

CLI Quick Reference

CMM Commands

```
reload [primary | secondary] [in [hours:] minutes | at hour:minute [month day | day month]]
reload [primary | secondary] cancel
reload working {rollback-timeout minutes | no rollback-timeout}
[configure] copy running-config working
[configure] write memory
[configure] copy certified working
[configure] copy working certified [flash-synchro]
[configure] copy flash-synchro
takeover
debug chassis auto-reboot {enable | disable}
show running-directory
show reload [status]
show microcode [working | certified | loaded]
show microcode history [working | certified]
```

Chassis Management and Monitoring Commands

```
system contact text_string
system name text_string
system location text_string
system date [mm/dd/yyyy]
system time [hh:mm:ss]
system timezone [timezone_abbrev | offset_value | time_notation]
system daylight savings time [{enable | disable} | start {week} {day} in {month} at {hh:mm}
    end {week} {day} in {month} at {hh:mm} [by min]]
reload ni [slot] number
reload all
power ni [slot] number
no power ni [slot] number
temp-threshold temp
show system
show hardware info
show chassis [number]
show cmm [number]
show ni [number]
show module [number]
show module long [number]
show module status [number]
```

```
show power [supply] [number]
show fan [number]
show temperature [number]
show stack topology [number]
show fabric [number]
```

Chassis MAC Server (CMS) Commands

```
mac-range {eeprom | local} start_mac_address count
no mac-range index
mac-range duplicate-eeprom
mac-range allocate-local-only
no mac-range allocate-local-only
show mac-range [index]
show mac-range [index] alloc
show mac-range status
```

Session Management Commands

```
session login-attempt integer
session login-timeout seconds
session banner {cli | ftp} file_name
session banner no {cli | ftp}
session timeout {cli | http | ftp} minutes
session prompt default [string]
prompt [user] [time] [date] [string string] [prefix]
no prompt
show prefix
alias alias command_name
show alias
user profile save
user profile reset
history size number
show history [parameters]
!{! | n}
kill session_number
exit
whoami
who
show session config
more size lines
more
no more
```

```
show more
telnet {host_name | ip_address}
ssh {host_name | ip_address}
```

File Management Commands

```
cd [path]
pwd
mkdir [path]/dir
rmdir [path]/dir
ls [-r] [[path]/dir]
dir [[path]/dir]
rename [path]/old_name [path]/new_name
rm [-r] [path]/filename
delete [path]/filename
cp [-r] [path]/orig_filename [dest_path]/dupl_filename
mv {[path]/filename dest_path[/new_filename] | [path]/dir dest_path[/new_dir]}
move {[path]/filename dest_path[/new_filename] | [path]/dir dest_path[/new_dir]}
chmod { +w | -w } [path]/file
attrib { +w | -w } [path]/file
freespace [/flash]
fsck /flash
newfs /flash
vi [path]/filename
view [path]/filename
tty lines columns
show tty
more [path]/file
ftp {host_name | ip_address}
rz
install file [argument]
```

Web Management Commands

```
[ip] http server
no [ip] http server
[ip] http ssl
no [ip] http ssl
debug http sessiondb
show [ip] http
```

Configuration File Manager Commands

```
configuration apply filename [at hh:mm month dd [year]] | [in hh[:mm]] [verbose]
```

```
configuration error-file limit number
show configuration status
configuration cancel
configuration syntax check filename [verbose]
configuration snapshot feature_list [filename]
show configuration snapshot [feature_list]
write terminal
```

SNMP Commands

```
snmp station ip_address {[udp_port] [username] [v1 | v2 | v3] [enable | disable]}
no snmp station ip_address
show snmp station
snmp community map community_string {[user useraccount_name] | {enable | disable}}
no snmp community map community_string
snmp community map mode {enable | disable}
show snmp community map
snmp security {no security | authentication set | authentication all | privacy set | privacy all |
trap only}
show snmp security
show snmp statistics
show snmp mib family [table_name]
snmp trap absorption {enable | disable}
snmp trap to webview {enable | disable}
snmp trap replay ip_address {seq_id}
snmp trap filter ip_address trap_id_list
no snmp trap filter ip_address trap_id_list
snmp authentication trap {enable | disable}
show snmp trap replay
show snmp trap filter
show snmp authentication trap
show snmp trap config
```

Hardware Routing Engine (HRE) Commands

```
hre mode configuration slot/slice mode [number hash_function]
hre clear changes {all | slot/slice mode}
hre apply changes
show hre changes slot/slice
show hre configuration slot/slice
show hre pcam utilization slot/slice
show hre statistics slot/slice
show hre cache utilization slot/slice
```

DNS Commands

```
ip domain-lookup
no ip domain-lookup
ip name-server server-address1 [server-address2 [server-address3]]
ip domain-name name
no ip domain-name
show dns
```

Link Aggregation Commands

```
static linkagg agg_num size size [name name] [admin state {enable | disable}]
no static linkagg agg_num
static linkagg agg_num name name
static linkagg agg_num no name
static linkagg agg_num admin state {enable | disable}
static agg [ethernet | fastethernet | gigaehternet] slot/port num agg_num
static agg no [ethernet | fastethernet | gigaehternet] slot/port
lACP linkagg agg_num size size
no lACP linkagg agg_num
lACP linkagg agg_num name name
lACP linkagg agg_num no name
lACP linkagg agg_num admin state {enable | disable}
lACP linkagg agg_num actor admin key actor_admin_key
lACP linkagg agg_num no actor admin key
lACP linkagg agg_num actor system priority actor_system_priority
lACP linkagg agg_num no actor system priority
lACP linkagg agg_num actor system id actor_system_id
lACP linkagg agg_num no actor system id
lACP linkagg agg_num partner system id partner_system_id
lACP linkagg agg_num no partner system id
lACP linkagg agg_num partner system priority partner_system_priority
lACP linkagg agg_num no partner system priority
lACP linkagg agg_num partner admin key partner_admin_key
lACP linkagg agg_num no partner admin key
lACP agg [ethernet | fastethernet | gigaehternet] slot/port actor admin key actor_admin_key
lACP agg no [ethernet | fastethernet | gigaehternet] slot/port
lACP agg [ethernet | fastethernet | gigaehternet] slot/port actor admin state {[active] [timeout]
[aggregate] [synchronize] [collect] [distribute] [default] [expire] | none}
```

```
lACP agg [ethernet | fastethernet | gigaehternet] slot/port actor admin state {[no active]
[[no] timeout] [[no] aggregate] [[no] synchronize] [[no] collect] [[no] distribute] [[no]
default] [[no] expire] | none}
lACP agg [ethernet | fastethernet | gigaehternet] slot/port actor system id actor_system_id
lACP agg [ethernet | fastethernet | gigaehternet] slot/port no actor system id
lACP agg [ethernet | fastethernet | gigaehternet] slot/port actor system priority
actor_system_priority
lACP agg [ethernet | fastethernet | gigaehternet] slot/port no actor system priority
lACP agg [ethernet | fastethernet | gigaehternet] slot/port partner admin state {[active]
[timeout] [aggregate] [synchronize] [collect] [distribute] [default] [expire] | none}
lACP agg [ethernet | fastethernet | gigaehternet] slot/port partner admin state {[no active]
[[no] timeout] [[no] aggregate] [[no] synchronize] [[no] collect] [[no] distribute] [[no]
default]
[[no] expire] | none}
lACP agg [ethernet | fastethernet | gigaehternet] slot/port partner admin system id
partner_admin_system_id
lACP agg [ethernet | fastethernet | gigaehternet] slot/port no partner admin system id
lACP agg [ethernet | fastethernet | gigaehternet] slot/port partner admin key
partner_admin_key
lACP agg [ethernet | fastethernet | gigaehternet] slot/port no partner admin key
lACP agg [ethernet | fastethernet | gigaehternet] slot/port partner admin system priority
partner_admin_system_priority
lACP agg [ethernet | fastethernet | gigaehternet] slot/port no partner admin system priority
lACP agg [ethernet | fastethernet | gigaehternet] slot/port actor port priority actor_port_priority
lACP agg [ethernet | fastethernet | gigaehternet] slot/port no actor port priority
lACP agg [ethernet | fastethernet | gigaehternet] slot/port partner admin port
partner_admin_port
lACP agg [ethernet | fastethernet | gigaehternet] slot/port no partner admin port
lACP agg [ethernet | fastethernet | gigaehternet] slot/port partner admin port priority
partner_admin_port_priority
lACP agg [ethernet | fastethernet | gigaehternet] slot/port no partner admin port priority
show linkagg [agg_num]
show linkagg port [slot/port]
```

Interswitch Protocol Commands

```
amap {enable | disable}
amap discovery [time] seconds
amap common [time] seconds
show amap
gmap {enable | disable}
gmap gap [time] milliseconds
gmap update [time] seconds
gmap hold [time] minutes
show gmap
```

802.1Q Commands

```
vlan vid 802.1q {slot/port | aggregate_id} [description]
vlan vid no 802.1q {slot/port | aggregate_id}
vlan 802.1q slot/port frame type {all | tagged}
vlan 802.1q slot/port force tag internal {on | off}
debug 802.1q {slot/port | aggregate_id}
show 802.1q {slot/port | aggregate_id}
```

Distributed Spanning Tree Commands

```
bridge mode {flat | 1x1}
bridge vid protocol {1d | 1w}
bridge vid priority priority
bridge vid hello time seconds
bridge vid max age seconds
bridge vid forward delay seconds
bridge vid {slot/port | logical_port} {on | off | enable | disable}
bridge vid {slot/port | logical_port} priority priority
bridge vid {slot/port | logical_port} path cost path_cost
bridge vid {slot/port | logical_port} mode {forwarding | blocking | dynamic}
bridge vid {slot/port | logical_port} connection {noptp | ptp | autoptp | edgeport}
show spantree [vid]
show spantree [vid] ports [forwarding | blocking]
```

Source Learning Commands

```
mac-address-table [permanent | reset | timeout] mac_address slot/port vid [bridging | filtering]
no mac-address-table [permanent | reset | timeout | learned] [mac_address] [slot/port] [vid]
mac-address-table aging-time seconds [vlan vid]
no mac-address-table aging-time [vlan vid]
```

```
show mac-address-table [permanent | reset | timeout | learned] [mac_address] [slot slot | slot/
port]] [vid]
show mac-address-table count [mac_address] [slot slot | slot/port]] [vid]
show mac-address-table aging-time [vlan vid]
```

Learned Port Security Commands

```
port-security slot/port [enable | disable]
no port security slot/port
port-security shutdown minutes
port-security slot/port maximum number
port-security slot/port mac mac_address
port-security slot/port no mac mac_address
port-security slot/port mac-range [low mac_address | high mac_address | low mac_address
high mac_address]
port-security slot/port violation {restrict | shutdown}
show port-security {slot/port | slot}
show port-security shutdown
```

Ethernet Port Commands

```
trap slot/port port link {enable | disable}
flow [type] slot/port
no flow [type] slot/port
flow [type] slot/port wait [time] microseconds
flow [type] slot/port no wait [time]
interfaces [type] slot/port speed {10 | 100 | auto | 1000}
interfaces [type] slot/port duplex {full | half | auto}
interfaces [type] slot/port admin {up | down}
interfaces [type] slot/port ifg bytes
interfaces [slot/port] no l2 statistics
interfaces [type] slot/port max frame bytes
interfaces [type] slot/port runt {enable | disable}
interfaces [type] slot/port long {enable | disable}
interfaces [type] slot/port runtsize framesize
interfaces [type] slot flood
interfaces [type] slot flood multicast
interfaces [type] slot/port flood rate Mbps
show interfaces [type] [slot | slot/port] flow [control]
show interfaces [type] [slot | slot/port]
show interfaces [type] [slot | slot/port] accounting
show interfaces [type] [slot | slot/port] counters
show interfaces [type] [slot | slot/port] counters errors
show interfaces [type] [slot | slot/port] collisions
```

```

show interfaces [type] [slot | slot/port] status
show interfaces [type] [slot | slot/port] port
show interfaces [type] [slot | slot/port] ifg
show interfaces [type] [slot | slot/port] flood rate
show interfaces [type] [slot | slot/port] traffic
debug interfaces set [slot] backpressure {enable | disable}
debug interfaces [slot] backpressure

```

Port Mobility Commands

```

vlan vid dhcp mac mac_address
vlan vid no dhcp mac mac_address
vlan vid dhcp mac range low_mac_address high_mac_address
vlan vid no dhcp mac range low_mac_address
vlan vid dhcp port slot/port
vlan vid no dhcp port slot/port
vlan vid dhcp generic
vlan vid no dhcp generic
vlan vid binding mac-ip-port mac_address ip_address slot/port
vlan vid no binding mac-ip-port mac_address
vlan vid binding mac-port-protocol mac_address slot/port {ip-e2 | ip-snap | ipx-e2 | ipx-novell
| ipx-llc | ipx-snap | decnet | appletalk | etherstype type | dsapssap dsap/ssap | snap
snaptypes}
vlan vid no binding mac-port-protocol mac_address {ip-e2 | ip-snap | ipx-e2 | ipx-novell | ipx-
llc |
ipx-snap | decnet | appletalk | etherstype type | dsapssap dsap/ssap | snap snaptypes}
vlan vid binding mac-port mac_address slot/port
vlan vid no binding mac-port mac_address
vlan vid binding mac-ip mac_address ip_address
vlan vid no binding mac-ip mac_address
vlan vid binding ip-port ip_address slot/port
vlan vid no binding ip-port ip_address
vlan vid binding port-protocol slot/port {ip-e2 | ip-snap | ipx-e2 | ipx-novell | ipx-llc | ipx-snap
| decnet | appletalk | etherstype type | dsapssap dsap/ssap | snap snaptypes}
vlan vid no binding port-protocol slot/port {ip-e2 | ip-snap | ipx-e2 | ipx-novell | ipx-llc | ipx-
snap | decnet | appletalk | etherstype type | dsapssap dsap/ssap | snap snaptypes}
vlan vid mac mac_address
vlan vid no mac mac_address
vlan vid mac range low_mac_address high_mac_address
vlan vid no mac range low_mac_address
vlan vid ip ip_address [subnet_mask]
vlan vid no ip ip_address [subnet_mask]
vlan vid ipx ipx_net [e2 | llc | snap | novell]
vlan vid no ipx ipx_net

```

```

vlan vid protocol {ip-e2 | ip-snap | ipx-e2 | ipx-novell | ipx-llc | ipx-snap | decnet | appletalk |
etherstype type | dsapssap dsap/ssap | snap snaptypes}
vlan vid no protocol {ip-e2 | ip-snap | ipx-e2 | ipx-nov | ipx-llc | ipx-snap | decnet | appletalk |
etherstype type | dsapssap dsap/ssap | snap snaptypes}
vlan vid user offset value mask
vlan vid no user offset value
vlan vid port slot/port
vlan vid no port slot/port
vlan port mobile slot/port [bpdu ignore {enable | disable}]
vlan no port mobile slot/port
vlan port slot/port default vlan restore {enable | disable}
vlan port slot/port default vlan {enable | disable}
vlan port slot/port authenticate {enable | disable}
show vlan [vid] rules
show vlan port mobile [slot/port]

```

VLAN Management Commands

```

vlan vid [enable | disable] [name description]
no vlan vid
vlan vid stp {enable | disable}
vlan vid mobile-tag {enable | disable}
vlan vid authentication {enable | disable}
vlan vid router ip ip_address [[mask] subnet_mask] [forward | no forward] [e2 | snap]
vlan vid no router ip
vlan vid router ipx ipx_net [rip | active | inactive | triggered] [e2 | llc | snap | novell] [timeticks
ticks]
vlan vid no router ipx
vlan router mac multiple {enable | disable}
vlan vid mtu-ip size
vlan vid local-proxy-arp {enable | disable}
vlan vid port default {slot/port | link_agg}
vlan vid no port default {slot/port | link_agg}
show vlan [vid]
show vlan [vid] port {slot/port | link_agg}
show vlan router mac status
show vlan router ip

```

IP Commands

```
ip router primary-address ip_address
ip router router-id ip_address
ip static-route ip_address [mask mask] gateway gateway [metric metric]
no ip static-route ip_address [mask mask] gateway ip_address [metric metric]
ip default-ttl hops
ping {ip_address | hostname} [count count] [size packet_size] [interval seconds] [timeout seconds]
traceroute {ip_address | hostname} [max-hop max_hop_count]
ip directed-broadcast {on | off}
debug ip packet [start] [timeout seconds] [stop] [direction {in | out | all}] [format {header | text | all}] [output {console | file filename}] [board {cmm | ni [1-16] | all | none}] [ether-type {arp | ip | hex [hex_number] | all}] [ip-address ip_address] [ip-address ip_address] [ip-pair [ip1] [ip2]] [protocol {tcp | udp | icmp | igmp | num [integer] | all}] [show-broadcast {on | off}] [show-multicast {on | off}]
debug ip level level
debug ip packet default
debug ip packet
show ip traffic
show ip interface [emp | vlan vlan id]
show ip route
show ip config
arp ip_address hardware_address [alias]
no arp ip_address [alias]
clear arp-cache
show arp [ip_address | hardware_address]
show icmp [statistics]
show tcp statistics
show tcp ports
show udp statistics
show udp ports
```

UDP Relay Commands

```
ip helper address ip_address
ip helper no address [ip_address]
ip helper address ip_address vlan vlan_id
ip helper no address ip_address vlan vlan_id
ip helper standard
ip helper avlan only
ip helper per-vlan only
ip helper forward delay seconds
ip helper maximum hops hops
```

```
show ip helper
show ip helper stats
ip helper no stats
```

RIP Commands

```
ip load rip
ip rip status {enable | disable}
ip rip interface ip_address
no ip rip interface ip_address
ip rip interface ip_address status {enable | disable}
ip rip interface ip_address metric value
ip rip interface ip_address send-version {none | v1 | v1compatible | v2}
ip rip interface ip_address rcv-version {v1 | v2 | both | none}
ip rip force-holddowntimer seconds
ip rip host-route
no ip rip host-route
ip rip route-tag value
ip rip redistrib status {enable | disable}
ip rip redistrib {local | static | ospf | bgp}
no ip rip redistrib {local | static | ospf | bgp}
ip rip redistrib {local | static | ospf | bgp} metric value
ip rip redistrib-filter {local | static | ospf | bgp} ip_address ip_mask
no ip rip redistrib-filter {local | static | ospf | bgp} ip_address ip_mask
ip rip redistrib-filter {local | static | ospf | bgp} ip_address ip_mask effect {permit | deny}
ip rip redistrib-filter {local | static | ospf | bgp} ip_address ip_mask metric value
ip rip redistrib-filter {local | static | ospf | bgp} ip_address ip_mask route-tag value
ip rip redistrib-filter {local | static | ospf | bgp} ip_address ip_mask redistrib-control {all-subnets | aggregate | no-subnets}
ip rip interface ip_address auth-type {none | simple}
ip rip interface ip_address auth-key string
ip rip debug-type [error] [warning] [recv] [send] [rdb] [age] [redist] [info] [setup] [time] [tm] [all]
no ip rip debug-type [error] [warning] [recv] [send] [rdb] [age] [redist] [info] [setup] [time] [tm] [all]
ip rip debug-level level
show ip rip
show ip rip routes [ip_address ip_mask]
show ip rip interface [ip_address]
show ip rip peer [ip_address]
show ip rip redistrib [local] [static] [ospf] [bgp]
show ip rip redistrib-filter [local] [static] [ospf] [bgp]
show ip rip debug
```

IPX Commands

```
ipx routing
no ipx routing
ipx default-route [vlan] network_number [network_node]
no ipx default-route [vlan]
ipx route network_number next_hop_network next_hop_node [hop_count] [delay]
no ipx route network_number
clear ipx route {rip | sap | all}
ping ipx network_number network_node [count packets] [size bytes] [timeout seconds] [type
packet_type]
ipx filter [vlan] rip {in | out} {allow | block} [network_number [mask network_mask]]
no ipx filter [vlan] rip {in | out} {allow | block} [network_number [mask network_mask]]
ipx filter [vlan] sap {all | sap_type} {in | out} {allow | block} [network_number [mask
network_mask] [network_node [mask node_mask]]]
no ipx filter [vlan] sap {all | sap_type} {in | out} {allow | block} [network_number [mask
network_mask] [network_node [mask node_mask]]]
ipx filter [vlan] gns {all | gns_type} out {allow | block} [network_number [mask
network_mask] [network_node [mask node_mask]]]
no ipx filter [vlan] gns {all | gns_type} out {allow | block} [network_number [mask
network_mask] [network_node [mask node_mask]]]
ipx type-20-propagation [vlan] {enable | disable}
no ipx type-20-propagation [vlan]
ipx packet-extension [vlan] {enable | disable}
no ipx packet-extension [vlan]
ipx timers [vlan] rip_timer sap_timer
no ipx timers [vlan]
show ipx interface [vlan]
show ipx traffic [vlan]
show ipx default-route
show ipx route {network_number | vlan vlan}
show ipx servers {vlan vlan | server_name | server_type}
show ipx filter {vlan | rip in | rip out | sap in | sap out | gns out | global}
show ipx type-20-propagation
show ipx packet-extension
show ipx timers
```

VRRP Commands

```
vrrp vrid vlan_id [enable | disable | on | off] [priority priority] [preempt | no preempt]
[[advertising] interval seconds] [authenticate password | no authenticate]
no vrrp vrid vlan_id
vrrp vrid vlan_id ip ip_address
vrrp vrid vlan_id no ip ip_address
```

```
vrrp trap
no vrrp trap
show vrrp [vrid]
show vrrp [vrid] statistics
```

OSPF Commands

```
ip ospf status {enable | disable}
ip load ospf
ip ospf asbr
no ip ospf asbr
ip ospf exit-overflow-interval seconds
ip ospf extlsdb-limit limit
ip ospf host ip_address tos tos [metric metric]
no ospf host ip_address tos tos [metric metric]
ip ospf mtu-checking
no ip ospf mtu-checking
ip ospf redist-filter {local | static | rip | bgp} ip_address subnet_mask [effect {permit | deny}]
[metric value] [route-tag tag] [redist-control {all-subnets | aggregate | no-subnets}]
no ip ospf redist-filter {local | static | rip | bgp} ip_address subnet_mask [effect {permit |
deny}] [metric value] [route-tag tag] [redist-control {all-subnets | aggregate | no-
subnets}]
ip ospf redist status {enable | disable}
ip ospf redist {local | static | rip | bgp} [metric metric] [metric-type {type1 | type2}] [subnets
{enable | disable}]
no ip ospf redist {local | static | rip | bgp} [metric metric] [metric-type {type1 | type2}]
[subnets {enable | disable}]
ip ospf router router_id
ip ospf route-tag tag
ip ospf spf-timer [delay seconds] [hold seconds]
ip ospf virtual-link area_id router_id [auth-type {none | simple | md5}] [auth-key key_string]
[dead-interval seconds] [hello-interval seconds] [retrans-interval seconds] [transit-delay
seconds]
no ip ospf virtual-link area_id router_id [auth-type {none | simple | md5}] [auth-key
key_string] [dead-interval seconds] [hello-interval seconds] [retrans-interval seconds]
[transit-delay seconds]
ip ospf debug-level level
ip ospf debug-type [error] [warning] [state] [recv] [send] [flood] [spf] [lsdb] [rdb] [age]
[vlink] [redist] [summary] [dbexch] [hello] [auth] [area] [intf] [mip] [info] [setup] [time]
[tm] [all]
no ip ospf debug-type [error] [warning] [state] [recv] [send] [flood] [spf] [lsdb] [rdb] [age]
[vlink] [redist] [summary] [dbexch] [hello] [auth] [area] [intf] [mip] [info] [setup] [time]
[tm] [all]
show ip ospf
```

```

show ip ospf border-routers [area_id] [router_id] [tos] [gateway]
show ip ospf ext-lsdb [linkstate-id ls_id] [router-id router_id]
show ip ospf host [ip_address]
show ip ospf ext-lsdb [area_id] [rtr | net | netsum | asbrsum] [linkstate-id ls_id] [router-id
router_id]
show ip ospf host neighbor [ip_address]
show ip redist-filter [local | static | rip | bgp] [ip_address] [subnet_mask]
show ip ospf redist [local | static | rip | bgp]
show ip ospf routes [ip_addr mask tos gateway]
show ip ospf virtual-link [router_id]
show ip ospf virtual-neighbor area_id router_id
show ip ospf debug
ip ospf area area_id [summary {enable | disable}] | [type {normal | stub | nssa}]
no ip ospf area area_id
ip ospf interface area_id status {enable | disable}
ip ospf area area_id default-metric tos [[cost cost] | [type {ospf | type 1 | type 2}]]
no ip ospf area area_id default-metric tos
ip ospf area area_id range {summary | nssa} ip_address subnet_mask [effect {admatching |
noMatching}]
no ip ospf area area_id range {summary | nssa} ip_address subnet_mask [effect {admatching
| noMatching}]
show ip ospf area [area_id]
show ip ospf area area_id range {summary | nssa} ip_address ip_mask
show ip ospf area area_id stub
ip ospf interface ip_address
ip ospf interface ip_address status {enable | disable}
ip ospf interface ip_address area area_id
ip ospf interface ip_address auth-key key_string
ip ospf interface ip_address auth-type {none | simple | md5}
no ip ospf interface ip_address auth-type {none | simple | md5}
ip ospf interface ip_address dead-interval seconds
ip ospf interface ip_address hello-interval seconds
ip ospf interface ip_address md5 key_id {enable | disable}
no ip ospf interface ip_address md5 key_id {enable | disable}
ip ospf interface ip_address md5 key_id key key_string
ip ospf interface ip_address cost cost
ip ospf interface ip_address poll-interval seconds
ip ospf interface ip_address priority priority
ip ospf interface ip_address retrans-interval seconds
ip ospf interface ip_address transit-delay seconds
show ip ospf interface [ip_address]

```

PIM-SM Commands

```

ip pimsm status {enable | disable}
ip load pimsm
ip pimsm cbsr-address ip_address
no ip pimsm cbsr-address
ip pimsm cbsr-masklength bits
ip pimsm cbsr-priority priority
ip pimsm rp-candidate group_address mask rp_address
no ip pimsm rp-candidate group_address mask rp_address
ip pimsm crp-address ip_address
no ip pimsm crp-address
ip pimsm crp-expirytime seconds
ip pimsm crp-holdtime seconds
ip pimsm crp-interval seconds
ip pimsm crp-priority priority
ip pimsm data-timeout seconds
ip pimsm joinprune-interval seconds
ip pimsm max-rps number
ip pimsm probe-time seconds
ip pimsm register checksum {header | full}
ip pimsm registersuppress-timeout seconds
ip pimsm interface ip_address
no ip pimsm interface ip_address
ip pimsm interface ip_address hello-interval seconds
ip pimsm interface ip_address joinprune-interval seconds
ip pimsm interface ip_address cbsr-preference value
ip pimsm debug-level level
ip pimsm debug-type message_list
no ip pimsm debug-type message_list
show ip pimsm
show ip pimsm neighbor [ip_address]
show ip pimsm rp-candidate
show ip pimsm rp-set
show ip pimsm interface [ip_address]
show ip pimsm nexthop [group_address source_address mask]
show ip pimsm mroute [group_address source_address mask]
show ip pimsm debug

```


DVMRP Commands

```
ip dvmrp status {enable | disable}
ip load dvmrp
ip dvmrp flash-interval seconds
ip dvmrp graft-timeout seconds
ip dvmrp neighbor-interval seconds
ip dvmrp neighbor-timeout seconds
ip dvmrp prune-lifetime seconds
ip dvmrp prune-timeout seconds
ip dvmrp report-interval seconds
ip dvmrp route-holddown seconds
ip dvmrp route-timeout seconds
ip dvmrp interface ip_address
no ip dvmrp interface ip_address
ip dvmrp interface ip_address metric value
ip dvmrp tunnel local_address remote_address
no ip dvmrp tunnel local_address remote_address
ip dvmrp tunnel local_address remote_address ttl value
ip dvmrp debug-level level
ip dvmrp debug-type message_type
no ip dvmrp debug-type message_type
show ip dvmrp
show ip dvmrp prune [group_address source_address source_mask]
show ip dvmrp route [ip_address ip_mask]
show ip dvmrp neighbor [ip_address]
show ip dvmrp interface [ip_address]
show ip dvmrp nexthop [ip_address ip_mask]
show ip dvmrp tunnel [local_address remote_address]
show ip dvmrp debug
```

Multicast Routing Commands

```
ip mroute-boundary ip_address scoped_address mask
no ip mroute-boundary ip_address scoped_address mask
ip mroute interface ip_address ttl threshold
show ip mroute-boundary
show ip mroute
show ip mroute interface
show ip mroute-nexthop
ip mroute debug-level level
ip mroute debug-type message_list
no ip mroute debug-type message_list
show ip mroute debug
```

Port Mirroring Commands

```
port mirroring {port_mirror_sessionid} source slot/port destination slot/port [unblocked
vlan_id]
[enable | disable]
[no] port mirroring {port_mirror_sessionid} {enable | disable}
show port mirroring status {port_mirror_sessionid}
```

RMON Commands

```
rmon probes {stats | history | alarm} [entry-number] {enable | disable}
show rmon probes [stats | history | alarm] [entry-number]
show rmon events [event-number]
```

Health Monitoring Commands

```
health threshold [ {rx | txrx | memory | cpu} percentage | temperature degrees]
health interval seconds
health statistics reset
show health threshold [rx | txrx | memory | cpu | temperature]
show health interval
show health [slot/port] [statistics]
```

QoS Commands

```
qos {enable | disable}
qos trust ports
qos no trust ports
qos default queues {2 | 4}
qos forward log
qos no forward log
qos log console
qos no log console
qos log lines lines
qos log level level
qos no log level
qos classify13 bridged
qos no classify13 bridged
qos classify fragments
qos no classify fragments
qos flow timeout seconds
qos fragment timeout seconds
qos reflexive timeout seconds
qos no reflexive timeout
```

```

qos nat timeout seconds
qos default bridged disposition {accept | deny | drop}
qos default routed disposition {accept | deny | drop}
qos default multicast disposition {accept | deny | drop}
qos stats interval seconds
debug qos [info] [config] [rule] [main] [route] [hre] [port] [msg] [sl] [mem] [cam] [mapper]
    [flows] [queue] [slot] [l2] [l3] [classifier] [nat] [sem] [pm] [ingress] [egress] [rsvp]
    [balance] [nimsg]
debug no qos
debug no qos [info] [config] [rule] [main] [route] [hre] [port] [msg] [sl] [mem] [cam]
    [mapper] [flows] [queue] [slot] [l2] [l3] [classifier] [nat] [sem] [pm] [ingress] [egress]
    [rsvp] [balance] [nimsg]
debug qos internal “[slice slot/slice] [flow] [queue] [port] [l2tree] [vector] [pending] [verbose]
    [mapper] [pool] [log]”
qos clear log
qos apply
qos revert
qos flush
qos reset
qos stats reset
policy rule rule_name [enable | disable] [precedence precedence] [condition condition]
    [action action] [reflexive] [save] [log]
no policy rule rule_name
policy rule rule_name [no reflexive] [no save] [no log]
policy network group net_group ip_address1 [mask net_mask1] [ip_address2 [mask
    net_mask2]...]
no policy network group net_group
policy network group net_group no ip_address [mask netmask] [ip_address2 [mask
    net_mask2]...]
policy service group service_group service_name1 [service_name2...]
no policy service group service_group
policy service group service_group no service_name1 [service_name2...]
policy mac group mac_group mac_address1 [mask mac_mask2] [mac_address2 [mask
    mac_mask2]...]
no policy mac group mac_group
policy mac group mac_group no mac_address [mask mac_mask] [mac_address2 [mask
    mac_mask2]...]
policy port group group_name slot1/port1[-port1a] [slot2/port2[-port2a]...]
no policy port group group_name
policy port group group_name no slot1/port1[-port1a] [slot2/port2[-port2a]...]
policy service service_name [protocol protocol] [source ip port port] [destination ip port port]
no policy service service_name
policy service service_name [no source ip port] [no destination ip port]
policy map group map_group {value1:value2...}

```

```

no policy map group map_group
policy map group no {value1:value2...}
policy condition condition_name
no policy condition condition_name
policy condition condition_name source ip ip_address [mask netmask]
policy condition condition_name no source ip
policy condition condition_name destination ip ip_address [mask netmask]
policy condition condition_name no destination ip
policy condition condition_name multicast ip ip_address [mask netmask]
policy condition condition_name no multicast ip
policy condition condition_name source network group network_group
policy condition condition_name no source network group
policy condition condition_name destination network group network_group
policy condition condition_name no destination network group
policy condition condition_name multicast network group multicast_group
policy condition condition_name no multicast network group
policy condition condition_name source ip port port
policy condition condition_name no source ip port
policy condition condition_name destination ip port port
policy condition condition_name no destination ip port
policy condition condition_name service service_name
policy condition condition_name no service
policy condition condition_name service group service_group
policy condition condition_name no service group
policy condition condition_name ip protocol protocol
policy condition condition_name no ip protocol
policy condition condition_name tos tos_value [tos_mask]
policy condition condition_name no tos
policy condition condition_name dscp dscp_value [dscp_mask]
policy condition condition_name no dscp
policy condition condition_name source mac mac_address [mask mac_mask]
policy condition condition_name no source mac
policy condition condition_name destination mac mac_address [mask mac_mask]
policy condition condition_name no destination mac
policy condition condition_name source mac group group_name
policy condition condition_name no source mac group
policy condition condition_name destination mac group mac_group
policy condition condition_name no destination
policy condition condition_name source vlan vlan_id
policy condition condition_name no source vlan
policy condition condition_name destination vlan vlan_id
policy condition condition_name no destination vlan
policy condition condition_name 802.1p 802.1p_value
policy condition condition_name no 802.1p

```

policy condition *condition_name* source port *slot/port*
 policy condition *condition_name* no source port
 policy condition *condition_name* destination port *slot/port*
 policy condition *condition_name* no destination port
 policy condition *condition_name* source port group *group_name*
 policy condition *condition_name* no source port group
 policy condition *condition_name* destination port group *group_name*
 policy condition *condition_name* no destination port
 policy condition *condition_name* source interface type {ethernet | wan | ethernet-10 | ethernet-100 | ethernet-1G | ethernet-10G}
 policy condition *condition_name* no source interface type
 policy condition *condition_name* destination interface type {ethernet | wan | ethernet-10 | ethernet-100 | ethernet-1G | ethernet-10G}
 policy condition *condition_name* no destination interface type
 policy action *action_name*
 policy no action *action_name*
 policy action *action_name* disposition {accept | drop | deny}
 policy action *action_name* no disposition
 policy action *action_name* shared
 policy action *action_name* no shared
 policy action *action_name* priority *priority_value*
 policy action *action_name* no priority
 policy action *action_name* minimum bandwidth *bps*
 policy action *action_name* no minimum bandwidth
 policy action *action_name* maximum bandwidth *bps*
 policy action *action_name* no maximum bandwidth
 policy action *action_name* maximum buffers *max_buffers*
 policy action *action_name* no maximum buffers
 policy action *action_name* maximum depth *bytes*
 policy action *action_name* no maximum depth
 policy action *action_name* latency *microseconds*
 policy action *action_name* no latency
 policy action *action_name* jitter *microseconds*
 policy action *action_name* no jitter
 policy action *action_name* tos *tos_value*
 policy action *action_name* no tos
 policy action *action_name* 802.1p *802.1p_value*
 policy action *action_name* no 802.1p
 policy action *action_name* dscp *dscp_value*
 policy action *action_name* no dscp
 policy action map {802.1p | tos | dscp} to {802.1p | tos | dscp} using *map_group*
 policy action no map
 policy action *action_name* source rewrite ip *ip_address* [mask *netmask*]
 policy action *action_name* no source rewrite ip

policy action *action_name* source rewrite network group *network_group*
 policy action *action_name* no source rewrite network group
 policy action *action_name* destination rewrite ip *ip_address* [mask *netmask*]
 policy action *action_name* no destination rewrite ip
 policy action *action_name* destination rewrite network group *network_group*
 policy action *action_name* no destination rewrite network group
 policy action *action_name* load balance group *slb_cluster*
 policy action *action_name* no load balance group
 policy action *action_name* alternate gateway ip *ip_address*
 policy action *action_name* no alternate gateway ip
 policy action *action_name* permanent gateway ip *ip_address*
 policy action *action_name* no permanent gateway ip
 qos port *slot/port* reset
 qos port *slot/port* [enable | disable]
 qos port *slot/port* default queues [2 | 4]
 qos port *slot/port* trusted
 qos port *slot/port* no trusted
 qos port *slot/port* maximum reserve bandwidth *bps*
 qos port *slot/port* no maximum reserve bandwidth
 qos port *slot/port* maximum signal bandwidth *bps*
 qos port *slot/port* no maximum signal bandwidth
 qos port *slot/port* maximum default bandwidth *bps*
 qos port *slot/port* no maximum default bandwidth
 qos port *slot/port* maximum default depth *bytes*
 qos port *slot/port* no maximum default depth
 qos port *slot/port* maximum default buffers *max_default_buffers*
 qos port *slot/port* no maximum default buffers
 qos port *slot/port* 802.1p *value*
 qos port *slot/port* dscp *value*
 qos port *slot/port* default classification {802.1p | tos | dscp}
 show policy classify I2 [applied]
 show policy classify I2 [applied] source port *slot/port*
 show policy classify I2 [applied] source mac *mac_address*
 show policy classify I2 [applied] destination mac *mac_address*
 show policy classify I2 [applied] source vlan *vlan_id*
 show policy classify I2 [applied] destination vlan *vlan_id*
 show policy classify I2 source [applied] interface type {ethernet | wan | ethernet-10 | ethernet-100 | ethernet-1G | ethernet-10G}
 show policy classify I3 [applied]
 show policy classify I3 [applied] source port *slot/port*
 show policy classify I3 [applied] destination port *slot/port*
 show policy classify I3 [applied] source ip *ip_address*
 show policy classify I3 [applied] destination ip *ip_address*
 show policy classify I3 [applied] multicast ip *ip_address*

```

show policy classify I3 [applied] ip protocol protocol
show policy classify I3 [applied] source ip port port
show policy classify I3 [applied] destination ip port port
show policy classify I3 [applied] tos tos_value
show policy classify I3 [applied] dscp dscp_value
show policy classify multicast [applied]
show [applied] policy network group [network_group]
show [applied] policy service [service_name]
show [applied] policy service group [service_group]
show [applied] policy mac group [mac_group]
show [applied] policy port group group_name
show [applied] policy map group group_name
show [applied] policy action [action_name]
show [applied] policy condition [condition_name]
show active policy rule
show [applied] policy rule [rule_name]
show qos port [slot/port]
show qos queue [slot/port]
show qos slice [slot/slice]
show qos log
show qos config
show qos statistics

```

Policy Server Commands

```

policy server load
policy server flush
policy server ip_address [port port_number] [admin {up | down}] [preference preference]
    [user user_name password password] [searchbase search_string] [ssl | no ssl]
no policy server ip_address [port port_number]
show policy server
show policy server long
show policy server statistics
show policy server rules
show policy server events

```

IP Multicast Switching Commands

```

ip multicast switching
no ip multicast switching
ip multicast leave-timeout seconds
ip multicast no leave-timeout
ip multicast query-interval seconds
ip multicast no query-interval

```

```

ip multicast membership-timeout seconds
ip multicast no membership-timeout
ip multicast neighbor-timeout seconds
ip multicast no neighbor-timeout
ip multicast querier-timeout seconds
ip multicast no querier-timeout
ip multicast priority {urgent | high | medium | low}
ip multicast no priority
ip multicast max-ingress-bandwidth megabits
ip multicast no max-ingress bandwidth
ip multicast static-neighbor vlan_id slot/port
ip multicast no static-neighbor vlan_id slot/port
ip multicast static-querier vlan_id slot/port
ip multicast no static-querier vlan_id slot/port
ip multicast hardware-routing
ip multicast no hardware-routing
show ip multicast switching
show ip multicast groups [ip_address]
show ip multicast neighbors
show ip multicast queriers
show ip multicast forwarding [ip_address]
show ip multicast policy-cache

```

Server Load Balancing Commands

```

ip slb admin {enable | disable}
ip slb cluster name vip ip_address
no ip slb cluster name
ip slb server ip ip_address cluster cluster_name [admin status {enable | disable}]
    [weight admin_weight]
no ip slb server ip ip_address cluster cluster_name
ip slb cluster cluster_name admin status {enable | disable}
ip slb cluster cluster_name ping period seconds
ip slb cluster cluster_name ping timeout milliseconds
ip slb cluster cluster_name ping retries count
ip slb cluster cluster_name distribution {round robin | server failover}
ip slb cluster cluster_name sticky time seconds
show ip slb
show ip slb clusters
show ip slb cluster name
show ip slb cluster name server ip_address
show ip slb servers

```

High Availability VLAN Commands

```
vlan vid port-mac ingress-port slot1/port1[-port1a] [slot2/port2[-port2a]...]
vlan vid port-mac no ingress-port slot1/port1[-port1a] [slot2/port2[-port2a]...]
vlan vid port-mac egress-port slot1/port1[-port1a] [slot2/port2[-port2a]...]
vlan vid port-mac no egress-port slot1/port1[-port1a] [slot2/port2[-port2a]...]
show mac-address-table port-mac [vlan vid]
```

AAA Commands

```
aaa radius-server server [host {hostname | ip_address} [hostname2 | ip_address2]] [key
  secret] [retransmit retries] [timeout seconds] [auth-port auth_port] [acct-port acct_port]
no aaa radius server server
aaa ldap-server server_name [host {hostname | ip_address} [{hostname2 | ip_address2}] [dn
  dn_name] [password super_password] [base search_base] [type server_type]
  [retransmit retries] [timeout seconds] [ssl | no ssl] [port port]
no aaa ldap-server server-name
aaa ace-server clear
aaa authentication vlan single-mode server1 [ server2... ]
no aaa authentication vlan
aaa authentication vlan multiple-mode vlan_id server1 [ server2... ]
no aaa authentication vlan vlan_id
aaa avlan no [mac-address] mac_address
aaa avlan dns [name] dns_name
no aaa avlan dns [name]
aaa avlan default dhcp [gateway] ip_address
no aaa avlan default dhcp [gateway]
aaa authentication {console | telnet | ftp | http | snmp | ssh | default} server1 [server2] [server3]
  [server4]
no aaa authentication {console | telnet | ftp | http | snmp | ssh | default}
aaa authentication {console | telnet | ftp | http | snmp | ssh } default
aaa accounting vlan [vlan_id server1] [server2...] [local]
no accounting vlan [vlan_id]
aaa accounting session server1 [server2... ] [local]
no accounting session
user username [password password] [read-only | read-write [families... | domains...] all |
  none]] [no snmp | no auth | sha | md5 | sha+des | md5+des] [end-user profile name]
no user username
password
user password-size min size
end-user profile name [read-only [area | all]] [read-write [area | all]] [disable [area | all]]
no end-user profile name
end-user profile name vlan-range vlan_range [vlan_range2...]
end-user profile name no vlan-range vlan_range [vlan_range2..]
```

```
show aaa server [server_name]
show aaa authentication vlan
show aaa authentication
show aaa accounting vlan
show aaa accounting
show user [username]
show user password size
show avlan user [vlan vlan_id | slot slot]
show aaa avlan config
debug command-info {enable | disable}
debug end-user profile name
show end-user profile name
show aaa priv hexa [domain or family]
```

Memory Monitoring Commands

```
debug ktrace {enable | disable}
debug ktrace appid {app_id | integer} level {level | integer}
debug ktrace no appid app_id
debug ktrace show
debug ktrace show log [file]
debug systrace {enable | disable}
debug systrace watch {enable | disable}
debug systrace appid {app_id | integer} level {level | integer}
debug systrace no appid app_id
debug systrace show
debug systrace show log [file]
show log pmd file_name [type type_string | id registrationidentifier_int | subid
  subidentifier_int | taskname taskname_string | taskid tasknumber_int | record
  recordtype_string | address address_int]
debug memory monitor {enable | disable}
debug memory monitor show log
debug memory monitor show log global
debug memory monitor show log task
debug memory monitor show log size
```

Switch Logging Commands

```
swlog
no swlog
swlog appid {app_id | integer} level {level | integer}
no swlog appid app_id
swlog output {console | flash | socket [ip_address]}
no swlog output {console | flash | socket [ip_address]}
swlog clear
show log swlog
show log swlog [session session_id] [timestamp start_time [end_time]] [appid appid] [level
level]
show swlog
```