port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<{slot/port[/sub-port][-slot/port[/sub-port]][,...]}>`	Identifies the slot and port.

shutdown (for the management port)

Disable the Ethernet management port on the CP module.

Syntax

- `default shutdown`
- `no shutdown`
- `shutdown`

Default

`The default is enabled.`

Command mode

mgmtEthernet Interface Configuration

slamon agent

Configures the SLA MonTM agent.

Syntax

- `default slamon agent ip address`
- `default slamon agent port`
- `slamon agent ip address {A.B.C.D}`
- `slamon agent ip address {A.B.C.D} vrf WORD<1-16>`
- `slamon agent port <0-65535>`

Default

`None`

Command mode

Application Configuration

Command parameters

Parameter	Description
`ip address {A.B.C.D}`	Configures the SLA MonTM agent IP address. You must configure the IP address before the agent can process received discovery packets from the SLA MonTM server. The agent IP address is a mandatory parameter if you enable SLA Monitor. The default value is 0.0.0.0.
`port <0-65535>`	Configures the UDP port for SLA MonTM agent-server communication. The agent receives discovery packets on this port. The default is port 50011. The server must use the same port.
`vrf WORD<1-16>`	Specifies a VRF name. The VRF parameter is optional.

slamon agent-comm-port

Controls the port used for Real Time Protocol (RTP) and New Trace Route (NTR) testing.

Syntax

- `default slamon agent-comm-port`
- `slamon agent-comm-port <0-65535>`

Default

`The default is 50012.`

Command mode

Application Configuration

slamon install-cert-file

Installs a Secure Sockets Layer (SSL) certificate.

Syntax

- `no slamon install-cert-file`
- `slamon install-cert-file WORD<0-128>`

Default

By default, the SLA MonTM agent uses an Avaya SIP certificate to secure communications with the SLA MonTM server.

Command mode

Application Configuration

Command parameters

Parameter	Description
WORD<0-128>	Specifies the file name and path of the certificate to install.

slamon oper-mode enable

Enables the SLA MonTM agent.

Syntax

- `default slamon oper-mode`
- `no slamon oper-mode`
- `no slamon oper-mode enable`
- `slamon oper-mode`
- `slamon oper-mode enable`

Default

`The default is disabled.`

Command mode

Application Configuration

slamon server

Configures information about the SLA MonTM server with which the agent communicates.

Syntax

- `default slamon server ip address`
- `default slamon server port`
- `port <0-65535> <0-65535>`
- `slamon server ip address {A.B.C.D}`
- `slamon server ip address {A.B.C.D} {A.B.C.D}`
- `slamon server port <0-65535>`
- `slamon server port <0-65535> <0-65535>`

Default

None

Command mode

Application Configuration

Command parameters

Parameter	Description
`ip address {A.B.C.D} {A.B.C.D}`	Restricts the SLA MonTM agent to use one of this SLA MonTM server IP address only. The default is 0.0.0.0, which means the agent can register with any server. The second {A.B.C.D} represents an optional secondary server. Omit this parameter if you use only one server.
`port <0-65535> <0-65535>`	Restricts the SLA MonTM agent to use one of this registration port only. The default is 0, which means the agent disregards the source port information in server traffic. The SLA MonTM server must use the same port. The second <0-65535> represents the UDP port for an optional secondary server. Omit this parameter if you use only one server.

slot shutdown

Slot shutdown.

Syntax

- `slot shutdown {slot[-slot][,...]}`
- `no slot shutdown {slot[-slot][,...]}`
- `default slot shutdown {slot[-slot][,...]}`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`{slot[-slot][,...]}`	Specifies the slot number. Valid IO slots are 1-4 for VSP 8400 and 1-2 for VSP 7200 and VSP 8200.

slpp (for a port)

Enable Simple Loop Prevention Protocol (SLPP) by port to detect a loop and automatically stop it.

Syntax

- `default slpp`
- `default slpp packet-rx`
- `default slpp packet-rx-threshold`
- `default slpp port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `default slpp port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} packet-rx`
- `default slpp port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} packet-rx-threshold`
- `no slpp`
- `no slpp packet-rx`
- `no slpp port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `no slpp port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} packet-rx`
- `slpp packet-rx`
- `slpp packet-rx-threshold <1-500>`
- `slpp port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} packet-rx`
- `slpp port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} packet-rx-threshold <1-500>`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`{slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.

packet-rx	Enables or disables SLPP packet reception on the port. The default is disabled.
packet-rx-threshold <1-500>	Specifies the SLPP reception threshold on the ports, expressed as an integer. The packet reception threshold specifies the number of SLPP packets the port receives before it is administratively disabled. CAUTION: Avaya recommends that you configure the rx-threshold above 50 ms only on lightly loaded switches. If you configure the rx-threshold to a value greater than 50 ms on a heavily loaded switch and a loop occurs, the system can experience high CPU utilization. The default is 1.

slpp (globally)

Enable the Simple Loop Prevention Protocol (SLPP) globally and for a VLAN to detect a loop and automatically stop it. The VLAN configuration controls the boundary of SLPP-PDU transmission.

Syntax

- `default slpp`
- `default slpp`
- `default slpp enable`
- `default slpp enable`
- `default slpp tx-interval`
- `default slpp tx-interval`
- `no slpp`
- `no slpp`
- `no slpp enable`
- `no slpp enable`
- `no slpp vid <1-4059>`
- `no slpp vid <1-4059>`
- `slpp enable`
- `slpp enable`
- `slpp tx-interval <500-5000>`
- `slpp tx-interval <500-5000>`
- `slpp vid <1-4059>`
- `slpp vid <1-4059>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
enable	Enables or disables the SLPP operation. You must enable the SLPP operation to enable the SLPP packet transmit and receive process. If you disable the SLPP operation, the system sends no SLPP packets and discards received SLPP packets. The default is disabled.
enable	Enables or disables the SLPP operation. You must enable the SLPP operation to enable the SLPP packet transmit and receive process. If you disable the SLPP operation, the system sends no SLPP packets and discards received SLPP packets. The default is disabled.
tx-interval <500-5000>	Configures the SLPP packet transmit interval, expressed in milliseconds, in a range from 500-5000. The default is 500.
tx-interval <500-5000>	Configures the SLPP packet transmit interval, expressed in milliseconds, in a range from 500-5000. The default is 500.
vid <1-4059>	Adds a VLAN, by VLAN ID, to a SLPP transmission list.
vid <1-4059>	Adds a VLAN, by VLAN ID, to a SLPP transmission list.

snmplog

Use SNMP trap logging to log to the system log file. This allows you to send SNMP logs to a system log server.

Syntax

- `default snmplog`
- `default snmplog enable`
- `no snmplog enable`
- `snmplog enable`

Default

`The default is disabled.`

Command mode

Global Configuration

snmp-server authentication-trap enable

Activate the generation of authentication traps.

Syntax

- `default snmp-server authentication-trap`
- `snmp-server authentication-trap enable`

Default

None

Command mode

Global Configuration

VSP 8000 Series Release 4.2.1
NN47227-104 VSP 8000 Series Avaya Command Line Reference Guide
Version 05.01 June 2015

Avaya.com/support

snmp-server community

Create a community to use in forming a relationship between an SNMP agent and one or more SNMP managers. You require SNMP community strings to access the system using an SNMP-based management software.

Syntax

- `no snmp-server community WORD<1-32>`
- `no snmp-server community-by-index WORD<1-32>`
- `snmp-server community WORD<1-32> group WORD<0-32>`
- `snmp-server community WORD<1-32> group WORD<0-32> secname WORD<1-32>`
- `snmp-server community WORD<1-32> index WORD<1-32> secname WORD<1-32>`
- `snmp-server community WORD<1-32> index WORD<1-32> secname WORD<1-32> context WORD<0-32>`
- `snmp-server community WORD<1-32> secname WORD<1-32>`
- `snmp-server community WORD<1-32> secname WORD<1-32> context WORD<0-32>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`community-by-index WORD<1-32>`	Specifies the community string by index to delete.
`context WORD<0-32>`	Specifies the context in which management information is accessed when you use the specified community string.
`group WORD<0-32>`	Specifies the group name.
`index WORD<0-32>`	Specifies the unique index value of a row in this table.
`secname WORD<0-32>`	Maps the community string to the security name in the VACM Group Member Table. The range is 0-32 characters.
`WORD<1-32>`	Specifies a community string, from 1-32 characters.

snmp-server contact

Configure the contact information for the system.

Syntax

- `default snmp-server contact`
- `no snmp-server contact`
- `snmp-server contact WORD<0-255>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
WORD<0-255>	Changes the sysContact information for the switch. WORD<0-255> is an ASCII string from 0-255 characters (for example a phone extension or e-mail address.)

snmp-server force-iphdr-sender enable

Configure the SNMP and IP sender flag to the same value.

Syntax

- `default snmp-server force-iphdr-sender`
- `default snmp-server force-iphdr-sender enable`
- `no snmp-server force-iphdr-sender`
- `no snmp-server force-iphdr-sender enable`
- `snmp-server force-iphdr-sender enable`

Default

None

Command mode

Global Configuration

snmp-server force-trap-sender enable

Send the configured source address (sender IP as the sender network in the notification message.

Syntax

- `default snmp-server force-trap-sender`
- `default snmp-server force-trap-sender enable`
- `no snmp-server force-trap-sender`
- `no snmp-server force-trap-sender enable`
- `snmp-server force-trap-sender enable`

Default

None

Command mode

Global Configuration

VSP 8000 Series Release 4.2.1
NN47227-104 VSP 8000 Series Avaya Command Line Reference Guide
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snmp-server group

Create a new user group member to logically group users who require the same level of access. Create new access for a group in the View-based Access Control Model (VACM) table to provide access to managed objects.

Syntax

- `no snmp-server group WORD<1-32>`
- `no snmp-server group WORD<1-32> WORD<0-32>`
- `snmp-server group WORD<1-32> WORD<0-32> auth-no-priv`
- `snmp-server group WORD<1-32> WORD<0-32> auth-no-priv notify-view WORD<0-32>`
- `snmp-server group WORD<1-32> WORD<0-32> auth-no-priv read-view WORD<0-32>`
- `snmp-server group WORD<1-32> WORD<0-32> auth-no-priv write-view WORD<0-32>`
- `snmp-server group WORD<1-32> WORD<0-32> auth-priv`
- `snmp-server group WORD<1-32> WORD<0-32> auth-priv notify-view WORD<0-32>`
- `snmp-server group WORD<1-32> WORD<0-32> auth-priv read-view WORD<0-32>`
- `snmp-server group WORD<1-32> WORD<0-32> auth-priv write-view WORD<0-32>`
- `snmp-server group WORD<1-32> WORD<0-32> no-auth-no-priv`
- `snmp-server group WORD<1-32> WORD<0-32> no-auth-no-priv notify-view WORD<0-32>`
- `snmp-server group WORD<1-32> WORD<0-32> no-auth-no-priv read-view WORD<0-32>`
- `snmp-server group WORD<1-32> WORD<0-32> no-auth-no-priv write-view WORD<0-32>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
auth-no-priv	Assigns the minimum level of security required to gain the access rights allowed by this conceptual row. If the auth-no-priv parameter is included, it creates one entry for SNMPv3 access.
auth-no-	Assigns the minimum level of security required to gain the access rights allowed by this

priv	conceptual row. If the auth-no-priv parameters is included, it creates one entry for SNMPv3 access.
auth-priv	Assigns the minimum level of security required to gain the access rights allowed by this conceptual row. If the auth-priv parameter is included, it creates one entry for SNMPv3 access.
auth-priv	Assigns the minimum level of security required to gain the access rights allowed by this conceptual row. If the auth-priv parameter is included, it creates one entry for SNMPv3 access.
group WORD<1-32>	Assigns the group name for data access. The range is 1-32 characters. Use the no operator to remove this configuration.
no-auth-no-priv	Assigns the minimum level of security required to gain the access rights allowed by this conceptual row. If the no-auth-no-priv parameter is included, it creates three entries, one for SNMPv1, one for SNMPv2c access, and one for SNMPv3c access.
notify-view WORD<0-32>	Specifies the view name in the range of 0-32 characters.
read-view WORD<0-32>	Specifies the view name in the range of 0-32 characters.
WORD<1-32> WORD<1-32>	The first WORD<1-32> specifies the group name for data access. The second WORD<1-32> specifies the context name. If you use a particular group name value but with different context names, you create multiple entries for different contexts for the same group. You can omit the context name and use the default. If the context name value ends in the wildcard character (*), the resulting entries match a context name that begins with that context. For example, a context name value of foo* matches contexts starting with foo, such as foo6 and foofofum. Use the no operator to remove this configuration.
write-view WORD<0-32>	Specifies the view name in the range of 0-32 characters.

snmp-server host v1

Configure an SNMP host so that the switch can forward SNMP traps to a host for monitoring.

Syntax

- `no snmp-server host WORD<1-256> v1 WORD<1-32>`
- `snmp-server host WORD<1-256> port <1-65535> v1 WORD<1-32>`
- `snmp-server host WORD<1-256> port <1-65535> v1 WORD<1-32> filter WORD<1-32>`
- `snmp-server host WORD<1-256> v1 WORD<1-32>`
- `snmp-server host WORD<1-256> v1 WORD<1-32> filter WORD<1-32>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`filter WORD<1-32>`	Specifies a filter profile name.
`port<1-65535>`	Specifies the host server port number.
`v1 WORD <1-32> [filter WORD<1-32>`	Specifies the SNMP v1 security name.
`WORD<1-256>`	Specifies either an IPv4 address.

snmp-server host v2

Configure an SNMPv2 host so that the switch can forward SNMP traps to a host for monitoring.

Syntax

- `no snmp-server host WORD<1-256> v2c WORD<1-32>`
- `snmp-server host WORD<1-256> port <1-65535> v2c WORD<1-32>`
- `snmp-server host WORD<1-256> port <1-65535> v2c WORD<1-32> filter WORD<1-32>`
- `snmp-server host WORD<1-256> port <1-65535> v2c WORD<1-32> inform`
- `snmp-server host WORD<1-256> port <1-65535> v2c WORD<1-32> inform mms <0-2147483647>`
- `snmp-server host WORD<1-256> port <1-65535> v2c WORD<1-32> inform retries <0-255>`
- `snmp-server host WORD<1-256> port <1-65535> v2c WORD<1-32> inform timeout <1-2147483647>`
- `snmp-server host WORD<1-256> v2c WORD<1-32>`
- `snmp-server host WORD<1-256> v2c WORD<1-32> filter WORD<1-32>`
- `snmp-server host WORD<1-256> v2c WORD<1-32> inform`
- `snmp-server host WORD<1-256> v2c WORD<1-32> inform mms <0-2147483647>`
- `snmp-server host WORD<1-256> v2c WORD<1-32> inform retries <0-255>`
- `snmp-server host WORD<1-256> v2c WORD<1-32> inform timeout <1-2147483647>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`filter WORD<1-32>`	Specifies a filte profile name.
`inform`	Specifies the notify type.
`mms <0-2147483647>`	Specifies the maximum message size.
`port <1-65535>`	Specifies the port number that needs to be changed.
`retries <0-255>`	Specifies the number of retries.

`timeout <1-2147483647>`	Specifies the timeout value.
`v2c WORD<1-32>`	Specifies the SNMPv2 security name
`WORD<1-256>`	Specifies the IPv4 host address.

snmp-server host v3

Configure an SNMPv3 host so that the switch can forward SNMP traps to a host for monitoring.

Syntax

- `no snmp-server host WORD<1-256> v3 WORD<1-32>`
- `snmp-server host WORD<1-256> port <1-65535> v3 { noAuthNoPriv | authNoPriv | authPriv } WORD<1-32>`
- `snmp-server host WORD<1-256> port <1-65535> v3 { noAuthNoPriv | authNoPriv | authPriv } WORD<1-32> filter WORD<1-32>`
- `snmp-server host WORD<1-256> port <1-65535> v3 { noAuthNoPriv | authNoPriv | authPriv } WORD<1-32> inform`
- `snmp-server host WORD<1-256> port <1-65535> v3 { noAuthNoPriv | authNoPriv | authPriv } WORD<1-32> inform retries <0-255>`
- `snmp-server host WORD<1-256> port <1-65535> v3 { noAuthNoPriv | authNoPriv | authPriv } WORD<1-32> inform timeout <1-2147483647>`
- `snmp-server host WORD<1-256> v3 { noAuthNoPriv | authNoPriv | authPriv } WORD<1-32>`
- `snmp-server host WORD<1-256> v3 { noAuthNoPriv | authNoPriv | authPriv } WORD<1-32> filter WORD<1-32>`
- `snmp-server host WORD<1-256> v3 { noAuthNoPriv | authNoPriv | authPriv } WORD<1-32> inform`
- `snmp-server host WORD<1-256> v3 { noAuthNoPriv | authNoPriv | authPriv } WORD<1-32> inform retries <0-255>`
- `snmp-server host WORD<1-256> v3 { noAuthNoPriv | authNoPriv | authPriv } WORD<1-32> inform timeout <1-2147483647>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
{noAuthNoPriv|authNoPriv|authPriv}	Specifies the security level.
filter WORD<1-32>	Specifies a filter profile name.

filter WORD<1-32>	Specifies a filter profile name.
inform	Specifies the notify type.
mms <0-2147483647>	Specifies the maximum message size.
port <1-65535>	Specifies the port number that needs to be changed.
retries <0-255>	Specifies the number of retries.
timeout <1-2147483647>	Specifies the timeout value.
v3c WORD<1-32>	Specifies the SNMPv3 security name
WORD<1-256>	Specifies the IPv4 host address.
WORD<1-256>	Specifies either an IPv4 address.

snmp-server location

Configure the sysLocation information for the system. <WORD 0-255> is an ASCII string from 0-255 characters.

Syntax

- `default snmp-server location`
- `no snmp-server location`
- `snmp-server location WORD<0-255>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
WORD <0255>	Specifies an ASCII string from 0-255 characters.

snmp-server login-success-trap enable

Configure the generation of login success traps.

Syntax

- `snmp-server login-success-trap enable`

Default

None

Command mode

Global Configuration

snmp-server name

Configure the sysName information for the system. WORD<0-255> is an ASCII string from 0-255 characters.

Syntax

- `default snmp-server name`
- `no snmp-server name`
- `snmp-server name WORD<0-255>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
WORD <0255>	Specifies an ASCII string from 0-255 characters.

snmp-server notify-filter

Configure the notify table to select management targets to receive notifications, as well as the type of notification to send to each management target.

Syntax

- `no snmp-server notify-filter WORD<1-32> WORD<1-32>`
- `snmp-server notify-filter WORD<1-32> WORD<1-32>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
WORD<1-32> WORD<1-32>	The first WORD<1-32> specifies the name of the filter profile. The second WORD<1-32> identifies the filter subtree OID. If the Subtree OID uses a '+' prefix (or no prefix), this indicates include. The '-' prefix, this indicates exclude.

snmp-server sender-ip

Configure the IP interface from which the SNMP traps originate if the switch has multiple interfaces.

Syntax

- `snmp-server sender-ip {A.B.C.D} {A.B.C.D}`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
{A.B.C.D} {A.B.C.D}	Specifies the IP address of the destination SNMP server that receives the SNMP trap notification in the first IP address. Specifies the source IP address of the SNMP trap notification packet that is transmitted in the second IP address. If this is set to 0.0.0.0 then the switch uses the IP address of the local interface that is closest (from an IP routing table perspective) to the destination SNMP server.

snmp-server user

Create a user on the local system in the USM table to authorize a user on a particular SNMP engine.

Syntax

- no snmp-server user engine-id WORD<1-32> WORD<1-32>
- no snmp-server user WORD<1-32>
- snmp-server user engine-id WORD<16-97> WORD<1-32>
- snmp-server user engine-id WORD<16-97> WORD<1-32> md5 WORD<1-32> aes WORD<1-32>
- snmp-server user engine-id WORD<16-97> WORD<1-32> md5 WORD<1-32>
- snmp-server user engine-id WORD<16-97> WORD<1-32> md5 WORD<1-32> des WORD<1-32>
- snmp-server user engine-id WORD<16-97> WORD<1-32> sha WORD<1-32>
- snmp-server user engine-id WORD<16-97> WORD<1-32> sha WORD<1-32> aes WORD<1-32>
- snmp-server user engine-id WORD<16-97> WORD<1-32> sha WORD<1-32> des WORD<1-32>
- snmp-server user WORD<1-32>
- snmp-server user WORD<1-32> group WORD<1-32>
- snmp-server user WORD<1-32> group WORD<1-32> md5 WORD<1-32>
- snmp-server user WORD<1-32> group WORD<1-32> md5 WORD<1-32> aes WORD<1-32>
- snmp-server user WORD<1-32> group WORD<1-32> md5 WORD<1-32> des WORD<1-32>
- snmp-server user WORD<1-32> group WORD<1-32> sha WORD<1-32>
- snmp-server user WORD<1-32> group WORD<1-32> sha WORD<1-32> aes WORD<1-32>
- snmp-server user WORD<1-32> group WORD<1-32> sha WORD<1-32> des WORD<1-32>
- snmp-server user WORD<1-32> md5 WORD<1-32>
- snmp-server user WORD<1-32> md5 WORD<1-32> aes WORD<1-32>
- snmp-server user WORD<1-32> md5 WORD<1-32> aes WORD<1-32> notify-view WORD<0-32>
- snmp-server user WORD<1-32> md5 WORD<1-32> aes WORD<1-32> read-view WORD<0-32>
- snmp-server user WORD<1-32> md5 WORD<1-32> aes WORD<1-32> write-view WORD<0-32>
- snmp-server user WORD<1-32> md5 WORD<1-32> des WORD<1-32>

- snmp-server user WORD<1-32> md5 WORD<1-32> des WORD<1-32> notify-view WORD<0-32>
- snmp-server user WORD<1-32> md5 WORD<1-32> des WORD<1-32> read-view WORD<0-32>
- snmp-server user WORD<1-32> md5 WORD<1-32> des WORD<1-32> write-view WORD<0-32>
- snmp-server user WORD<1-32> md5 WORD<1-32> notify-view WORD<0-32>
- snmp-server user WORD<1-32> md5 WORD<1-32> read-view WORD<0-32>
- snmp-server user WORD<1-32> md5 WORD<1-32> write-view WORD<0-32>
- snmp-server user WORD<1-32> notify-view WORD<0-32>
- snmp-server user WORD<1-32> read-view WORD<0-32>
- snmp-server user WORD<1-32> sha WORD<1-32>
- snmp-server user WORD<1-32> sha WORD<1-32> aes WORD<1-32>
- snmp-server user WORD<1-32> sha WORD<1-32> aes WORD<1-32> notify-view WORD<0-32>
- snmp-server user WORD<1-32> sha WORD<1-32> aes WORD<1-32> read-view WORD<0-32>
- snmp-server user WORD<1-32> sha WORD<1-32> aes WORD<1-32> write-view WORD<0-32>
- snmp-server user WORD<1-32> sha WORD<1-32> des WORD<1-32>
- snmp-server user WORD<1-32> sha WORD<1-32> des WORD<1-32> notify-view WORD<0-32>
- snmp-server user WORD<1-32> sha WORD<1-32> des WORD<1-32> read-view WORD<0-32>
- snmp-server user WORD<1-32> sha WORD<1-32> des WORD<1-32> write-view WORD<0-32>
- snmp-server user WORD<1-32> sha WORD<1-32> notify-view WORD<0-32>
- snmp-server user WORD<1-32> sha WORD<1-32> read-view WORD<0-32>
- snmp-server user WORD<1-32> sha WORD<1-32> write-view WORD<0-32>
- snmp-server user WORD<1-32> write-view WORD<0-32>

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
{aes|des} WORD<1-32>	Specifies a privacy protocol. If no value is entered, no authentication capability exists. WORD<1-32> assigns a privacy password. If no value is entered, no privacy capability exists. You must set authentication before you can set the privacy option.
{md5|sha} WORD<1-32>	Specifies an authentication protocol. If no value is entered, no authentication capability exists. WORD<1-32> specifies an authentication password. If no value is entered, no authentication capability exists.

engine-id WORD<1-32>	Assigns a Simple Network Management Protocol version 3 (SNMPv3) engine ID. Use the no operator to remove this configuration.
group WORD<1-32>	Specifies the group access name.
notify-view WORD<1-32>	The first instance is a noAuth view. The second instance is an auth view and the last instance is an authPriv view.
read-view WORD<1-32>	Specifies the view name. The first instance is a noAuth view. The second instance is an auth view and the last instance is an authPriv view.
write-view WORD<1-32>	Specifies the view name. The first instance is a noAuth view. The second instance is an auth view and the last instance is an authPriv view.

snmp-server view

Create a new entry in the MIB view table. The default Layer 2 MIB view cannot modify SNMP settings. However, a new MIB view created with Layer2 permission can modify SNMP settings.

Syntax

- `no snmp-server view WORD<1-32> WORD<1-32>`
- `snmp-server view WORD<1-32> WORD<1-32>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`WORD <1-32>`	Specifies a new entry with this group name. The range is 1-32 characters.
`WORD <1-32>` `WORD<1-32>`	Specifies the prefix that defines the set of MIB objects accessible by this SNMP entity. The range is 1-32 characters.

snmp trap link-status

Enable link trap on the port.

Syntax

- `default snmp trap link-status`
- `default snmp trap link-status port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `no snmp trap link-status`
- `no snmp trap link-status port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `snmp trap link-status`
- `snmp trap link-status enable`
- `snmp trap link-status port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `snmp trap link-status port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} enable`

Default

`The default is enabled.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`enable`	Enables or disables link-trap status for the port.
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.

software

Perform various software functions on the switch to ensure it is updated with latest versions.

Syntax

- `software activate WORD<1-99>`
- `software add WORD<1-99>`
- `software commit`
- `software remove WORD<1-99>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`activate WORD<1-99>`	Copies the software version to the boot flash file. When you use the software activate command, the system checks for hardware dependencies and prevents a downgrade if it detects a dependency. For example, if a hardware component has a minimum software version dependency, you cannot downgrade to an incompatible software version or install the hardware component in a chassis that runs an incompatible software version.
`add WORD<1-99>`	Unpacks a software release <version>.
`commit`	Ensures the running software release is trusted.
`remove WORD<1-99>`	Removes the software release <version>.

software reset-commit-time

Extends or reduces the commit time after you apply a software upgrade or patch. You may need additional time to verify the software works as expected after the upgrade or patch before you commit or roll back.

Syntax

- `software reset-commit-time`
- `software reset-commit-time <1-60>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
<1-60>	Extends or reduces the commit timer. By default, the commit timer is 10 minutes. As an example, if you enter the command string of software reset-commit-time 5, you reduce the commit timer to 5 minutes. If you enter the command string of software reset-commit-time 25, you extend the commit timer by 15 minutes, for a total of 25 minutes.

source

Source a configuration to merge a script file into the running configuration. Warning: You are not able to source a complete configuration file to merge it with your running configuration because the system can crash. The source command can be used to merge smaller portions of a configuration into the existing configuration.

Syntax

- `source WORD<1-99> {debug|stop|syntax}`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
debug	Debugs the script output.
stop	Stops the merge after an error occurs.
syntax	Verifies the script syntax.
WORD<1-99>	Specifies a filename and location.

spanning-tree mstp cost

Configure the contribution of this port to the path cost value for the link.

Syntax

- `default spanning-tree mstp cost`
- `spanning-tree mstp cost <1-200000000>`

Default

`The default is 2000000.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
<1-200000000>	Specifies the cost value. The default is 2000000.

spanning-tree mstp edge-port

Configure the port as an edge port.

Syntax

- `default spanning-tree mstp edge-port`
- `spanning-tree mstp edge-port { false | true }`

Default

`The default is disabled (false).`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<false|true>`	Enables or disables the port as an edge port.

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Avaya.com/support

spanning-tree mstp force-port-state

Enable the force-port-state flag.

Syntax

- `default spanning-tree mstp force-port-state`
- `no spanning-tree mstp force-port-state`
- `no spanning-tree mstp force-port-state enable`
- `spanning-tree mstp force-port-state enable`

Default

`The default is enabled.`

Command mode

GigabitEthernet Interface Configuration

spanning-tree mstp forward-time

Configure the MSTP forward delay for the bridge.

Syntax

- `default spanning-tree mstp forward-time`
- `default spanning-tree mstp forward-time`
- `spanning-tree mstp forward-time <400-3000>`
- `spanning-tree mstp forward-time <400-3000>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<400-3000>	Configures the MSTP forward delay for the bridge, in hundredths of a second.
<400-3000>	Configures the MSTP forward delay for the bridge, in hundredths of a second.

spanning-tree mstp hello-time (on a port)

Configure the hello-time delay for the port.

Syntax

- `default spanning-tree mstp hello-time`
- `spanning-tree mstp hello-time <100-1000>`

Default

`The default is 2.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<100-1000>`	Configures the hello-time for a port in one hundredths of a second. The default is 2.

spanning-tree mstp max-age

Assign the MSTP maximum age time for the bridge

Syntax

- `default spanning-tree mstp max-age`
- `spanning-tree mstp max-age <600-4000>`
- `spanning-tree mstp max-age <600-4000>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<600-4000>	Assigns the MSTP maximum age time for the bridge, in one hundredths of a second.
<600-4000>	Assigns the MSTP maximum age time for the bridge, in one hundredths of a second.

spanning-tree mstp max-hop

Assign the maximum hop count for the bridge..

Syntax

- `default spanning-tree mstp max-hop`
- `spanning-tree mstp max-hop <100-4000>`
- `spanning-tree mstp max-hop <100-4000>`

Default

`The default is 2000.`

Command mode

Global Configuration

Command parameters

Parameter	Description
<100-4000>	Assigns the MSTP bridge maximum hop count. The range is 100 to 4000 one hundredths of a second.
<100-4000>	Assigns the MSTP bridge maximum hop count. The range is 100 to 4000 one hundredths of a second.

spanning-tree mstp msti (globally)

Configure Multiple Spanning Tree Protocol (MSTP) to set the MSTP configuration version.

Syntax

- `default spanning-tree mstp msti <1-63>`
- `default spanning-tree mstp msti <1-63> priority`
- `default spanning-tree mstp msti <1-63> priority`
- `spanning-tree mstp msti <1-63> priority <0-65535>`
- `spanning-tree mstp msti <1-63> priority <0-65535>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<1-63>	Specifies the instance parameter.
<1-63>	Specifies the instance parameter.
priority <0-65535>	Configures the MSTP bridge priority. Allowed values are 4096, 8192, 12288, 16384, 20480, 24576, 28672, 32768, 36864, 40960, 45056, 49152, 53248, 57344, 61440.
priority <0-65535>	Configures the MSTP bridge priority. Allowed values are 4096, 8192, 12288, 16384, 20480, 24576, 28672, 32768, 36864, 40960, 45056, 49152, 53248, 57344, 61440.

spanning-tree mstp msti (on a port)

Configure Multiple Spanning Tree Protocol (MSTP) to set the MSTP configuration version.

Syntax

- `default spanning-tree mstp msti <1-63> cost`
- `default spanning-tree mstp msti <1-63> force-port-state enable`
- `default spanning-tree mstp msti <1-63> port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} cost`
- `default spanning-tree mstp msti <1-63> port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} force-port-state enable`
- `default spanning-tree mstp msti <1-63> port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} priority`
- `default spanning-tree mstp msti <1-63> priority`
- `no spanning-tree mstp msti <1-63> force-port-state enable`
- `no spanning-tree mstp msti <1-63> port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} force-port-state enable`
- `spanning-tree mstp msti <1-63> cost <1-200000000>`
- `spanning-tree mstp msti <1-63> force-port-state enable`
- `spanning-tree mstp msti <1-63> port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} cost <1-200000000>`
- `spanning-tree mstp msti <1-63> port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} force-port-state enable`
- `spanning-tree mstp msti <1-63> port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} priority <0-240>`
- `spanning-tree mstp msti <1-63> priority <0-240>`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
<1-63>	Specifies the instance parameter.
cost <1-200000000>	Configures the path cost for the port
force-port-state enable	Enables MSTI learning for the port.
port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}	Identifies the slot and port.
priority <0-65535>	Configures the MSTP bridge priority. Allowed values are 4096, 8192, 12288, 16384, 20480, 24576, 28672, 32768, 36864, 40960,45056, 49152, 53248, 57344, 61440.

spanning-tree mstp p2p

Specify the point-to-point status of the LAN segment attached to this port.

Syntax

- `default spanning-tree mstp p2p`
- `spanning-tree mstp p2p auto`
- `spanning-tree mstp p2p force-false`
- `spanning-tree mstp p2p force-true`

Default

`The default is auto.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<auto|force-false|false-true>`	A value of force-true indicates that this port is treated as if it connects to a point-to-point link. A value of force-false indicates that this port is treated as having a shared media connection. A value of auto indicates that this port is considered to have a point-to-point link if it is an aggregator and all of its members are aggregatable, or if the MAC entity is configured for full-duplex operation, either through autonegotation or by management means. The default is auto.

spanning-tree mstp pathcost-type

Assign the Multiple Spanning Tree Protocol (MSTP) default pathcost version.

Syntax

- `default spanning-tree mstp pathcost-type`
- `default spanning-tree mstp pathcost-type`
- `spanning-tree mstp pathcost-type <bits16|bits32>`
- `spanning-tree mstp pathcost-type bits16`
- `spanning-tree mstp pathcost-type bits32`

Default

`The default is 32 bits.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`<bits16|bits32>`	Specifies the pathcost value.
`<bits16|bits32>`	Specifies the pathcost value.

spanning-tree mstp port

Configure all Multiple Spanning Tree Protocol (MSTP) parameters for a port.

Syntax

- default spanning-tree mstp
- default spanning-tree mstp port {slot/port}
- default spanning-tree mstp port {slot/port} cost
- default spanning-tree mstp port {slot/port} edge-port
- default spanning-tree mstp port {slot/port} force-port-state
- default spanning-tree mstp port {slot/port} hello-time
- default spanning-tree mstp port {slot/port} p2p
- default spanning-tree mstp port {slot/port} priority
- default spanning-tree mstp port {slot/port} protocol-migration
- no spanning-tree mstp
- no spanning-tree mstp port {slot/port}
- spanning-tree mstp port {slot/port} cost <1-200000000>
- spanning-tree mstp port {slot/port} edge-port { false | true }
- spanning-tree mstp port {slot/port} force-port-state enable
- spanning-tree mstp port {slot/port} hello-time <100-1000>
- spanning-tree mstp port {slot/port} p2p auto
- spanning-tree mstp port {slot/port} p2p force-false
- spanning-tree mstp port {slot/port} p2p force-true
- spanning-tree mstp port {slot/port} priority <0-240>
- spanning-tree mstp port {slot/port} protocol-migration false
- spanning-tree mstp port {slot/port} protocol-migration true

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
<0-240>	Specifies the four most significant bits of the port identifier. The values configured for port priority must be in steps of 16.
<100-1000>	Configures the hello-time for a port in one hundredths of a second.
<1-200000000>	Specifies the cost value.
<auto|force-false|false-true>	A value of force-true indicates that this port is treated as if it connects to a point-to-point link. A value of force-false indicates that this port is treated as having a shared media connection. A value of auto indicates that this port is considered to have a point-to-point link if it is an aggregator and all of its members are aggregatable, or if the MAC entity is configured for full-duplex operation, either through autonegotation or by management means.
edge-port <false|true>	Enables or disables the port as an edge port. The default is disabled (false).
port {slot/port}	Specifies the slot and port to configure.
protocol-migration <false|true>	Configures the protocol migration state of this port. The default is false.

spanning-tree mstp priority (globally)

Assign the Multiple Spanning Tree Protocol (MSTP) bridge priority.

Syntax

- `default spanning-tree mstp priority`
- `default spanning-tree mstp priority`
- `spanning-tree mstp priority <0-61440>`
- `spanning-tree mstp priority <0-61440>`

Default

`The default is 32768.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`<0-61440>`	Assigns the MSTP bridge priority. The values configured for port priority must be in steps of 4096.
`<0-61440>`	Assigns the MSTP bridge priority. The values configured for port priority must be in steps of 4096.

spanning-tree mstp priority (on a port)

Specify the four most significant bits of the port identifier for a given spanning tree instance that can be modified independently for each spanning tree instance supported by the bridge.

Syntax

- `default spanning-tree mstp priority`
- `spanning-tree mstp priority <0-240>`

Default

`The default is 128.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<0-240>`	Specifies the four most significant bits of the port identifier. The values configured for port priority must be in steps of 16.

spanning-tree mstp protocol-migration

Initiates or terminates protocol migration for the port. If enabled, the port transmits BPDUs without instance information.

Syntax

- `default spanning-tree mstp protocol-migration`
- `spanning-tree mstp protocol-migration false`
- `spanning-tree mstp protocol-migration true`

Default

`The default is false.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<false|true>`	Configures the protocol migration state of this port.

spanning-tree mstp region

Assign the Multiple Spanning Tree Protocol (MSTP) region.

Syntax

- `default spanning-tree mstp region`
- `default spanning-tree mstp region config-id-sel`
- `default spanning-tree mstp region region-name`
- `default spanning-tree mstp region region-version`
- `spanning-tree mstp region config-id-sel <0-255>`
- `spanning-tree mstp region config-id-sel <0-255>[region-name WORD<1-32>] [region-version <0-65535>]`
- `spanning-tree mstp region region-name WORD<1-32>`
- `spanning-tree mstp region region-version <0-65535>`

Default

`The default region and version is 0.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`config-id-sel <0-255>`	Assigns the MSTP region configuration ID number.
`config-id-sel <0-255>`	Assigns the MSTP region configuration ID number.
`region-name WORD<1-32>`	Assigns the MSTP region name.
`region-name WORD<1-32>`	Assigns the MSTP region name.
`region-version <0-65535>`	Assigns the MSTP region version.
`region-version <0-65535>`	Assigns the MSTP region version.

spanning-tree mstp tx-holdcount

Assign the Multiple Spanning Tree Protocol (MSTP) transmit hold count.

Syntax

- `default spanning-tree mstp tx-holdcount`
- `default spanning-tree mstp tx-holdcount`
- `spanning-tree mstp tx-holdcount <1-10>`
- `spanning-tree mstp tx-holdcount <1-10>`

Default

`The default is 3.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`<1-10>`	Assigns the MSTP transmit hold count.
`<1-10>`	Assigns the MSTP transmit hold count.

spanning-tree mstp version

Assigns the bridge version.

Syntax

- default spanning-tree mstp version
- default spanning-tree mstp version
- spanning-tree mstp version mstp
- spanning-tree mstp version mstp
- spanning-tree mstp version rstp
- spanning-tree mstp version rstp
- spanning-tree mstp version stp-compatible
- spanning-tree mstp version stp-compatible

Default

The default is MSTP.

Command mode

Global Configuration

Command parameters

Parameter	Description
mstp	Configures the version as MSTP.
mstp	Configures the version as MSTP.
rstp	Configures the version as RSTP.
rstp	Configures the version as RSTP.
stp-compatible	Configures the version as STP compatible. Although STP and MSTP are variations of the same spanning tree protocol, they communicate information differently. A switch in MSTI mode cannot recognize the spanning tree groups running on a chassis configured with Nortel STP. MSTP spanning tree groups are not the same as Nortel STP spanning tree groups. Using a switch in MSTP mode with another chassis in STP mode can create a loop in the network. You must configure protocol migration to true on all spanning-tree enabled interfaces when you change the spanning tree version from STP-compatible to MSTP for those interfaces to work in the proper mode.
	Configures the version as STP compatible. Although STP and MSTP are variations of the same spanning tree protocol, they communicate information differently. A switch in MSTI mode cannot recognize the spanning tree groups running on a chassis configured

stp-compatible	with Nortel STP. MSTP spanning tree groups are not the same as Nortel STP spanning tree groups. Using a switch in MSTP mode with another chassis in STP mode can create a loop in the network. You must configure protocol migration to true on all spanning-tree enabled interfaces when you change the spanning tree version from STP-compatible to MSTP for those interfaces to work in the proper mode.

spanning-tree rstp cost

Configure the contribution of this port to the path cost value for the link.

Syntax

- `default spanning-tree rstp cost`
- `spanning-tree rstp cost <1-200000000>`

Default

`The default is 2000000.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<1-200000000>`	Specifies the cost value.

spanning-tree rstp edge-port

Configure the port as an edge port.

Syntax

- `default spanning-tree rstp edge-port`
- `spanning-tree rstp edge-port { false | true }`

Default

`The default is disabled (false).`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<false|true>`	Enables or disables the port as an edge port.

spanning-tree rstp forward-time

Configure the Rapid Spanning Tree Protocol (RSTP) forward delay for the bridge.

Syntax

- `default spanning-tree rstp forward-time`
- `default spanning-tree rstp forward-time`
- `spanning-tree rstp forward-time <400-3000>`
- `spanning-tree rstp forward-time <400-3000>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<400-3000>	Configures the RSTP forward delay for the bridge, in hundredths of a second.
<400-3000>	Configures the RSTP forward delay for the bridge, in hundredths of a second.

spanning-tree rstp group-stp enable

Enable or disables Rapid Spanning Tree Protocol (RSTP) for a specific STG.

Syntax

- `default spanning-tree rstp group-stp enable`
- `default spanning-tree rstp group-stp enable`
- `no spanning-tree rstp group-stp [enable]`
- `no spanning-tree rstp group-stp enable`
- `spanning-tree rstp group-stp enable`
- `spanning-tree rstp group-stp enable`

Default

None

Command mode

Global Configuration

spanning-tree rstp hello-time

Configure the hello-time delay for the bridge.

Syntax

- `default spanning-tree rstp hello-time`
- `default spanning-tree rstp hello-time`
- `spanning-tree rstp hello-time <100-1000>`
- `spanning-tree rstp hello-time <100-1000>`

Default

`The default is 2.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`<100-1000>`	Configures the hello-time for a port in one hundredths of a second.
`<100-1000>`	Configures the hello-time for a port in one hundredths of a second.

spanning-tree rstp max-age

Assign the Rapid Spanning Tree Protocol (RSTP) maximum age time for the bridge

Syntax

- `default spanning-tree rstp max-age`
- `spanning-tree rstp max-age <600-4000>`
- `spanning-tree rstp max-age <600-4000>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<600-4000>	Assigns the RSTP maximum age time for the bridge, in one hundredths of a second.
<600-4000>	Assigns the RSTP maximum age time for the bridge, in one hundredths of a second.

spanning-tree rstp p2p

Specify the point-to-point status of the LAN segment attached to this port.

Syntax

- `default spanning-tree rstp p2p`
- `spanning-tree rstp p2p auto`
- `spanning-tree rstp p2p force-false`
- `spanning-tree rstp p2p force-true`

Default

`The default is auto.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<auto|force-false|false-true>`	A value of force-true indicates that this port is treated as if it connects to a point-to-point link. A value of force-false indicates that this port is treated as having a shared media connection. A value of auto indicates that this port is considered to have a point-to-point link if it is an aggregator and all of its members are aggregatable, or if the MAC entity is configured for full-duplex operation, either through autonegotation or by management means.

spanning-tree rstp pathcost-type

Assign the Rapid Spanning Tree Protocol (RSTP) default pathcost version.

Syntax

- `default spanning-tree rstp pathcost-type`
- `default spanning-tree rstp pathcost-type`
- `spanning-tree rstp pathcost-type <bits16|bits32>`
- `spanning-tree rstp pathcost-type bits16`
- `spanning-tree rstp pathcost-type bits32`

Default

`The default is 32 bits.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`<bits16|bits32>`	Specifies the pathcost value.
`<bits16|bits32>`	Specifies the pathcost value.

spanning-tree rstp port

Configure all Rapid Spanning Tree Protocol (RSTP) parameters for a port.

Syntax

- `default spanning-tree rstp`
- `default spanning-tree rstp port {slot/port}`
- `no spanning-tree rstp`
- `no spanning-tree rstp port {slot/port}`
- `spanning-tree rstp port {slot/port} cost <1-200000000>`
- `spanning-tree rstp port {slot/port} edge-port { false | true }`
- `spanning-tree rstp port {slot/port} p2p auto`
- `spanning-tree rstp port {slot/port} p2p force-false`
- `spanning-tree rstp port {slot/port} p2p force-true`
- `spanning-tree rstp port {slot/port} priority <0-240>`
- `spanning-tree rstp port {slot/port} protocol-migration false`
- `spanning-tree rstp port {slot/port} protocol-migration true`
- `spanning-tree rstp port {slot/port} stp enable`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`cost <1-200000000>`	Specifies the cost value. The default is 2000000.
`edge-port <false|true>`	Enables or disables the port as an edge port. The default is disabled (false).
`p2p`	A value of force-true indicates that this port is treated as if it connects to a point-to-point link. A value of force-false indicates that this port is treated as having a shared

<auto|force-false|false-true>	media connection. A value of auto indicates that this port is considered to have a point-to-point link if it is an aggregator and all of its members are aggregatable, or if the MAC entity is configured for full-duplex operation, either through autonegotation or by management means. The default is auto.
port {slot/port}	Specifies the slot and port to configure.
priority <0-240>	Specifies the four most significant bits of the port identifier. The values configured for port priority must be in steps of 16. The default is 128.
protocol-migration <false|true>	Configures the protocol migration state of this port. The default is false.
stp enable	Enables STP for the port. The default is disabled.

spanning-tree rstp priority (globally)

Assign the Rapid Spanning Tree Protocol (RSTP) bridge priority.

Syntax

- `default spanning-tree rstp priority`
- `default spanning-tree rstp priority`
- `spanning-tree rstp priority <0-61440>`
- `spanning-tree rstp priority <0-61440>`

Default

`The default is 32768.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`<0-61440>`	Assigns the RSTP bridge priority in a range of 0 to 61440 in steps of 4096.
`<0-61440>`	Assigns the RSTP bridge priority in a range of 0 to 61440 in steps of 4096.

spanning-tree rstp priority (on a port)

Specify the four most significant bits of the port identifier for a given spanning tree instance that can be modified independently for each spanning tree instance supported by the bridge.

Syntax

- `default spanning-tree rstp priority`
- `spanning-tree rstp priority <0-240>`

Default

`The default is 128.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<0-240>`	Specifies the four most significant bits of the port identifier. Assigns RSTP bridge priority in a range of 0-240. The values configured for port priority must be in steps of 16.

spanning-tree rstp protocol-migration

Initiate or terminate protocol migration for the port. If enabled, the port transmits BPDUs without instance information.

Syntax

- `default spanning-tree rstp protocol-migration`
- `spanning-tree rstp protocol-migration false`
- `spanning-tree rstp protocol-migration true`

Default

`The default is false.`

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`<false|true>`	Configures the protocol migration state of this port.

spanning-tree rstp stp

Enable STP on the port.

Syntax

- `default spanning-tree rstp stp`
- `no spanning-tree rstp stp enable`
- `spanning-tree rstp stp enable`

Default

None

Command mode

GigabitEthernet Interface Configuration

spanning-tree rstp tx-holdcount

Assign the Rapid Spanning Tree Protocol (RSTP) transmit hold count.

Syntax

- `default spanning-tree rstp tx-holdcount`
- `default spanning-tree rstp tx-holdcount`
- `spanning-tree rstp tx-holdcount <1-10>`
- `spanning-tree rstp tx-holdcount <1-10>`

Default

`The default is 6.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`<1-10>`	Assigns the RSTP transmit hold count.
`<1-10>`	Assigns the RSTP transmit hold count.

spanning-tree rstp version

Configure the Rapid Spanning Tree Protocol (RSTP) to set the RSTP configuration.

Syntax

- `default spanning-tree rstp version`
- `default spanning-tree rstp version`
- `spanning-tree rstp version rstp`
- `spanning-tree rstp version rstp`
- `spanning-tree rstp version stp-compatible`
- `spanning-tree rstp version stp-compatible`

Default

`The default is RSTP.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`rstp`	Configures the version as RSTP.
`rstp`	Configures the version as RSTP.
`stp-compatible`	Configures the version as STP-compatible.
`stp-compatible`	Configures the version as STP-compatible.

spbm

Enable Shortest Path Bridging MAC (SPBM) globally.

Syntax

- `spbm`

Default

`The default is disabled.`

Command mode

Global Configuration

spbm <1-100>

Create the Shortest Path Bridging MAC (SPBM) instance globally. This release supports only one instance. Use the no form of the command to delete the instance globally.

Syntax

- `spbm <1-100>`

Default

None

Command mode

IS-IS Router Configuration

Command parameters

Parameter	Description
<1-100>	Specifies the Shortest Path Bridging MAC (SPBM) instance ID. Creates the SPBM instance. In this release only one SPBM instance is supported.

spbm <1-100> b-vid

Add the backbone VLAN (B-VLAN) to the Shortest Path Bridging MAC (SPBM) instance, globally. You can configure a maximum of two B-VLANs. If you add only one B-VLAN to the SPBM instance, it becomes the primary B-VLAN. If you configure two B-VLANs, you must configure one as the primary B-VLAN. Use the no format to remove a B-VLAN from the global SPBM instance.

Syntax

- `no spbm <1-100> b-vid List of VLAN Ids {vlan-id[-vlan-id][,...]}`
- `no spbm <1-100> b-vid List of VLAN Ids {vlan-id[-vlan-id][,...]} primary <1-4059>`
- `spbm <1-100> b-vid List of VLAN Ids {vlan-id[-vlan-id][,...]}`
- `spbm <1-100> b-vid List of VLAN Ids {vlan-id[-vlan-id][,...]} primary <1-4059>`

Default

None

Command mode

IS-IS Router Configuration

Command parameters

Parameter	Description
{vlan-id[-vlan-id][,...]}	Specifies the VLANs to add to the Shortest Path Bridging MAC (SPBM) instance as Backbone VLANs (B-VLANs). Sets the IS-IS SPBM instance data VLANs.
<1-100>	Specifies the Shortest Path Bridging MAC (SPBM) instance ID.
primary <1-4059>	Specifies the primary BVLAN by VLAN ID.

spbm <1-100> ip enable

Configure Shortest Path Bridging MAC (SPBM) IP shortcuts.

Syntax

- `default spbm <1-100> ip enable`
- `no spbm <1-100> ip enable`
- `spbm <1-100> ip enable`

Default

`The default is disabled.`

Command mode

IS-IS Router Configuration

Command parameters

Parameter	Description
`ip enable`	Enables Shortest Path Bridging MAC (SPBM) IP shortcuts.

spbm <1-100> ipv6

Configure Shortest Path Bridging MAC (SPBM) IPv6 shortcuts.

Syntax

- `spbm <1-100> ipv6 enable`
- `no spbm <1-100> ipv6 enable`
- `default spbm <1-100> ipv6 enable`

Default

`The default is disabled.`

Command mode

IS-IS Router Configuration

Command parameters

Parameter	Description
`enable`	Enables Shortest Path Bridging MAC (SPBM) for IPv6 shortcuts.

spbm <1-100> lsdb-trap enable

Enable a trap when the Shortest Path Bridging MAC (SPBM) Link State Database (LSDB) changes.

Syntax

- `default spbm <1-100> lsdb-trap enable`
- `no spbm <1-100> lsdb-trap enable`
- `spbm <1-100> lsdb-trap enable`

Default

`The default is disabled.`

Command mode

IS-IS Router Configuration

Command parameters

Parameter	Description
`lsdb-trap enable`	Enables a trap when the Shortest Path Bridging MAC (SPBM) Link State Database (LSDB) changes.

spbm <1-100> multicast

Enables SPBM multicast globally.

Syntax

- `spbm <1-100> multicast enable`
- `no spbm <1-100> multicast enable`
- `default spbm <1-100> multicast enable`

Default

`The default is disabled.`

Command mode

IS-IS Router Configuration

Command parameters

Parameter	Description
`enable`	Enables SPBM multicast globally.

spbm <1-100> multicast fwd-cache-timeout

Configures the timeout value for the Global Router.

Syntax

- `spbm <1-100> multicast fwd-cache-timeout <10-86400>`
- `no spbm <1-100> multicast fwd-cache-timeout`
- `default spbm <1-100> multicast fwd-cache-timeout`

Default

`The default is 210 seconds.`

Command mode

IS-IS Router Configuration

Command parameters

Parameter	Description
`<10-86400>`	fwd-cache-timeout value in seconds.

spbm <1-100> nick-name

Configure a global nick-name for the Shortest Path Bridging MAC (SPBM) instance. The system uses the nick-name to calculate the multicast address for the node.

Syntax

- `default spbm <1-100> nick-name`
- `no spbm <1-100> nick-name`
- `spbm <1-100> nick-name x.xx.xx - 2.5 bytes`

Default

`By default, no nickname exists.`

Command mode

IS-IS Router Configuration

Command parameters

Parameter	Description
`<1-100>`	Specifies the SPBM instance ID.
`nick-name x.xx.xx - 2.5 bytes`	Specifies the system nick-name (2.5 bytes in the format <x.xx.xx>).

spbm <1-100> smlt-peer-system-id

Configure the system ID of the interswitch trunk (IST) peer, so that if it goes down, the local peer can take over forwarding for the failed peer. You must configure this command to use Shortest Path Bridging MAC (SPBM) in a Split MultiLink Trunking (SMLT) environment. The device with the lower system ID is the primary device.

Syntax

- `spbm <1-100> smlt-peer-system-id xxxx.xxxx.xxxx - 6 bytes`

Default

None

Command mode

IS-IS Router Configuration

Command parameters

Parameter	Description
<1-100>	Specifies the SPBM instance ID. SMLT peer system ID is part of the required configuration. You must configure the SMLT peer system ID as the nodal MAC of the peer device. In the Intermediate-System-to-Intermediate-System (IS-IS) network, the nodal MAC of devices should be eight apart from each other.
xxxx.xxxx.xxxx - 6 bytes	Specifies the nodal MAC of the peer device as the system ID. Nodal MACs of devices in the Intermediate-System-to-Intermediate-System (IS-IS) network must be 8 apart from each other. Split MultiLink Trunking (SMLT) peer system ID is part of the required configuration. If SMLT virtual Backbone MAC (B-MAC) is not configured, it is derived from the configured SMLT peer system ID and the nodal MAC of the device (IS-IS system ID). SMLT split Backbone Edge Bridge (BEB) is also derived from the SMLT peer system ID and nodal MAC of the device. The device with the lower system ID is primary, the device with the higher system ID is secondary.

spbm <1-100> smlt-virtual-bmac

Configure the virtual Backbone MAC (B-MAC) address, which is shared and advertised by both peers. Configuration of this command is optional.

Syntax

- `spbm <1-100> smlt-virtual-bmac 0x00:0x00:0x00:0x00:0x00:0x00`

Default

None

Command mode

IS-IS Router Configuration

Command parameters

Parameter	Description
<1-100>	Specifies the SPBM instance ID.
0x00:0x00:0x00:0x00:0x00:0x00	Specifies the virtual MAC address. SMLT virtual B-MAC is the optional configuration. If SMLT virtual B-MAC is not configured, the system derives SMLT virtual B-MAC from the configured SMLT peer system ID and the nodal MAC of the device (IS-IS system ID). The system compares the nodal MAC of the device with the SMLT peer system ID configured and takes the small one, plus 0x01, as the SMTL virtual B-MAC. The system also derives SMLT split BEB from the SMLT peer system ID and nodal MAC of the device. The device with the lower system ID is primary, the device with the higher system ID is secondary.

spbm ethertype

Configure the ethertype for Shortest Path Bridging MAC (SPBM).

Syntax

- `default spbm ethertype`
- `spbm ethertype 0x8100`
- `spbm ethertype 0x88a8`

Default

`The default is 0x8100.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`0x8100`	Configures the ethertype to 0x8100.
`0x88a8`	Configures the ethertype to 0x88a8.

speed (for the management port)

Configure the speed for the Ethernet management (mgmt) port on the CP module.

Syntax

- `default speed`
- `speed <10|100>`

Default

None

Command mode

mgmtEthernet Interface Configuration

Command parameters

Parameter	Description
<10|100>	Configures the connection speed for ports to 10 or 100 Mb/s.

spf-delay

Configure the delay, in milliseconds, to pace successive Shortest Path First (SPF) runs. The timer prevents more than two SPF runs from being scheduled back-to-back. The mechanism for pacing SPF allows two back-to-back SPF runs.

Syntax

- `default spf-delay`
- `spf-delay <0-5000>`

Default

`The default is 100 milliseconds.`

Command mode

IS-IS Router Configuration

Command parameters

Parameter	Description
`<0-5000>`	Configures the delay, in milliseconds.

spoof-detect

Configure the spoof detection to prevent an IP spoofing.

Syntax

- `default spoof-detect`
- `default spoof-detect enable`
- `default spoof-detect port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `default spoof-detect port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} enable`
- `no spoof-detect`
- `no spoof-detect enable`
- `no spoof-detect port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `no spoof-detect port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} enable`
- `spoof-detect`
- `spoof-detect enable`
- `spoof-detect port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`enable`	Enables spoof detection on the port.
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Specifies the port list.

ssh

Connect to a remote Secure Shell (SSH) host.

Syntax

- `ssh WORD<1-256> -l WORD<1-32>`
- `ssh WORD<1-256> -l WORD<1-32> -p <1-32768>`

Default

None

Command mode

User EXEC

ssh (configuration)

Modify Secure Shell (SSH) configuration parameters to support public and private key encryption connections.

Syntax

- default ssh
- default ssh dsa-auth
- default ssh max-sessions
- default ssh pass-auth
- default ssh port
- default ssh rsa-auth
- default ssh secure
- default ssh timeout
- default ssh version
- no ssh
- no ssh dsa-auth
- no ssh dsa-host-key
- no ssh dsa-user-key WORD<1-15>
- no ssh pass-auth
- no ssh rsa-auth
- no ssh rsa-host-key
- no ssh secure
- ssh
- ssh dsa-auth
- ssh dsa-host-key
- ssh dsa-host-key <512-2048>
- ssh dsa-user-key WORD<1-15>
- ssh dsa-user-key WORD<1-15> size <512-4096>

- `ssh max-sessions <0-8>`
- `ssh pass-auth`
- `ssh port <22, 1024..49151>`
- `ssh rsa-auth`
- `ssh rsa-host-key`
- `ssh rsa-host-key <1024-2048>`
- `ssh secure`
- `ssh timeout <1-120>`
- `ssh version v2only`

Default

`None`

Command mode

Global Configuration

Command parameters

Parameter	Description
`dsa-auth`	Enables or disables the DSA authentication.
`dsa-host-key <512-1024>`	Generates an SSH DSA host key. The range of the host key size is 512 to 1024. The default is 1024.
`dsa-user-key WORD<1-15> [size <512-1024>]`	Creates the DSA user key file. WORD<1-15> specifies the user access level. If you configured enhanced secure mode the access levels are: admin|operator|auditor|security|priv. In enhanced secure mode access level is role based. If you do not enable enhanced secure mode, the valid user access levels are: rwa for read-write-all, rw for read-write. ro for read-only, rwl3 for read-write for Layer 3, rwl2 for read-write for Layer 2, and rwl1 for Layer 1. The default size is 1024 bits.
`max-sessions <0-8>`	Specifies the maximum number of SSH sessions allowed. A value from 0 to 8. Default is 4.
`pass-auth`	Enables password authentication.
`port <22, 1024..49151>`	Sets the Secure Shell (SSH) connection port. <22,1024..49151> is the TCP port number. The default is 22.
`rsa-auth`	Enable RSA authentication.
`rsa-host-key <1024-2048>`	Generates the SSH RSA host key. The range of the SSH host key size is 512 to 2048. The default is 2048.
`secure`	Enables Secure Shell (SSH) in secure mode and immediately disables the access services SNMP, FTP, TFTP, rlogin, and Telnet. After ssh secure is enabled, you can choose to enable individual non-secure protocols. However, after you save the configuration and restart the system, the non-secure protocol is again disabled, even though it is shown as enabled in the configuration file. After you enable ssh secure, you cannot enable non-secure protocols by disabling ssh secure.

`timeout <1-120>`	The Secure Shell (SSH) connection authentication timeout in seconds. Default is 60 seconds.
`version <v2only>`	Sets the Secure Shell (SSH) version. The default is v2only.

ssh rekey

Force a key exchange between server and client, changing the encryption and integrity keys.

Syntax

- `ssh rekey enable`
- `ssh rekey data-limit`
- `ssh rekey time-interval`

Default

`The default is disabled.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`enable`	Force a key exchange between server and client, changing the encryption and integrity keys.
`data-limit`	SSH rekey data limit in GB.
`time-interval`	Set the SSH rekey time interval in hours.

ssh sftp

SSH is enabled when SFTP is disabled.

Syntax

- `ssh sftp enable`
- `no ssh sftp enable`
- `default ssh sftp`

Default

`The default value is enable.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`enable`	Enables or disables ssh sftp. The default is enabled.

ssl

SSL server certificate commands.

Syntax

- `ssl reset`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
reset	Install current SSL server certificate; if missing, create and install a new self-signed certificate.

ssl certificate

Create and install a new self-signed SSL server certificate.

Syntax

- `ssl certificate validity-period-in-days <30-3650>`

Default

`365`

Command mode

Global Configuration

Command parameters

Parameter	Description
`validity-period-in-days <30-3650>`	Number of days for which the certificate remains valid.

synchronization

Enable the router to accept routes from BGP peers without waiting for an update from the IGP.

Syntax

- `default synchronization`
- `no synchronization`
- `synchronization`

Default

`The default value is enable.`

Command mode

BGP Router Configuration

sys action

Reset system functions to reset all statistics counters, the console port, and the operation of the switchover function.

Syntax

- `sys action reset console`
- `sys action reset counters`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`reset console`	Resets the switch to change over to the backup CPU.
`reset counters`	Reinitializes the hardware universal asynchronous receiver transmitter (UART) drivers. Use this command only if the console connection stops responding. Resets all the statistics counters in the switch to zero. Resets the console port.

sys clipId-topology-ip

Configure the circuitless IP (CLIP) ID as the topology IP.

Syntax

- `default sys clipId-topology-ip`
- `no sys clipId-topology-ip`
- `sys clipId-topology-ip <1-256>`

Default

`The default is 0.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`<1-256>`	Specifies the CLIP interface ID.

sys force-msg

Use the force message control option to extend the message control feature functionality to the software and hardware log messages. To enable the message control feature, you must specify an action, control interval, and maximum message number. After you enable the feature, the log messages, which get repeated and cross the maximum message number in the control interval, trigger the force message feature. You can either suppress the message or send a trap notification, or both.

Syntax

- `no sys force-msg WORD<4-4>`
- `sys force-msg WORD<4-4>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
WORD<4-4>	Adds a forced message control pattern. WORD<4-4> is a string of 4 characters. You can add a four-byte pattern into the force-msg table. The software and the hardware log messages that use the first four bytes matching one of the patterns in the force-msg table undergo the configured message control action. You can specify up to 32 different patterns in the force-msg table, including a wildcard pattern (****). If you specify the wildcard pattern, all messages undergo message control.

sys force-topology-ip-flag

Activate or disable the flag that Configure the CLIP ID as the topology IP.

Syntax

- `default sys force-topology-ip-flag`
- `no sys force-topology-ip-flag`
- `no sys force-topology-ip-flag enable`
- `sys force-topology-ip-flag`
- `sys force-topology-ip-flag enable`

Default

`The default is disabled.`

Command mode

Global Configuration

syslog enable

The syslog commands control a facility in UNIX machines that logs SNMP messages and assigns each message a severity level based on importance.

Syntax

- `default syslog enable`
- `no syslog enable`
- `syslog enable`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
enable	Enables the sending of syslog messages on the switch.

syslog host

The syslog commands control a facility in UNIX machines that logs SNMP messages and assigns each message a severity level based on importance.

Syntax

- default syslog host <1-10>
- default syslog host <1-10> enable
- default syslog host <1-10> facility
- default syslog host <1-10> maperror
- default syslog host <1-10> mapfatal
- default syslog host <1-10> mapinfo
- default syslog host <1-10> mapwarning
- default syslog host <1-10> severity
- default syslog host <1-10> udp-port
- no syslog host <1-10>
- no syslog host <1-10> enable
- syslog host <1-10>
- syslog host <1-10> address WORD<0-46>
- syslog host <1-10> enable
- syslog host <1-10> facility { local0 | local1 | local2 | local3 | local4 | local5 | local6 | local7 }
- syslog host <1-10> maperror { emergency | alert | critical | error | warning | notice | info | debug }
- syslog host <1-10> mapfatal { emergency | alert | critical | error | warning | notice | info | debug }
- syslog host <1-10> mapinfo { emergency | alert | critical | error | warning | notice | info | debug }
- syslog host <1-10> mapwarning { emergency | alert | critical | error | warning | notice | info | debug }
- syslog host <1-10> severity { info | warning | error | fatal }
- syslog host <1-10> severity { info | warning | error | fatal } { info | warning | error | fatal }
- syslog host <1-10> severity { info | warning | error | fatal } { info | warning | error | fatal } { info | warning | error | fatal }
- syslog host <1-10> severity { info | warning | error | fatal } { info | warning | error | fatal } { info | warning | error | fatal } { info | warning | error | fatal }
- syslog host <1-10> udp-port <514-530>

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description

`address WORD<0-46>`	Configures a host location for the syslog host. WORD<0-46> is the IP address of the UNIX system syslog host.
`enable`	Enables the syslog host.
`facility {local0|local1|local2|local3|local4|local5|local6|local7}`	Specifies the UNIX facility used in messages to the syslog host. {local0|local1|local2|local3|local4|local5|local6|local7} is the UNIX system syslog host facility (LOCAL0 to LOCAL7).
`host`	Specifies host settings.
`maperror {emergency|alert|critical|error|warning|notice|info|debug}`	Specifies the syslog severity to use for Error messages.
`mapfatal {emergency|alert|critical|error|warning|notice|info|debug}`	Specifies the syslog severity to use for Fatal messages.
`mapinfo {emergency|alert|critical|error|warning|notice|info|debug}`	Specifies the syslog severity level to use for Information messages.
`mapwarning {emergency|alert|critical|error|warning|notice|info|debug}`	Specifies the syslog severity to use for Warning messages.
`severity <info|warning|error|fatal>`	Specifies the severity levels for which syslog messages should be sent for the specified modules.
`udp-port <514-530>`	Specifies the UDP port number on which to send syslog messages to the syslog host. This is the UNIX system syslog host port number (514 to 530).

syslog ip-header-type

Helps to choose the ip address in syslog header.

Syntax

- `syslog ip-header-type Pcircuitless-ip|default`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`circuitless-ip`	Set the ip address in syslog header to circuitless-ip
`default`	Set the ip address in syslog header to default

syslog max-hosts <1-10>

Specify the maximum number of syslog hosts supported.

Syntax

- `default syslog max-hosts`
- `syslog max-hosts <1-10>`

Default

`The default is 5.`

Command mode

Global Configuration

sys msg-control

Configure system message control to suppress duplicate error messages on the console and to determine the action to take if they occur.

Syntax

- `default sys msg-control`
- `default sys msg-control action`
- `default sys msg-control control-interval`
- `default sys msg-control max-msg-num`
- `no sys msg-control`
- `sys msg-control`
- `sys msg-control action both`
- `sys msg-control action send-trap`
- `sys msg-control action suppress-msg`
- `sys msg-control control-interval <1-30>`
- `sys msg-control max-msg-num <2-500>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`action <both|send-trap| suppress-msg>`	Configures the message control action. You can either suppress the message or send a trap notification, or both. The default is suppress-msg.
`control-interval <1-30>`	Configures the message control interval in minutes. The default control-interval is 5.
`max-msg-num <2-500>`	Configures the number of occurrences of a message after which the control action occurs. The default is 5 messages.

Version 05.01 June 2015

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sys mtu

Enable support for jumbo frames on the switch.

Syntax

- `default sys mtu`
- `sys mtu <1522-9600>`

Default

The default value is 1950.

Command mode

Global Configuration

Command parameters

Parameter	Description
<1522-9600>	Activates Jumbo frame support for the data path. The value can be either 1522, 1950, or 9600 bytes. 1950 or 9600 bytes activate Jumbo frame support.

sys name

Configure system identification to specify the name of the switch.

Syntax

- `default sys name`
- `sys name WORD<0-255>`

Default

The default is VSP-8284-XSQ for VSP 8200 and VSP-8404 for VSP 8400. For the VSP 7200 Series models, the default values are VSP-7254XSQ and VSP-7254XTQ.

Command mode

Global Configuration

Command parameters

Parameter	Description
name WORD<0-255>	Configures the system or root level prompt name for the switch. WORD<0-255> is an ASCII string from 1-255 characters (for example, LabSC7 or Closet4).

sys-name

Configure the name for the system.

Syntax

- `default sys-name`
- `no sys-name`
- `sys-name WORD<0-255>`

Default

`By default, the system name is the host name at the system level.`

Command mode

IS-IS Router Configuration

Command parameters

Parameter	Description
`name WORD<0-255>`	Configures the system or root level prompt name for the switch. WORD<0-255> is an ASCII string from 1-255 characters (for example, LabSC7 or Closet4).

sys power

This command enables or disables power to a slot.

Syntax

- `default sys power`
- `default sys power slot {slot [-slot] [,…]}`
- `no sys power slot {slot[-slot][,...]}`
- `sys power slot {slot[-slot][,...]}`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`{slot [-slot] [,…]}`	Identifies the slot. This parameter accepts slot 1 for VSP 7200 and VSP 8200 and slots 1-4 for VSP 8400.

sys security-console

Configure the serial management ports to drop a connection that is interrupted for any reason. If you enable serial port dropping, the serial management ports drop the connection for the following reasons: modem power failure, link disconnection, and loss of the carrier. Serial ports interrupted due to link disconnection, power failure, or other reasons force out the user and end the user session. Ending the user session ensures a maintenance port is not available with an active session that can allow unauthorized use by someone other than the authenticated user, and prevents the physical hijacking of an active session by unplugging the connected cable and plugging in another.

Syntax

- `sys security-console`

Default

`The default is disabled if enhanced secure mode is disabled. The default is enabled if enhanced secure mode is enabled.`

Command mode

Global Configuration

sys shutdown

Use this command to prepare the system for shutdown. This command properly shuts down the file system, and powers off all interface modules. The power supplies, cooling modules, and CP modules remain in the powered on state. After you use this command, you must physically turn off the chassis power. To restore power after you use this command, you must physically turn the chassis power on again.

Syntax

- `sys shutdown`

Default

None

Command mode

Privileged EXEC

sys software auto-commit

Enable the auto-commit feature for software upgrades. If you enable the auto-commit option, the system automatically commits to the new software version after the commit timer expires. If you do not enable the auto-commit option, you must enter the software commit command before the commit timer expires to commit the new software version otherwise the system restarts automatically to the previous (committed) version.

Syntax

- `default sys software auto-commit enable`
- `default sys software commit-time`
- `no sys software auto-commit enable`
- `sys software auto-commit enable`

Default

`The default is enabled.`

Command mode

Global Configuration

sys software commit-time

Configure the commit feature for software upgrades to allows maximum time to ensure that the upgrade is successful. You must enter the software commit command before the commit timer expires to commit the new software version otherwise the system restarts automatically to the previous (committed) version.

Syntax

- `sys software commit-time <10-60>`

Default

`The default is 10 minutes.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`<10-60>`	Specifies the commit timer in minutes.

sys system-default

Reset the switch to the default passwords and configuration. Note: You can only access this command after you enable enhanced secure mode using the boot config flags enhancedsecure-mode command. Only the user with the administrator role can use the command. After the administrator issues the command, the administrator must reboot the switch.

Syntax

- `sys system-default`

Default

None

Command mode

Global Configuration

system-id

Configure a system ID. You must configure a system ID before you enable IS-IS. You cannot delete the system ID but you can change it if you first disable IS-IS.

Syntax

- `default system-id`
- `no system-id`
- `system-id xxxx.xxxx.xxxx - 6 bytes`

Default

`The default system ID is the node Backbone MAC.`

Command mode

IS-IS Router Configuration

Command parameters

Parameter	Description
`xxxx.xxxx.xxxx - 6 bytes`	Specifies the system ID in 6 octets.

sys usb enable

Disable the USB drive.

Syntax

Default

None

Command mode

Global Configuration

tacacs accounting

Determines for which applications TACACS+ collects accounting information. Use TACACS+ accounting to track the services that users access and the amount of network resources that users consume.

Syntax

- `default tacacs accounting cli`
- `no tacacs accounting cli`
- `tacacs accounting disable`
- `tacacs accounting disable cli`
- `tacacs accounting enable cli`

Default

`None. If unassigned, TACACS+ does not perform the accounting function.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`cli`	Specifies the command line as the application.
`disable`	Disables the accounting function for the specified application.
`enable`	Enables the accounting function for the specified application.

tacacs authentication

Determines which applications TACACS+ authenticates.

Syntax

- `default tacacs authentication all`
- `default tacacs authentication cli`
- `default tacacs authentication web`
- `no tacacs authentication all`
- `no tacacs authentication cli`
- `no tacacs authentication web`
- `tacacs authentication all`
- `tacacs authentication cli`
- `tacacs authentication web`

Default

`The default value is disabled.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`all`	TACACS+ authenticates all applications.
`cli`	TACACS+ authenticates command line connections.
`web`	TACACS+ authenticates web connections.

tacacs authorization

Enables command authorization for a particular privilege level. Use this option to limit the use of certain commands to different users. To use TACACS+ authorization, you must also use TACACS+ authentication.

Syntax

- `default tacacs authorization`
- `no tacacs authorization enable`
- `no tacacs authorization level <1-6>`
- `tacacs authorization disable`
- `tacacs authorization enable`
- `tacacs authorization level <1-6>`
- `tacacs authorization level all`
- `tacacs authorization level none`

Default

`The default is disabled.`

Command mode

Global Configuration

Command parameters

Parameter	Description
`disable`	Disables command authorization.
`enable`	Enables command authorization.
`level <1-6>`	Enables command authorization for a specific privilege level.
`level all`	Enables command authorization for all privilege levels.
`level none`	Disables command authorization for all privilege levels.

tacacs protocol enable

Globally enables or disables TACACS+.

Syntax

- `default tacacs protocol enable`
- `no tacacs protocol enable`
- `tacacs protocol enable`

Default

`The default is disabled.`

Command mode

Global Configuration

tacacs server host

Configures the entry for the primary TACACS+ server.

Syntax

- default tacacs server {A.B.C.D}
- default tacacs server {A.B.C.D} port
- default tacacs server {A.B.C.D} single-connection
- default tacacs server {A.B.C.D} single-connection source source-ip-interface enable
- default tacacs server {A.B.C.D} source source-ip-interface enable
- default tacacs server {A.B.C.D} timeout
- no tacacs server {A.B.C.D}
- no tacacs server {A.B.C.D} single-connection
- no tacacs server {A.B.C.D} source source-ip-interface enable
- tacacs server host {A.B.C.D}
- tacacs server host {A.B.C.D} key WORD<0-128>
- tacacs server host {A.B.C.D} port <1-65535>
- tacacs server host {A.B.C.D} port <1-65535> source {A.B.C.D} source-ip-interface enable
- tacacs server host {A.B.C.D} single-connection
- tacacs server host {A.B.C.D} source {A.B.C.D} source-ip-interface enable
- tacacs server host {A.B.C.D} timeout <10-30>

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
{A.B.C.D}	Specifies the IP address of the primary TACACS+ server.

key WORD<0-128>	Configures the secret key to share with this TACACS+ server. If the key length is zero, that indicates no encryption is used.
port <1-65535>	Configures the TCP port on which the client establishes a connection to the server. A value of 0 indicates that the system specified default value is used. The default is 49.
single-connection	Specifies if the TCP connection between the device and the TACACS+ server is a single connection. If you do not enable the single-connection parameter, the system uses the default connection type that opens and closes a connection for each communication session.
source {A.B.C.D}	Configures the IP address of the interface to use with this server. If you do not configure an address, the system uses 0.0.0.0 as the default.
source-ip-interface enable	Enables the source address. You must enable this parameter if you configure a valid source IP address. The default is disabled.
timeout <10-30>	Configures the maximum time, in seconds, to wait for this TACACS+ server to reply. The default is 10 seconds.

tacacs switch

Changes the privilege level to determine what commands a user can access through TACACS+ server authorization. You must configure separate profiles in the TACACS+ server configuration file for switch level.

Syntax

- `tacacs switch back`
- `tacacs switch level`
- `tacacs switch level <1-15>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`back`	Returns the privilege level to the original level.
`level <1-15>`	Selects a specific privilege level. The switch supports levels 1 through 6: read-only (1), Layer 1 read-write (2), Layer 2 read-write (3), Layer 3 read-write (4), read-write (5), and read-write-all (6), and level 15.

tagged-frames-discard

Discards tagged frames on the port.

Syntax

- `default tagged-frames-discard`
- `default tagged-frames-discard enable`
- `default tagged-frames-discard port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `default tagged-frames-discard port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} enable`
- `no tagged-frames-discard`
- `no tagged-frames-discard enable`
- `no tagged-frames-discard port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `no tagged-frames-discard port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} enable`
- `tagged-frames-discard`
- `tagged-frames-discard enable`
- `tagged-frames-discard port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `tagged-frames-discard port {slot/port[/sub-port][-slot/port[/sub-port]][,...]} enable`

Default

The default is disabled.

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`enable`	Discards tagged frames on the port.
`port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`	Identifies the slot and port.

telnet

Use this command to access another platform remotely.

Syntax

- `telnet`
- `telnet WORD<1-256>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
WORD<1-256>	Specifies the host name, IPv4 address.

telnet-access sessions

Configures the number of supported inbound Telnet sessions.

Syntax

- `default telnet-access sessions`
- `telnet-access sessions <0-8>`

Default

`The default is 8.`

Command mode

Global Configuration

Command parameters

Parameter	Description
<0-8>	Configures the allowable number of inbound Telnet sessions.

terminal

Configures the ACLI display.

Syntax

- `terminal length <8-64>`
- `terminal length default`
- `terminal more disable`
- `terminal more enable`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`length <8-64>`	Configures the number of lines in the output display for the current session to the default value.
`length default`	Configures the number of lines in the output display for the current session. The default is 23.
`more <enable|disable>`	Configures scrolling for the output display. The default is enabled.

timers basic holddown (for OSPF)

Configures the OSPF hold-down timer value, the length of time (in seconds) that OSPF continues to advertise a network after determining that it is unreachable.

Syntax

- `default timers basic holddown`
- `timers basic holddown <3-60>`

Default

`The default is 120 seconds.`

Command mode

OSPF Router Configuration

Command parameters

Parameter	Description
`<3-60>`	Configures the holddown timer value.

timers basic holddown (for RIP)

Configures the RIP hold-down timer value, the length of time (in seconds) that RIP continues to advertise a network after determining that it is unreachable.

Syntax

- `default timers basic holddown`
- `timers basic holddown <0-360>`

Default

`The default is 120 seconds.`

Command mode

RIP Router Configuration

Command parameters

Parameter	Description
`<0-360>`	Configures the holddown timer value.

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timers basic timeout

Configure the RIP timeout interval.

Syntax

- `default timers basic timeout`
- `timers basic timeout <15-259200>`

Default

`The default value is 180.`

Command mode

RIP Router Configuration

Command parameters

Parameter	Description
<15-259200>	Configures the value of default import metric to import a route into RIP domain.

timers basic update

Configure the RIP update timer. The update time is the time interval between RIP updates.

Syntax

- `default timers basic update`
- `timers basic update <1-360>`

Default

`The default is 30 seconds.`

Command mode

RIP Router Configuration

Command parameters

Parameter	Description
`<1-360>`	Configures the update interval.

trace cfm

cfm related tracing information.

Syntax

- `trace cfm level <0-4>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`level <0-4>`	tracing level for cfm.

trace filter file

Filter trace.

Syntax

- `trace filter file WORD<0-128>`
- `trace filter file WORD<0-128> bt limit WORD<0-256>`
- `trace filter file WORD<0-128> clear`
- `trace filter file WORD<0-128> disable`
- `trace filter file WORD<0-128> lines`
- `trace filter file WORD<0-128> lines WORD<0-256>`
- `trace filter file WORD<0-128> range`
- `trace filter file WORD<0-128> range WORD<0-256> WORD<0-256>`
- `trace filter file WORD<0-128> supress`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
WORD<0-128>	Specifies the filename.
bt limit WORD<0-256>	Performs backtrace filtering for a specific limit value.
clear	Clears trace filter information.
disable	Disables the trace filter.
lines WORD<0-256>	Specifies the lines to filter.
range WORD<0-256> WORD<0-256>	Specifies the range to filter.
suppress	Suppresses the trace filter.

trace filter module

Filter module.

Syntax

- `trace filter module <0-136>`
- `trace filter module <0-136> clear`
- `trace filter module <0-136> disable`
- `trace filter module <0-136> info`
- `trace filter module <0-136> supress`

Default

`None`

Command mode

User EXEC

Command parameters

Parameter	Description
`<0-136>`	Specifies the module ID.
`clear`	Clears trace filter information.
`disable`	Disables the trace filter.
`info`	Shows the trace filter configuration for the module.
`suppress`	Suppresses the trace filter.

trace flags isis

Enable or disable the Intermediate-System-to-Intermediate-System trace flags. After IS-IS trace is turned on, only trace information about the set flag appears.

Syntax

- `trace flags isis`
- `trace flags isis remove { none | tx-hello | rx-hello | tx-pkt | rx-pkt | adj | opt | tx-lsack | rx-lsack | tx-lsp | rx-lsp | pkt-err | nbr-mismatch | flood | spf-intra | spf-inter | spf-extern | prefix | nbr-change | intf-change | decide | fdb | dr | auth-fail | config | purge | policy | redist | tx-snp | rx-snp | timer | spbm-decide | global | perf | ucast-fib | node | mcast-fib | isid | ip-shortcut | debug | }`
- `trace flags isis set { none | tx-hello | rx-hello | tx-pkt | rx-pkt | adj | opt | tx-lsack | rx-lsack | tx-lsp | rx-lsp | pkt-err | nbr-mismatch | flood | spf-intra | spf-inter | spf-extern | prefix | nbr-change | intf-change | decide | fdb | dr | auth-fail | config | purge | policy | redist | tx-snp | rx-snp | timer | spbm-decide | global | perf | ucast-fib | node | mcast-fib | isid | ip-shortcut | debug | }`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
adj	Specifies the option of adjacenies.
auth-fail	Specifies the option of authorization failed.
config	Specifies the option of configuration.
dd-masterslave	The current release does not use this option.
debug	Specifies the option of debug.
decide	Specifies the option of shortest path first computation.
dr	Specifies the option of designated router.
fdb	Specifies the option of filtering database.
flood	Specifies the option of flood.
global	The current release does not use this option.
ha	Specifies the option of High Availability.

intf-change	Specifies the option of IS-IS circuit (interface) events.
ip-multicast	Specifies the option of IP multicast.
ip-shortcut	Specifies the option of IP Shortcut.
isid	Specifies the option of I-SID.
mcast-fib	Specifies the option of multicast forwarding information base.
nbr-change	Specifies the option of neighbor change.
nbr-mismatch	Specifies the option of neighbor mismatch.
node	Specifies the option of node.
none	Specifies the option of none.
opt	Specifies the option of IS-IS TLVs.
perf	Specifies the option of SPBM performance.
pkt-err	Specifies the option of packet error.
policy	The current release does not use this option.
prefix	Specifies the option of prefix.
purge	Specifies the option of Link State Packet purge.
redist	Specifies the option of redistribute.
remove	Removes the Intermediate-System-to-Intermediate-System (IS-IS) trace flags for the specified option.
rx-hello	Specifies the option of received IS-IS hello packets.
rx-lsack	Specifies the option of received LSP acknowledgement.
rx-lsp	Specifies the option of received Link State Packet.
rx-pkt	Specifies the option of received packets.
rx-snp	Specifies the option of received sequence number packet (CSNP and PSNP).
set	Configures the Intermediate-System-to-Intermediate-System (IS-IS) trace flags for the specified option.
spbm-decide	Specifies the option of shortest path first computation for SPBM.
spf-extern	Specifies the option of shortest path first external.
spf-inter	Specifies the option of shortest path first internal.
spf-intra	The current release does not use this option.
timer	Specifies the option of timer.
tx-hello	Specifies the option of transmitted IS-IS hello packets.
tx-lsack	Specifies the option of transmitted LSP acknowledgement.
tx-lsp	Specifies the option of transmitted Link State Packet.
tx-pkt	Specifies the option of transmitted packets.
tx-snp	Specifies the option of transmitted sequence number PDU (CSNP and PSNP).
ucast-fib	Specifies the option of unicast forwarding information base.

trace flags ospf

Enable or disables OSPFv2 trace flags for debugging. The flags you set are used by the trace level.

Syntax

- `trace flags ospf`
- `trace flags ospf remove { none | all | tx-hello | rx-hello | tx-ddp-pkt | rx-ddp-pkt | tx-lsu-pkt | rx-lsu-pkt | tx-lsack | rx-lsack | tx-lsr | rx-lsr | pkt-err | nbr-mismatch | flood | spf-intra | spf-inter | spf-extern | spf-tree | nbr-change | intf-change | abr-lsa-generate | asbr-lsa-generate | dr | dd-masterslave | auth-fail | config | lsa | policy }`
- `trace flags ospf set { none | all | tx-hello | rx-hello | tx-ddp-pkt | rx-ddp-pkt | tx-lsu-pkt | rx-lsu-pkt | tx-lsack | rx-lsack | tx-lsr | rx-lsr | pkt-err | nbr-mismatch | flood | spf-intra | spf-inter | spf-extern | spf-tree | nbr-change | intf-change | abr-lsa-generate | asbr-lsa-generate | dr | dd-masterslave | auth-fail | config | lsa | policy }`

Default

By default, all flags are turned off.

Command mode

User EXEC

trace grep

Search trace results for a specific string value, for example, the word error.

Syntax

- `trace grep`
- `trace grep WORD<0-128>`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
WORD<0-128>	Specifies the search keyword. You can use a specific MAC address or search for errors, using the command, trace grep error.

trace ipv6 base

Configure trace parameters for the IPv6 base.

Syntax

- `trace ipv6 base disable <all|debug|error|icmp|info|ipclient|nbr|pkt|warn>`
- `trace ipv6 base enable <all|debug|error|icmp|info|ipclient|nbr|pkt|warn>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`<all|debug|error|icmp|info|ipclient|nbr|pkt|warn>`	Specifies the trace category.
`disable`	Disables the trace.
`enable`	Enables the trace.

trace ipv6 forwarding

Configure trace parameters for IPv6 forwarding.

Syntax

- `trace ipv6 forwarding disable <all|debug|error|info|pkt|warn>`
- `trace ipv6 forwarding enable <all|debug|error|info|pkt|warn>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`<all|debug|error|info|pkt|warn>`	Specifies the trace category.
`disable`	Disables the trace.
`enable`	Enables the trace.

trace ipv6 nd

Configure trace parameters for IPv6 neighbor discovery.

Syntax

- `trace ipv6 nd disable <all|debug|error|info|nbr|pkt|redirect|warn>`
- `trace ipv6 nd enable <all|debug|error|info|nbr|pkt|redirect|warn>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`<all|debug|error|info|nbr|pkt|redirect|warn>`	Specifies the trace category.
`disable`	Disables the trace.
`enable`	Enables the trace.

trace ipv6 rtm

Configure trace parameters for the IPv6 routing table manager.

Syntax

- `trace ipv6 rtm disable <all|change-list|debug|error|fib|info|redist|update|warn>`
- `trace ipv6 rtm enable <all|change-list|debug|error|fib|info|redist|update|warn>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`<all|changelist|debug|error|fib|info|redist|update|warn>`	Specifies the trace category.
`disable`	Disables the trace.
`enable`	Enables the trace.

trace ipv6 transport

Configure trace parameters for IPv6 transport.

Syntax

- `trace ipv6 transport disable <all|common|tcp|udp>`
- `trace ipv6 transport enable <all|common|tcp|udp>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
`<all|common|tcp|udp>`	Specifies the trace category.
`disable`	Disables the trace.
`enable`	Enables the trace.

trace level

Use trace to observe the status of a software module at a given time.

Syntax

- `trace level`
- `trace level <0-219> <0-4>`
- `trace level sub-system WORD<1-20> <0-5>`
- `trace level sub-system WORD<1-20> <0-5> process WORD<1-20>`
- `trace level sub-system WORD<1-20> <0-5> process WORD<1-20> slot <1-12>`
- `trace level sub-system WORD<1-20> <0-5> process WORD<1-20> slot SF1`
- `trace level sub-system WORD<1-20> <0-5> process WORD<1-20> slot SF2`
- `trace level sub-system WORD<1-20> <0-5> process WORD<1-20> slot SF3`
- `trace level sub-system WORD<1-20> <0-5> process WORD<1-20> slot SF4`
- `trace level sub-system WORD<1-20> <0-5> process WORD<1-20> slot SF5`
- `trace level sub-system WORD<1-20> <0-5> process WORD<1-20> slot SF6`
- `trace level sub-system WORD<1-20> <0-5> slot SF1`
- `trace level sub-system WORD<1-20> <0-5> slot SF2`
- `trace level sub-system WORD<1-20> <0-5> slot SF3`
- `trace level sub-system WORD<1-20> <0-5> slot SF4`
- `trace level sub-system WORD<1-20> <0-5> slot SF5`
- `trace level sub-system WORD<1-20> <0-5> slot SF6`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description

level [<0-219>] [<0-4>]	Starts the trace by specifying the module ID and level <0-219> specifies the module ID. <0-4> specifies the trace level from 0 to 4, where 0 is disabled; 1 is very terse; 2 is terse; 3 is very verbose, 4 is verbose.

traceroute

Use traceroute to determine the route packets take through a network to a destination.

Syntax

- `traceroute WORD<0-256>`
- `traceroute WORD<0-256> <1-1176>`
- `traceroute WORD<0-256> -m <1-255>`
- `traceroute WORD<0-256> -p <1-65535>`
- `traceroute WORD<0-256> -q <1-255>`
- `traceroute WORD<0-256> source WORD<1-256>`
- `traceroute WORD<0-256> -v`
- `traceroute WORD<0-256> vrf WORD<0-16>`
- `traceroute WORD<0-256> -w <1-255>`

Default

None

Command mode

Privileged EXEC

Command parameters

Parameter	Description
WORD<0-256> <1-1176>	Specifies the wait time per probe.
WORD<0-256> -m <1-255>	Specifies the is maximum time-to-live (TTL).
WORD<0-256> -p <1-65535>	Specifies the base UDP port number.
WORD<0-256> -q <1-255>	Specifies the number of probes per TTL.
WORD<0-256> source WORD<1-256>	Source address for trace route.
WORD<0-256> -v	Specifies verbose mode (detailed output).
WORD<0-256> vrf WORD<0-16>	Vrf name (IPv4 only).
WORD<0-256> -w <1-255>	Specifies the source IP address for use in traceroutes.

trace route-map

Enable or disable trace for route-maps.

Syntax

- `trace route-map { off | on }`
- `trace route-map { off | on } address {A.B.C.D}`
- `trace route-map { off | on } iflist WORD<1-256>`
- `trace route-map { off | on } name WORD<1-64>`
- `trace route-map { off | on } protocol any`
- `trace route-map { off | on } protocol ospf`
- `trace route-map { off | on } protocol rip`
- `trace route-map { off | on } type accept`
- `trace route-map { off | on } type announce`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`{ off | on }`	Enables or disables tracing.
`address {A.B.C.D}`	Specifies the interface address.
`iflist WORD<1-256>`	Specifies the interface list name.
`name WORD<1-64>`	Specifies the name of a route-map.
`protocol`	Specifies a routing protocol.
`type`	Specifies a route-map type.

trace save

Save Trace Sub-System Configuration.

Syntax

- `trace save`

Default

None

Command mode

User EXEC

trace screen

Configure if the system Display trace information on screen.

Syntax

- `trace screen disable`
- `trace screen enable`

Default

None

Command mode

User EXEC

Command parameters

Parameter	Description
`disable`	Prevents the trace messages from appearing on screen.
`enable`	Shows the trace messages on screen.

trace shutdown

Disables trace.

Syntax

- `trace shutdown`

Default

None

Command mode

User EXEC

trace spbm isis level

Starts debug tracing for IS-IS. <0-4> specifies the trace level from 0 to 4, where 0 is disabled; 1 is very terse; 2 is terse; 3 is very verbose, 4 is verbose.

Syntax

- `trace spbm isis level <0-4>`

Default

None

Command mode

User EXEC

trap

Enable OSPF traps.

Syntax

- `default trap`
- `default trap enable`
- `no trap`
- `no trap enable`
- `trap enable`

Default

`The default value is disable.`

Command mode

OSPF Router Configuration

Command parameters

Parameter	Description
`enable`	Enables OSPF traps.

traps

Enable BGP traps.

Syntax

- `default traps`
- `default traps enable`
- `no traps`
- `no traps enable`
- `traps enable`

Default

`The default value is disable.`

Command mode

BGP Router Configuration

Command parameters

Parameter	Description
`enable`	Enables BGP traps.

udp checksum

Enable the User Datagram Protocol (UDP) checksum calculation on the switch.

Syntax

- `default udp checksum`
- `no udp checksum`
- `udp checksum`

Default

`The default is enabled.`

Command mode

Global Configuration

untagged-frames-discard

Configure a tagged port to discard all untagged packets so that the frame is not classified into the default VLAN for the port.

Syntax

- `default untagged-frames-discard`
- `default untagged-frames-discard port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `no untagged-frames-discard`
- `no untagged-frames-discard port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `untagged-frames-discard`
- `untagged-frames-discard port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`port {slot/port [-slot/port [,...]}`	Specifies the slots and ports that are to be changed.

untag-port-default-vlan

Untag the default VLAN on the port.

Syntax

- default untag-port-default-vlan
- default untag-port-default-vlan enable
- default untag-port-default-vlan port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- no untagged-frames-discard
- no untagged-frames-discard port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- no untag-port-default-vlan
- no untag-port-default-vlan enable
- no untag-port-default-vlan port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}
- untag-port-default-vlan
- untag-port-default-vlan enable
- untag-port-default-vlan port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}

Default

The default is disabled.

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
enable	Untags the default VLAN for the port.
port {slot/port[/sub-port][-slot/port[/sub-port]][,...]}	Identifies the slot and port.

usb-stop

Stop the USB access and is done before removing the usb device.

Syntax

- `usb-stop`

Default

None

Command mode

Privileged EXEC

username

Change user profile.

Syntax

- default username WORD<1-20> level l1
- default username WORD<1-20> level l2
- default username WORD<1-20> level l3
- default username WORD<1-20> level ro
- default username WORD<1-20> level rw
- default username WORD<1-20> level rwa
- username WORD<1-20> level l1
- username WORD<1-20> level l2
- username WORD<1-20> level l3
- username WORD<1-20> level ro
- username WORD<1-20> level rw
- username WORD<1-20> level rwa

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<password>	Cleartext password (when password security is disabled)
<WORD>	Username
ro	Read-only user name reset to default.
rw	Read-write user name reset to default.
rwa	Change read write all enable password

Avaya.com/support

virtual-ist

Virtual interswitch trunk (VIST) improves upon the Layer 2 and Layer 3 resiliency by using a virtualized IST channel through the SPBM cloud.

Syntax

- `default virtual-ist peer-ip`
- `no virtual-ist peer-ip`
- `virtual-ist peer-ip {A.B.C.D} vlan <1-4059>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`peer-ip {A.B.C.D}`	Specifies the peer IP address—the IP address of the IST VLAN on the other aggregation switch.
`vlan <1-4059>`	Specifies the VLAN ID for this IST.

virtual-ist (on an MLT)

Virtual interswitch trunk (VIST) improves upon the Layer 2 and Layer 3 resiliency by using a virtualized IST channel through the SPBM cloud.

Syntax

- `virtual-ist enable`

Default

None

Command mode

MLT Interface Configuration

Command parameters

Parameter	Description
enable	Enables vIST on the specified MLT ID.

vlacp

Configure Virtual Link Aggregation Control Protocol (VLACP) on a port to ensure there is end-to-end reachability.

Syntax

- `default vlacp`
- `default vlacp ethertype`
- `default vlacp fast-periodic-time`
- `default vlacp funcmac-addr`
- `default vlacp slow-periodic-time`
- `default vlacp timeout`
- `default vlacp timeout-scale`
- `no vlacp`
- `vlacp ethertype <1536-65535 | 0x600-0xffff>`
- `vlacp fast-periodic-time <100-20000>`
- `vlacp funcmac-addr 0x00:0x00:0x00:0x00:0x00:0x00`
- `vlacp slow-periodic-time <10000-30000>`
- `vlacp timeout long`
- `vlacp timeout short`
- `vlacp timeout-scale <2-10>`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`enable`	Enables VLACP for this port.
`ethertype <0X600-0Xffff>`	Sets the VLACP protocol identification for this port.
`fast-periodic-time <100-20000>`	Sets the fast periodic time (in milliseconds) for this port.

`funcmac-addr <0x00:0x00:0x00:0x00:0x00:0x00>`	Sets the multicast MAC address used for the VLACPDU. Specify a MAC address in the format 0x00:0x00:0x00:0x00:0x00:0x00.
`slow-periodic-time <10000-30000>`	Sets the slow periodic time (in milliseconds) for a specific port type.
`timeout {long|short}`	Sets the port to use the long or short timeout: long sets the port to use the timeout-scale value multiplied by the slow-periodic-time. short sets the port to use the timeout-scale value multiplied by the fast-periodic-time. For example, if you specify a short timeout, set the timeout-scale value to 3, and the fast-periodic-time to 400 ms, the timer will expire within 1000 to 1200 ms. To set this option to the default value, use the default operator with the command.
`timeout-scale <2-10>`	Sets a timeout scale for this port used to calculate the timeout. The default value is 3. To set this option to the default value, use the default operator with the command.

vlan action

Perform a general VLAN action to initiate a specific function on a VLAN, such as clearing learned MAC addresses or ARP entries from the forwarding database.

Syntax

- `vlan action <1-4059> { none | flushMacFdb | flushArp | flushIp | flushDynMemb | triggerRipUpdate | all }`

Default

`None`

Command mode

Global Configuration

Command parameters

Parameter	Description
`all`	Sets action to all.
`flushArp`	Sets action to flushMacFdb.
`flushDynMemb`	Sets action to flushDynMemb.
`flushIp`	Sets action to flushIp.
`none`	Sets action to none.
`triggerRipUpdate`	Sets action to triggerRipUpdate.

vlan agetime

Change dynamic vlan membership agetime.

Syntax

- `default vlan agetime <2-4059>`
- `vlan agetime <2-4059> <0-1000000>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<0-1000000>	Specifies the agetime, in seconds.
<2-4059>	Specifies the VLAN ID.

vlan create

Create a VLAN using ACLI by port, protocol, or SPBM. Optionally, you can choose to assign the VLAN a name and color.

Syntax

- `vlan create <2-4059> name WORD<0-64> type port-mstprstp <0-63>`
- `vlan create <2-4059> name WORD<0-64> type port-mstprstp <0-63> color <0-32>`
- `vlan create <2-4059> name WORD<0-64> type protocol-mstprstp <0-63> ipv6`
- `vlan create <2-4059> name WORD<0-64> type protocol-mstprstp <0-63> ipv6 color <0-32>`
- `vlan create <2-4059> name WORD<0-64> type spbm-bvlan`
- `vlan create <2-4059> name WORD<0-64> type spbm-bvlan color <0-32>`
- `vlan create <2-4059> type port-mstprstp <0-63>`
- `vlan create <2-4059> type port-mstprstp <0-63> color <0-32>`
- `vlan create <2-4059> type protocol-mstprstp <0-63> ipv6`
- `vlan create <2-4059> type protocol-mstprstp <0-63> ipv6 color <0-32>`
- `vlan create <2-4059> type spbm-bvlan`
- `vlan create <2-4059> type spbm-bvlan color <0-32>`
- `vlan create <2-4059> type pvlan-mstprstp <0-63> secondary <2-4059> color <0-32>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<2-4059>	Specifies the VLAN ID in the range of 2 to 4084.
<2-4059> type	Specifies the VLAN ID.
color <0-32>	Specifies the color of the VLAN.
name WORD<0-64>	Specifies the VLAN name in the range of 0-64. This parameter is optional. Note Do not use the name Mgmt when you specify a name for the VLAN that you create. The switch creates a management VLAN at boot up with the

	assigned name Mgmt. The show command does not show the management VLAN.
`spbm-bvlan`	Specifies the VLAN type as the backbone VLAN (B-VLAN) for Shortest Path Bridging MAC (SPBM).
`type ipsubnet-mstprstp <0-63> <A.B.C.D/X> [color <0-32]`	Creates a VLAN by IP subnet: <0-63> is the STP instance ID in the range of 0-63. A.B.C.D/X is the subnet address or mask {a.b.c.d/x | a.b.c.d/x.x.x.x}. color <0-32> is the color of the VLAN in the range of 0 to 32.
`type port-mstprstp <0-63> [color <0-32>]`	Creates a VLAN by port: 0-63 is the STP instance ID from 0 to 63. color <0-32> is the color of the VLAN in the range of 0 to 32.
`type protocol-mstprstp <0-63> {appleTalk | decLat | decOther | ip | ipv6 | ipx802dot2 | ipx802dot3 | ipxEthernet2 | ipxsnap | netBios | PPPoE | rarp | sna802dot2 | snaEthernet2 | vines | xns} [color <0-32>]`	Creates a VLAN by protocol:0-63 is the STP instance ID. appleTalk is the apple talk protocol. decLat is the declat protocol. decOther is the decother protocol. ip is the Ip version 4 protocol. ipx802dot2 specifies the Novell Internetwork Packet Exchange (IPX) on IEEE 802.2 frames. ipx802dot3 specifies the Novell Internetwork Packet Exchange (IPX) on Ethernet 802.3 frames. ipxEthernet2 specifies the Novell IPX on Ethernet type 2 frames. ipxsnap specifies the Novell IPX on Ethernet Standard Network Access Protocol (SNAP) frames. netbios is the Netbios protocol. PPPoE is the Point-to-Point Protocol Over Ethernet. rarp is the Rarp protocol. sna802dot2 is the Sna802dot2 protocol. snaethernet2 is the Snaethernet2 protocol. vines is the Vines protocol. xns is the Xns protocol. color <0-32> is the color of the VLAN in the range of 0 to 32.
`type protocol-mstprstp <0-63> userDefined {0x0000 | <decimal value>} [color ] <0-32>] [encap {ethernet-ii | llc | snap}]`	Creates a VLAN using a user defined protocol.<0-63> is the STP instance ID in the range of 0-63. {0x0000|<decimal value>} is the protocol ID in hexadecimal or decimal value. color <0-32> is the color of the VLAN in the range of 0 to 32. encap specifies the frame encapsulation header type.
`type pvlan-mstprstp <0-63> secondary <2-4059> color <0-32>`	Creates a Private VLAN by port for a secondary VLAN ID.
`type srcmac-mstprstp <0-63> [color<0-32> ]`	Creates a VLAN by source MAC address: 0-63 is the STP instance ID in the range of 0-63. color <0-32> is the color of the VLAN in the range of 0 to 32.

vlan delete

Delete a VLAN.

Syntax

- `vlan delete <2-4059>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<2-4059>	Specifies the VLAN ID.

vlan i-sid

Configure i-sid for a vlan.

Syntax

- `default vlan i-sid <1-4059>`
- `no vlan i-sid <1-4059>`
- `vlan i-sid <1-4059> <0-16777215>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<0-16777215>	Specifies the service instance identifier (I-SID). You cannot use I-SID 0x00ffffff. The system reserves this I-SID to advertise the virtual BMAC in an SMLT dual-homing environment.
<1-4059>	Specifies the C-VLAN ID.

vlan mac-address-entry

Specifies the VLAN forwarding database commands.

Syntax

- `vlan mac-address-entry <1-4059> flush`
- `vlan mac-address-entry <1-4059> sync`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
`<1-4059>`	Specifies the VLAN ID in the range of 1 to 4084.
`aging-time <10-1000000>`	Sets the FDB aging timer. seconds indicates the timeout period in seconds.
`flush`	Flushes the FDB.
`sync`	Synchronizes the switch forwarding database with the forwarding database of the other aggregation switch.

vlan members

Add ports to a VLAN.

Syntax

- `vlan members <1-4059> {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `vlan members <1-4059> {slot/port[/sub-port][-slot/port[/sub-port]][,...]} { portmember | static | notallowed }`
- `vlan members add <1-4059> {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `vlan members add <1-4059> {slot/port[/sub-port][-slot/port[/sub-port]][,...]} { portmember | static | notallowed }`
- `vlan members remove <1-4059> {slot/port[/sub-port][-slot/port[/sub-port]][,...]}`
- `vlan members remove <1-4059> {slot/port[/sub-port][-slot/port[/sub-port]][,...]} { portmember | static | notallowed }`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
{slot/port[/sub-port][-slot/port[/sub-port]][,...]}	Identifies the slot and port.
<1-4059>	Specifies the VLAN ID.
notallowed	Selects the port type to not-allowed.
portmember	Select the port type to port member.
static	Selects the port type to static.

vlan mlt

Add mlt to VLAN.

Syntax

- `vlan mlt <1-4059> <1-512>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<1-4059>	Specifies the VLAN ID.
<1-512>	Specifies the MLT ID.

vlan name

Change the name of a VLAN.

Syntax

- `vlan name <2-4059> WORD<0-64>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<1-4094>	VLAN ID
<LINE>	New name for VLAN

vlan nodal-mep

Add nodal mep to VLAN.

Syntax

- `no vlan nodal-mep <1-4059> WORD<0-22> WORD<0-22> <1-8191>`
- `vlan nodal-mep <1-4059> WORD<0-22> WORD<0-22> <1-8191>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<1-4059>	Specifies the VLAN ID.
<1-8191>	Specifies the nodal Maintenance Endpoints (MEPs) to add to the VLAN.
WORD<0-22> WORD<0-22>	The first parameter, specifies the Maintenance-Domain (MD) name. The second parameter, specifies the Maintenance-Association (MA) name.

vlan nodal-mip-level

Add nodal mip level.

Syntax

- `no vlan nodal-mip-level <1-4059> WORD<0-15>`
- `vlan nodal-mip-level <1-4059> WORD<0-15>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<1-4059>	Specifies the VLAN ID.
WORD<0-15>	Adds the nodal Maintenance Intermediate Point (MIP) level.

vlan ports

Modify VLAN port settings.

Syntax

- `vlan ports {slot/port[/sub-port][-slot/port[/sub-port]][,...]} tagging tagAll`
- `vlan ports {slot/port[/sub-port][-slot/port[/sub-port]][,...]} tagging untagAll`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<LINE>	Port list
disable	Disable tagging on this port
enable	Enable tagging on this port
filter-unregistered-frames {disable | enable}	Enable/disable filtering of unregistered frames
filter-untagged-frame {disable | enable}	Enable/disable filtering of untagged frames
name <LINE>	Set VLAN port name
priority <0-7>	Set VLAN port priority
pvid <1-4094>	Change PVID
tagAll	Enable tagging on this port
tagging {disable | enable | tagAll | tagPvidOnly | untagAll | untagPvidOnly}	Enable/disable tagging
tagPvidOnly	Enable tagging of packets matching the
untagAll	Disable tagging on this port
untagPvidOnly	Disable tagging of packets matching the Pv

vlan rmon

Enable rmon on this VLAN.

Syntax

- `default vlan rmon <1-4059>`
- `no vlan rmon <1-4059>`
- `vlan rmon <1-4059>`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<1-4059>	Specifies the VLAN ID.

vlan srcmac

Add mac address for a VLAN.

Syntax

- `default vlan srcmac <2-4059> 0x00:0x00:0x00:0x00:0x00:0x00`
- `no vlan srcmac <2-4059> 0x00:0x00:0x00:0x00:0x00:0x00`
- `vlan srcmac <2-4059> 0x00:0x00:0x00:0x00:0x00:0x00`

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
<0x00:0x00:0x00:0x00:0x00:0x00>	Specifies the source MAC address.
<2-4059>	Specifies the VLAN ID in the range of 2-4084.

vrf (for a port)

Associate a port to a Virtual Router Forwarding (VRF) so that the port becomes a member of the VRF instance.

Syntax

- `no vrf`
- `vrf WORD<0-16>`

Default

None

Command mode

GigabitEthernet Interface Configuration

Command parameters

Parameter	Description
`vrf WORD<0-16>`	Specifies the VRF name.

vsptalk

Create VSP Talk application.

Syntax

- `no vsptalk`
- `no vsptalk { gtalk | avaya }`
- `vsptalk`
- `vsptalk { gtalk | avaya }`

Default

`The default is disabled.`

Command mode

Application Configuration

Command parameters

Parameter	Description
`vsptalk { gtalk | avaya }`	Enables one of the instant messaging client types on the Switch. The Switch supports the following: avaya - Avaya XMPP IM or gtalk - Google Talk. VSP Talk can use only one client type at a time. You cannot use more than one client type simultaneously.

vsptalk { gtalk | avaya } client add-buddy

Add your contact email to become a contact to receive and send messages through Instant Messaging.

Syntax

- `no vsptalk { gtalk | avaya } client add-buddy`
- `no vsptalk { gtalk | avaya } client add-buddy WORD<0-1024>`
- `vsptalk { gtalk | avaya } client add-buddy WORD<0-1024>`

Default

None

Command mode

Application Configuration

Command parameters

Parameter	Description
{ gtalk | avaya }	Enables one of the instant messaging client types on the Switch. The Switch supports the following: avaya - Avaya XMPP IM or gtalk - Google Talk. VSP Talk can use only one client type at a time. You cannot use more than one client type simultaneously.
WORD<0-200>	Adds your contact email to become a contact to receive and send messages through instant messaging. WORD<0-200> specifies your email address for the IM client. For instance, if you use Google Talk as the VSP Talk IM client your address is a gmail address: administrator1@gmail.com. The maximum number of contacts is 12.

vsptalk { gtalk | avaya } client username

Define the VSP Talk instant messaging client username and password.

Syntax

- `no vsptalk { gtalk | avaya } client username`
- `vsptalk { gtalk | avaya } client username WORD<0-64>`
- `vsptalk { gtalk | avaya } client username WORD<0-64> password WORD<0-80>`

Default

None

Command mode

Application Configuration

Command parameters

Parameter	Description
{ gtalk | avaya }	Enables one of the instant messaging client types on the Switch. The Switch supports the following: avaya - Avaya XMPP IM or gtalk - Google Talk. VSP Talk can use only one client type at a time. You cannot use more than one client type simultaneously.
password WORD<0-80>	Defines the VSP Talk instant messaging client password. WORD<0-80> specifies the password.
username WORD<0-64>	Defines the VSP Talk instant messaging client username. WORD<0-64> specifies the username. The username for The Switch is the email used for the Switch in the IM client.

vsptalk { gtalk | avaya } enable

Enable the VSP Talk application.

Syntax

- `default vsptalk { gtalk | avaya } enable`
- `no vsptalk { gtalk | avaya } enable`
- `vsptalk { gtalk | avaya } enable`

Default

`The default is disabled.`

Command mode

Application Configuration

Command parameters

Parameter	Description
`{ gtalk | avaya }`	Enables one of the instant messaging client types on the Switch. The Switch supports the following: avaya - Avaya XMPP IM or gtalk - Google Talk. VSP Talk can use only one client type at a time. You cannot use more than one client type simultaneously.

vsptalk { gtalk | avaya } server address

Specify the instant messaging server address.

Syntax

- `no vsptalk { gtalk | avaya } server address`
- `vsptalk { gtalk | avaya } server address WORD<0-255>`

Default

None

Command mode

Application Configuration

Command parameters

Parameter	Description
`{ gtalk | avaya }`	Enables one of the instant messaging client types on the Switch. The Switch supports the following: avaya - Avaya XMPP IM or gtalk - Google Talk. VSP Talk can use only one client type at a time. You cannot use more than one client type simultaneously.
`address <0-255>`	Specifies the instant messaging server address.

vsptalk { gtalk | avaya } server encryption

Configure encryption on the server.

Syntax

- `default vsptalk { gtalk | avaya } server encryption`
- `vsptalk { gtalk | avaya } server encryption as-requested`
- `vsptalk { gtalk | avaya } server encryption required`

Default

`The default is required.`

Command mode

Application Configuration

Command parameters

Parameter	Description
`{ gtalk | avaya }`	Enables one of the instant messaging client types on The Switch. The Switch supports the following: avaya - Avaya XMPP IM or gtalk - Google Talk. VSP Talk can use only one client type at a time. You cannot use more than one client type simultaneously.
`encryption <as-requested|required>`	Specifies the encryption option.

vsptalk { gtalk | avaya } server proxy

Enable or disables the boundary-router on the router interface.

Syntax

- `default vsptalk { gtalk | avaya } server port`
- `vsptalk { gtalk | avaya } server port <0-49151>`
- `no vsptalk { gtalk | avaya } server proxy`
- `vsptalk { gtalk | avaya } server proxy WORD<0-255>`

Default

`The default is disabled.`

Command mode

Application Configuration

Command parameters

Parameter	Description
`{ gtalk | avaya }`	Enables one of the instant messaging client types on The Switch. The Switch supports the following: avaya - Avaya XMPP IM or gtalk - Google Talk. VSP Talk can use only one client type at a time. You cannot use more than one client type simultaneously.
`WORD<0-255>`	Configures a server proxy to access the Internet from the network. Note Currently only HTTP proxy is supported for the proxy operator. You cannot use HTTPS with the proxy operator.

vsptalk { gtalk | avaya } server ssltype

Enable, restore to default, or disable the old-style Secure Sockets Layer (SSL) interface.

Syntax

- `default vsptalk { gtalk | avaya } server ssltype`
- `no vsptalk { gtalk | avaya } server ssltype old`
- `vsptalk { gtalk | avaya } server ssltype old`

Default

`The default is disabled.`

Command mode

Application Configuration

Command parameters

Parameter	Description
`{ gtalk | avaya }`	Enables one of the instant messaging client types on The Switch. The Switch supports the following: avaya - Avaya XMPP IM or gtalk - Google Talk. VSP Talk can use only one client type at a time. You cannot use more than one client type simultaneously.
`old`	Enables the old-style Secure Socket Layer interface. SSL is a protocol used to encrypt and transmit private documents over the Internet. DEFAULT: disabled Note The system supports only HTTP proxy for the proxy operator. You cannot use HTTPS with the proxy operator.

vsptalk endpoint-address

Assign a VSP Talk endpoint address.

Syntax

- `no vsptalk endpoint-address`
- `vsptalk endpoint-address {A.B.C.D}`
- `vsptalk endpoint-address {A.B.C.D} vrf WORD<1-16>`

Default

None

Command mode

Application Configuration

Command parameters

Parameter	Description
{A.B.C.D}	Assigns an address for the VSP Talk application to use for communication. The Switch supports IPv4 addresses for the VSP Talk feature. To insulate mission critical applications, assign an address within your network that is separate from mission critical applications and other features.
vrf WORD<1-16>	Specifies the name of the virtual router for which the endpoint address belongs. This is an optional parameter. Note: If you configure the VSP Talk endpoint address under an IP address for a VLAN or brouter, you must first remove the VSP Talk endpoint address before you can remove the IP address for the VLAN or brouter.

vsptalk event-notification enable

Configure the IPv6 address for the Ethernet management port.

Syntax

- `default vsptalk event-notification`
- `no vsptalk event-notification enable`
- `vsptalk event-notification enable`

Default

`The default is disabled.`

Command mode

Application Configuration

Command parameters

Parameter	Description
`event-notification enable`	Enables event notification to receive instant messages on status updates or to allow the Switch to notify you about alarm conditions. Note: In IM chat, you must also use the command enable event-notification.

web-server

Modify WEB server parameters.

Syntax

- default web-server
- default web-server def-display-rows
- default web-server enable
- default web-server http-port
- default web-server https-port
- default web-server secure-only
- no web-server enable
- no web-server secure-only
- web-server def-display-rows <10-100>
- web-server enable
- web-server help-tftp WORD<0-256>
- web-server http-port <80-49151>
- web-server https-port <443-49151>
- web-server inactivity-timeout <30-65535>
- web-server password ro WORD<1-20> WORD<1-20>
- web-server password rw WORD<1-20> WORD<1-20>
- web-server password rwa WORD<1-20> WORD<1-20>
- web-server secure-only

Default

None

Command mode

Global Configuration

Command parameters

Parameter	Description
def-display-rows <10-100>	Configures the web server default display row width. The default is 30.
enable	Enables the web interface. You must enable the web interface before you can connect to the system using Enterprise Device Manager (EDM).
help-tftp WORD<0-256>	Specifies the path to the location that stores the HTML Help files for the web server. WORD<0-256> is a string of 0-256 characters.
http-port <80-49151>	Configures the web server HTTP port. The default is 80. To select another port for HTTP, you can discover the ports that TCP already use. Use the show ip tcp connections command to list the ports already in use, and then select a port that does not appear in the command output.
https-port <443-49151>	Specifies the HTTPS port of the web server. You can select a value of 443 or 1024 to 49151. The default is 443. To select another port for HTTPS, you can discover the ports that TCP already use. Use the show ip tcp connections command to list the ports already in use, and then select a port that does not appear in the command output.
inactivity-timeout <30-65535>	Changes the web-server login session inactivity timeout.
password {ro|rw|rwa} WORD<1-20> WORD<1-20>	Specifies the username and the password for the access level. The access level can be read-only, read-write access, or read-write-all.
secure-only	Enables secure-only access to the web server. The default value for the secure-only option is enabled. By default the web server is configured with the secure-only option, which requires you to use https to access EDM. To access EDM using http, you must disable the secure-only option, by using: no web-server secure-only. The default is enabled.

write memory

Save to memory.

Syntax

- `write memory`

Default

None

Command mode

Privileged EXEC