show queueing interface

To display queueing information, use the **show queueing interface** command.

show queueing interface {{*interface interface-number*} | {**null** *interface-number*} | {**vlan** *vlan-id*}}

Syntax Description

interface	Interface type; possible valid values are **ethernet**, **fastethernet**, **gigabitethernet**, **tengigabitethernet**, **pos**, **atm**, and **ge-wan**.
interface-number	Module and port number; see the "Usage Guidelines" section for valid values.
null *interface-number*	Specifies the null interface; the valid value is **0**.
vlan *vlan-id*	Specifies the VLAN ID; valid values are from 1 to 4094.

Command Default

This command has no default settings.

Command Modes

EXEC (>)

Command History

Release	Modification
12.2(18)ZY	Support for this command was introduced.

Usage Guidelines

The *interface-number* argument designates the module and port number. Valid values for *interface-number* depend on the specified interface type and the chassis and module that are used. For example, if you specify a Gigabit Ethernet interface and have a 48-port 10/100BASE-T Ethernet module that is installed in a 13-slot chassis, valid values for the module number are from 1 to 13 and valid values for the port number are from 1 to 48.

The **show queueing interface** command does not display the absolute values that are programmed in the hardware. Enter the **show qm-sp port-data** command to verify the values that are programmed in the hardware.

Examples

This example shows how to display queueing information:

```
Router# show queueing interface fastethernet 5/1
Interface FastEthernet5/1 queueing strategy:  Weighted Round-Robin
  Port QoS is enabled
  Port is untrusted
  Extend trust state: trusted
  Default COS is 0
  Transmit queues [type = 2q2t]:
    Queue Id    Scheduling  Num of thresholds
    -----------------------------------------
       1         WRR low             2
       2         WRR high            2
```

```
    WRR bandwidth ratios:  100[queue 1] 255[queue 2]
    queue-limit ratios:     70[queue 1]  30[queue 2]

    queue tail-drop-thresholds
    --------------------------
    1     80[1] 100[2]
    2     80[1] 100[2]

    queue thresh cos-map
    ---------------------------------------
    1     1      0 1
    1     2      2 3

Router#
```

show redundancy

To display RF information, use the **show redundancy** command.

show redundancy {**clients** | **counters** | **history** | **states** | **switchover**}

Syntax Description

clients	Displays information about the RF client.
counters	Displays information about the RF counter.
history	Displays a log of past status for the RF.
states	Displays information about the RF state.
switchover	Displays the switchover counts, the uptime since active, and the total system uptime.

Command Default

This command has no default settings.

Command Modes

EXEC (>)

Command History

Release	Modification
12.2(18)ZY	Support for this command was introduced.

Examples

This example shows how to display information about the RF client:

```
Router# show redundancy clients
 clientID = 0       clientSeq = 0        RF_INTERNAL_MSG
 clientID = 25      clientSeq = 130      CHKPT RF
 clientID = 5026    clientSeq = 130      CHKPT RF
 clientID = 5029    clientSeq = 135      Redundancy Mode RF
 clientID = 5006    clientSeq = 170      RFS client
 clientID = 6       clientSeq = 180      Const OIR Client
 clientID = 7       clientSeq = 190      PF Client
 clientID = 5008    clientSeq = 190      PF Client
 clientID = 28      clientSeq = 330      Const Startup Config
 clientID = 29      clientSeq = 340      Const IDPROM Client
 clientID = 65000   clientSeq = 65000    RF_LAST_CLIENT
Router#
```

The output displays the following information:

- clientID displays the client's ID number.
- clientSeq displays the client's notification sequence number.
- Current RF state.

This example shows how to display information about the RF counters:

```
Router# show redundancy counters
Redundancy Facility OMs
               comm link up = 0
        comm link down down = 0

          invalid client tx = 0
          null tx by client = 0
                tx failures = 0
      tx msg length invalid = 0

      client not rxing msgs = 0
 rx peer msg routing errors = 0
           null peer msg rx = 0
         errored peer msg rx = 0

                 buffers tx = 0
     tx buffers unavailable = 0
                 buffers rx = 0
      buffer release errors = 0

 duplicate client registers = 0
  failed to register client = 0
       Invalid client syncs = 0
Router#
```

This example shows how to display information about the RF history:

```
Router# show redundancy history
00:00:00 client added: RF_INTERNAL_MSG(0) seq=0
00:00:00 client added: RF_LAST_CLIENT(65000) seq=65000
00:00:02 client added: Const Startup Config Sync Clien(28) seq=330
00:00:02 client added: CHKPT RF(25) seq=130
00:00:02 client added: PF Client(7) seq=190
00:00:02 client added: Const OIR Client(6) seq=180
00:00:02 client added: Const IDPROM Client(29) seq=340
00:00:02 *my state = INITIALIZATION(2) *peer state = DISABLED(1)
00:00:02 RF_PROG_INITIALIZATION(100) RF_INTERNAL_MSG(0) op=0 rc=11
00:00:02 RF_PROG_INITIALIZATION(100) CHKPT RF(25) op=0 rc=11
00:00:02 RF_PROG_INITIALIZATION(100) Const OIR Client(6) op=0 rc=11
00:00:02 RF_PROG_INITIALIZATION(100) PF Client(7) op=0 rc=11
.
.
.
```

This example shows how to display information about the RF state:

```
Router# show redundancy states
       my state = 13 -ACTIVE
     peer state = 1  -DISABLED
           Mode = Simplex
           Unit = Primary
        Unit ID = 1

Redundancy Mode (Operational) = Route Processor Redundancy
Redundancy Mode (Configured)  = Route Processor Redundancy
     Split Mode = Disabled
   Manual Swact = Disabled  Reason: Simplex mode
 Communications = Down      Reason: Simplex mode
```

```
   client count = 11
 client_notification_TMR = 30000 milliseconds
          keep_alive TMR = 4000 milliseconds
        keep_alive count = 0
    keep_alive threshold = 7
           RF debug mask = 0x0

Router#
```

If you enter the **show redundancy states** command with SSO configured, the Redundancy Mode (Operational) and the Redundancy Mode (Configured) fields display Stateful Switchover.

This example shows how to display the switchover counts, the uptime since active, and the total system uptime:

```
Router# show redundancy switchover
Switchovers this system has experienced          : 1
Uptime since this supervisor switched to active  : 1 minute
Total system uptime from reload                  : 2 hours, 47 minutes

Router#
```

Related Commands

Command	Description
mode	Sets the redundancy mode.
redundancy	Enters redundancy configuration mode.
redundancy force-switchover	Forces a switchover from the active to the standby supervisor engine.

show rom-monitor

To display the ROMMON status, use the **show rom-monitor** command.

show rom-monitor {**slot** *num*} {**sp** | **rp**}

Syntax Description

slot *num*	Specifies the slot number of the ROMMON to be displayed.
sp	Displays the ROMMON status of the switch processor.
rp	Displays the ROMMON status of the route processor.

Command Default

This command has no default settings.

Command Modes

EXEC (>)

Command History

Release	Modification
12.2(18)ZY	Support for this command was introduced.

Usage Guidelines

When you enter the **show rom-monitor** command, the output displays the following:

- Region region1 and region2—Displays the status of the ROMMON image and the order of preference that region1 or region2 images should be booted from. The ROMMON image status values are as follows:
  - First run—Indicates that a check of the new image is being run.
  - Invalid—Indicates that the new image has been checked and the upgrade process has started.
  - Approved—Indicates that the ROMMON field upgrade process has completed.
- Currently running—This field displays the currently running image and the region.

The **sp** or **rp** keyword is required only if a supervisor engine is installed in the specified slot.

Examples

This example shows how to display ROMMON information:

```
Router# show rom-monitor slot 1 sp
   Region F1:APPROVED
   Region F2:FIRST_RUN, preferred
   Currently running ROMMON from F1 region
Router#
```

Related Commands

Command	Description
upgrade rom-monitor	Sets the execution preference on a ROMMON.

show rpc

To display RPC information, use the **show rpc** command.

show rpc {**applications** | **counters** | **status**}

Syntax Description

applications	Displays information about the RPC application.
counters	Displays the RPC counters.
status	Displays the RPC status.

Command Default

This command has no default settings.

Command Modes

EXEC (>)

Command History

Release	Modification
12.2(18)ZY	Support for this command was introduced.

Examples

This example shows how to display RPC applications:

```
Router# show rpc applications
  ID Dest Callback Application
   1 0011 <remote> rpc-master
   2 0011 <remote> cygnus-oir
   3 0021 60201708 rpc-slave-33
   4 0021 6022A514 idprom-MP
   5 0021 60204420 msfc-oir
   6 0011 <remote> Nipcon-SP
   7 0011 <remote> sw_vlan_sp
   8 0011 <remote> stp_switch_api
   9 0011 <remote> pagp_rpc
  10 0011 <remote> span_switch_rpc
  11 0011 <remote> pf_rp_rpc
  13 0011 <remote> mapping_sp
  14 0011 <remote> logger-sp
  17 0011 <remote> c6k_power_sp
  18 0011 <remote> c6k_sp_environmental
  19 0011 <remote> pagp_switch_rpc
  20 0011 <remote> pm-cp
  21 0021 602675B0 Nipcon-RP
  22 0021 602283B0 pm-mp
  23 0021 601F2538 sw_vlan_rp
  24 0021 601F77D0 span_switch_sp_rpc
  25 0021 601F7950 idbman_fec
  26 0021 601F7F30 logger-rp
  27 0021 601F80D8 pagp_switch_l3_split
  28 0021 601F81C0 pagp_switch_sp2mp
  29 0021 6026F190 c6k_rp_environmental
Router#
```

This example shows how to display information about the RPC counters:

```
Router# show rpc counters
  ID Dest Rcv-req  Xmt-req  Q size   Application
   1 0011 0        26       0        rpc-master
   2 0011 0        6221     0        cygnus-oir
   4 0021 15       0        0        idprom-MP
   5 0021 6222     0        0        msfc-oir
   7 0011 0        2024     0        sw_vlan_sp
   8 0011 0        3        0        stp_switch_api
   9 0011 0        188      0        pagp_rpc
  11 0011 0        4        0        pf_rp_rpc
  13 0011 0        2        0        mapping_sp
  14 0011 0        3        0        logger-sp
  17 0011 0        2        0        c6k_power_sp
  18 0011 0        66       0        c6k_sp_environmental
  19 0011 0        109      0        pagp_switch_rpc
  20 0011 0        33       0        pm-cp
  22 0021 126      0        0        pm-mp
  23 0021 5        0        0        sw_vlan_rp
  24 0021 14       0        0        span_switch_sp_rpc
  25 0021 22       0        0        idbman_fec
  26 0021 8        0        0        logger-rp
  27 0021 3        0        0        pagp_switch_l3_split
  28 0021 3        0        0        pagp_switch_sp2mp
Router#
```

show running-config

To display the status and configuration of the module, Layer 2 VLAN, or interface, use the **show running-config** command.

show running-config [{**interface** *interface* } | {**module** *number*} | {**vlan** *vlan-id*}]

Syntax Description

interface *interface*	(Optional) Specifies the interface type; possible valid values are **ethernet**, **fastethernet**, **gigabitethernet**, **tengigabitethernet**, **pos**, **atm**, and **ge-wan**.
module *number*	(Optional) Specifies the module number.
vlan *vlan-id*	(Optional) Specifies the VLAN information to display; valid values are from 1 to 4094.

Command Default

This command has no default settings.

Command Modes

EXEC (>)

Command History

Release	Modification
12.2(18)ZY	Support for this command was introduced.

Usage Guidelines

In some cases, you might see a difference in the duplex mode that is displayed between the **show interfaces** command and the **show running-config** command. In this case, the duplex mode that is displayed in the **show interfaces** command is the actual duplex mode that the interface is running. The **show interfaces** command shows the operating mode for an interface, while the **show running-config** command shows the configured mode for an interface.

The **show running-config** command output for an interface might display the duplex mode but no configuration for the speed. This output indicates that the interface speed is configured as auto and that the duplex mode shown becomes the operational setting once the speed is configured to something other than auto. With this configuration, it is possible that the operating duplex mode for that interface does not match the duplex mode that is shown with the **show running-config** command.

Examples

This example shows how to display the module and status configuration for all modules:

```
Router# show running-config
Building configuration...

Current configuration:
!
version 12.0
service timestamps debug datetime localtime
service timestamps log datetime localtime
no service password-encryption
!
```

```
hostname Router
!
boot buffersize 126968
boot system flash slot0:halley
boot bootldr bootflash:c6msfc-boot-mz.120-6.5T.XE1.0.83.bin
enable password lab
!
clock timezone Pacific -8
clock summer-time Daylight recurring
redundancy
 main-cpu
  auto-sync standard
!
ip subnet-zero
!
ip multicast-routing
ip dvmrp route-limit 20000
ip cef
mls flow ip destination
mls flow ipx destination
cns event-service server
!
spanning-tree portfast bpdu-guard
spanning-tree uplinkfast
spanning-tree vlan 200 forward-time 21
port-channel load-balance sdip
!
!
!
 shutdown
!
!
.
.
.
```

show scp

To display SCP information, use the **show scp** command.

show scp {**accounting** | **counters** | {{**mcast** [**group** *group-id*} | **inst**]} | {**process** *id*} | **status**}

Syntax Description

accounting	Displays information about the SCP accounting.
counters	Displays information about the SCP counter.
mcast	Displays information about the SCP multicast.
group *group-id*	(Optional) Displays information for a specific group and group ID; valid values are from 1 to 127.
inst	(Optional) Displays information for an instance.
process *id*	(Optional) Displays all the processes that have registered an SAP with SCP.
status	Displays information about the local SCP server status.

Command Default

This command has no default settings.

Command Modes

EXEC (>)

Command History

Release	Modification
12.2(18)ZY	Support for this command was introduced.

Examples

This example shows how to display all the processes that have registered an SAP with SCP:

```
Router# show scp process
Sap Pid Name
=== === ====
0 180 CWAN-RP SCP Input Process
18 42 itasca
20 3 Exec
21 3 Exec
22 180 CWAN-RP SCP Input Process
Total number of SAP registered = 5
Router#
```

show snmp mib ifmib ifindex

To display the SNMP interface index identification numbers (ifIndex values) for all the system interfaces or the specified system interface, use the **show snmp mib ifmib ifindex** command.

show snmp mib ifmib ifindex [*interface interface-number*][**:***subinterface*][**.***subinterface*][*port*]

Syntax Description

interface	(Optional) Interface type; possible valid values for type are **ethernet**, **fastethernet**, **gigabitethernet**, **tengigabitethernet**, **pos**, **atm**, and **ge-wan**.
interface-number	Module and port number; see the "Usage Guidelines" section for valid values.
:*subinterface*	(Optional) Subinterface number; the valid value is **0**.
.*subinterface*	(Optional) Subinterface number; valid values are from 0 to 4294967295.
port	(Optional) Interface number.

Command Default

The ifIndex values for all the interfaces are displayed.

Command Modes

EXEC (>)

Command History

Release	Modification
12.2(18)ZY	Support for this command was introduced.

Usage Guidelines

The **show snmp mib ifmib ifindex** command allows you to display SNMP interface index identification numbers (ifIndex values) that are assigned to interfaces and subinterfaces using the CLI. This command allows you to view these values without using a Network Management Station.

If a specific interface is not specified using the optional *interface-type*, *slot*, *port-adapter*, and *port* arguments, the ifDescr and ifIndex pairs of all interfaces and subinterfaces present on the system are shown.

Use the **show snmp mib ifmib ifindex ?** command to determine the options available on your system. Typical *interface-types* values include **async**, **dialer**, **ethernet**, **fastEthernet**, and **serial**.

Examples

This example shows how to display the ifIndex for a specific interface:

```
Router# show snmp mib ifmib ifIndex Ethernet2/0
Ethernet2/0: Ifindex = 2
```

This example shows how to display the ifIndex for all interfaces:

```
Router# show snmp mib ifmib ifindex

ATM1/0: Ifindex = 1
ATM1/0-aal5 layer: Ifindex = 12
ATM1/0-atm layer: Ifindex = 10
ATM1/0.0-aal5 layer: Ifindex = 13
ATM1/0.0-atm subif: Ifindex = 11
```

```
ATM1/0.9-aal5 layer: Ifindex = 32
ATM1/0.9-atm subif: Ifindex = 31
ATM1/0.99-aal5 layer: Ifindex = 36
ATM1/0.99-atm subif: Ifindex = 35
Ethernet2/0: Ifindex = 2
Ethernet2/1: Ifindex = 3
Ethernet2/2: Ifindex = 4
Ethernet2/3: Ifindex = 5
Null0: Ifindex = 14
Serial3/0: Ifindex = 6
Serial3/1: Ifindex = 7
Serial3/2: Ifindex = 8
Serial3/3: Ifindex = 9
```

Related Commands

Command	Description
snmp ifindex persist	Enables ifIndex values in the Interfaces MIB (IF-MIB) that persist across reboots (ifIndex persistence) only on a specific interface.
snmp-server ifindex persist	Enables ifIndex values globally so that they will remain constant across reboots for use by SNMP.

show spanning-tree

To display information about the spanning-tree state, use the **show spanning-tree** command.

show spanning-tree [*bridge-group* | **active** | **backbonefast** | {**bridge** [**id**]} | **detail** | **inconsistentports** | {**interface** *interface interface-number*} | **root** | **summary** [**total**] | **uplinkfast** | {**vlan** *vlan-id*} | {**port-channel** *number*} | **pathcost-method**]

Syntax Description

bridge-group	(Optional) Bridge-group number; valid values are from 1 to 255.
active	(Optional) Displays information about the spanning tree on active interfaces only.
backbonefast	(Optional) Displays information about the spanning-tree BackboneFast status.
bridge	(Optional) Displays information about the bridge status and configuration.
id	(Optional) Displays the bridge identifier.
detail	(Optional) Displays detailed information about the spanning-tree state.
inconsistentports	(Optional) Displays information about the root-inconsistency state.
interface *interface*	(Optional) Displays the interface type and number; possible valid values for type are **ethernet**, **fastethernet**, **gigabitethernet**, **tengigabitethernet**, **pos**, **atm**, and **ge-wan**.
interface-number	(Optional) Module and port number; see the "Usage Guidelines" section for valid values.
root	(Optional) Displays the status and configuration of the root bridge.
summary	(Optional) Displays a summary of port states.
total	(Optional) Displays the total lines of the spanning-tree state section.
uplinkfast	(Optional) Displays the status of the spanning-tree UplinkFast.
vlan *vlan-id*	(Optional) Specifies the VLAN ID; valid values are from 1 to 4094.
port-channel *number*	(Optional) Specifies the channel interface; valid values are a maximum of 64 values ranging from 1 to 282.
pathcost-method	(Optional) Displays the default path-cost calculation method that is used.

Command Default

This command has no default settings.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
12.2(18)ZY	Support for this command was introduced.

Usage Guidelines

The **pos**, **atm**, and **ge-wan** keywords are supported on Catalyst 6500 series switches that are configured with a Supervisor Engine 2 only.

The **port-channel** *number* values from 257 to 282 are supported on the CSM and the FWSM only.

The *interface-number* argument designates the module and port number. Valid values for *interface-number* depend on the specified interface type and the chassis and module that are used. For example, if you specify a Gigabit Ethernet interface and have a 48-port 10/100BASE-T Ethernet module that is installed in a 13-slot chassis, valid values for the module number are from 2 to 13 and valid values for the port number are from 1 to 48.

When checking spanning tree-active states and you have a large number of VLANs, you can enter the **show spanning-tree summary total** command. You can display the total number of VLANs without having to scroll through the list of VLANs.

Examples

This example shows how to display a summary of interface information:

```
Router# show spanning-tree

VLAN0001
  Spanning tree enabled protocol ieee
  Root ID     Priority    4097
              Address     0004.9b78.0800
              This bridge is the root
              Hello Time   2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    4097   (priority 4096 sys-id-ext 1)
              Address     0004.9b78.0800
              Hello Time   2 sec  Max Age 20 sec  Forward Delay 15 sec
              Aging Time 15

Interface        Port ID                     Designated                Port ID
Name             Prio.Nbr      Cost Sts      Cost Bridge ID            Prio.Nbr
---------------- -------- --------- --- --------- -------------------- --------
Gi2/1            128.65           4 LIS         0  4097 0004.9b78.0800 128.65
Gi2/2            128.66           4 LIS         0  4097 0004.9b78.0800 128.66
Fa4/3            128.195         19 LIS         0  4097 0004.9b78.0800 128.195
Fa4/4            128.196         19 BLK         0  4097 0004.9b78.0800 128.195

Router#
```

Table 2-85 describes the fields that are shown in the example.

Table 2-85 show spanning-tree Command Output Fields

Field	Definition
Port ID Prio.Nbr	Port ID and priority number.
Cost	Port cost.
Sts	Status information.

This example shows how to display information about the spanning tree on active interfaces only:

```
Router# show spanning-tree active
UplinkFast is disabled
BackboneFast is disabled

 VLAN1 is executing the ieee compatible Spanning Tree protocol
  Bridge Identifier has priority 32768, address 0050.3e8d.6401
  Configured hello time 2, max age 20, forward delay 15
  Current root has priority 16384, address 0060.704c.7000
  Root port is 265 (FastEthernet5/9), cost of root path is 38
  Topology change flag not set, detected flag not set
```

```
  Number of topology changes 0 last change occurred 18:13:54 ago
  Times:  hold 1, topology change 24, notification 2
          hello 2, max age 14, forward delay 10
  Timers: hello 0, topology change 0, notification 0
.
.
.
Router#
```

This example shows how to display the status of spanning-tree BackboneFast:

```
Router# show spanning-tree backbonefast
BackboneFast is enabled

BackboneFast statistics
-----------------------
Number of transition via backboneFast (all VLANs) : 0
Number of inferior BPDUs received (all VLANs)     : 0
Number of RLQ request PDUs received (all VLANs)   : 0
Number of RLQ response PDUs received (all VLANs)  : 0
Number of RLQ request PDUs sent (all VLANs)       : 0
Number of RLQ response PDUs sent (all VLANs)      : 0
Router#
```

This example shows how to display information about the spanning tree for this bridge only:

```
Router# show spanning-tree bridge
VLAN1
  Bridge ID  Priority    32768
             Address     0050.3e8d.6401
             Hello Time   2 sec  Max Age 20 sec  Forward Delay 15 sec
.
.
.
Router#
```

This example shows how to display detailed information about the interface:

```
Router# show spanning-tree detail

VLAN1 is executing the ieee compatible Spanning Tree protocol
Bridge Identifier has priority 4096, address 00d0.00b8.1401
Configured hello time 2, max age 20, forward delay 15
We are the root of the spanning tree
Topology change flag not set, detected flag not set
Number of topology changes 9 last change occurred 02:41:34 ago
from FastEthernet4/21
Times: hold 1, topology change 35, notification 2
hello 2, max age 20, forward delay 15
Timers: hello 1, topology change 0, notification 0, aging 300

Port 213 (FastEthernet4/21) of VLAN1 is forwarding
Port path cost 19, Port priority 128, Port Identifier 128.213.
Designated root has priority 4096, address 00d0.00b8.1401
Designated bridge has priority 4096, address 00d0.00b8.1401
Designated port id is 128.213, designated path cost 0
Timers: message age 0, forward delay 0, hold 0
Number of transitions to forwarding state: 1
BPDU: sent 4845, received 1
Router#
```

This example shows how to display information about the spanning tree for a specific interface:

```
Router# show spanning-tree interface fastethernet 5/9
Interface Fa0/10 (port 23) in Spanning tree 1 is ROOT-INCONSISTENT
Port path cost 100, Port priority 128
Designated root has priority 8192, address 0090.0c71.a400
Designated bridge has priority 32768, address 00e0.1e9f.8940

.
.
.
```

This example shows how to display information about the spanning tree for a specific bridge group:

```
Router# show spanning-tree 1
 UplinkFast is disabled
 BackboneFast is disabled

  Bridge group 1 is executing the ieee compatible Spanning Tree protocol
   Bridge Identifier has priority 32768, address 00d0.d39c.004d
   Configured hello time 2, max age 20, forward delay 15
   Current root has priority 32768, address 00d0.d39b.fddd
   Root port is 7 (FastEthernet2/2), cost of root path is 19
   Topology change flag set, detected flag not set
   Number of topology changes 3 last change occurred 00:00:01 ago
           from FastEthernet2/2
   Times:  hold 1, topology change 35, notification 2
           hello 2, max age 20, forward delay 15
   Timers: hello 0, topology change 0, notification 0  bridge aging time 15

Port 2 (Ethernet0/1/0) of Bridge group 1 is down

    Port path cost 100, Port priority 128
    Designated root has priority 32768, address 0050.0bab.1808
    Designated bridge has priority 32768, address 0050.0bab.1808
    Designated port is 2, path cost 0
    Timers: message age 0, forward delay 0, hold 0
    BPDU: sent 0, received 0
Router#
```

This example shows how to display a summary of port states:

```
Router# show spanning-tree summary
Root bridge for: Bridge group 1, VLAN0001, VLAN0004-VLAN1005
 VLAN1013-VLAN1499, VLAN2001-VLAN4094
EtherChannel misconfiguration guard is enabled
Extended system ID is enabled
Portfast is enabled by default
PortFast BPDU Guard is disabled by default
Portfast BPDU Filter is disabled by default
Loopguard is disabled by default
UplinkFast is disabled
BackboneFast is disabled
Pathcost method used is long
Name                   Blocking Listening Learning Forwarding STP Active
---------------------- -------- --------- -------- ---------- ----------
1 bridge               0        0         0        1          1
3584 vlans 3584 0 0 7168 10752
                       Blocking Listening Learning Forwarding STP Active
---------------------- -------- --------- -------- ---------- ----------
Total                  3584     0         0        7169       10753
Router#
```

This example shows how to display the total lines of the spanning-tree state section:

```
Router#  show spanning-tree summary total
Root bridge for:Bridge group 10, VLAN1, VLAN6, VLAN1000.
Extended system ID is enabled.
PortFast BPDU Guard is disabled
EtherChannel misconfiguration guard is enabled
UplinkFast is disabled
BackboneFast is disabled
Default pathcost method used is long

Name                 Blocking Listening Learning Forwarding STP Active
-------------------- -------- --------- -------- ---------- ----------
           105 VLANs 3433     0         0        105        3538

BackboneFast statistics
-----------------------
Number of transition via backboneFast (all VLANs) :0
Number of inferior BPDUs received (all VLANs)     :0
Number of RLQ request PDUs received (all VLANs)   :0
Number of RLQ response PDUs received (all VLANs)  :0
Number of RLQ request PDUs sent (all VLANs)       :0
Number of RLQ response PDUs sent (all VLANs)      :0
Router#
```

This example shows how to display information about the spanning tree for a specific VLAN:

```
Router# show spanning-tree vlan 200
VLAN0200
 Spanning tree enabled protocol ieee
 Root ID Priority 32768
    Address 00d0.00b8.14c8
    This bridge is the root
    Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
 Bridge ID Priority 32768
    Address 00d0.00b8.14c8
    Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
    Aging Time 300
Interface Role Sts Cost Prio.Nbr Status
---------------- ---- --- --------- -------- --------------------------------
Fa4/4 Desg FWD 200000 128.196 P2p
Fa4/5 Back BLK 200000 128.197 P2p
Router#
```

Table 2-86 describes the fields that are shown in the example.

Table 2-86 show spanning-tree vlan Command Output Fields

Field	Definition
Role	Current 802.1w role; valid values are Boun (boundary), Desg (designated), Root, Altn (alternate), and Back (backup).
Sts	Spanning-tree states; valid values are BKN* (broken)[1], BLK (blocking), DWN (down), LTN (listening), LBK (loopback), LRN (learning), and FWD (forwarding).
Cost	Port cost.

Table 2-86 show spanning-tree vlan Command Output Fields (continued)

Field	Definition
Prio.Nbr	Port ID that consists of the port priority and the port number.
Status	Status information; valid values are as follows: • P2p/Shr—The interface is considered as a point-to-point (resp. shared) interface by the spanning tree. • Edge—PortFast has been configured (either globally using the **default** command or directly on the interface) and no BPDU has been received. • *ROOT_Inc, *LOOP_Inc, *PVID_Inc, and *TYPE_Inc—The port is in a broken state (BKN*) for an inconsistency. The port would be Root inconsistent, Loopguard inconsistent, PVID inconsistent, or Type inconsistent. • Bound(type)—When in MST mode, identifies the boundary ports and specifies the type of the neighbor (STP, RSTP, or PVST). • Peer(STP)—When in PVRST rapid-pvst mode, identifies the port connected to a previous version of the 802.1D bridge.

1. For information on the *, see the definition for the Status field.

This example shows how to determine if any ports are in the root-inconsistent state:

```
Router#  show spanning-tree inconsistentports

Name                 Interface            Inconsistency
-------------------- -------------------- ------------------
 VLAN1               FastEthernet3/1      Root Inconsistent

Number of inconsistent ports (segments) in the system :1
Router#
```

Related Commands

Command	Description
spanning-tree backbonefast	Enables BackboneFast on all Ethernet VLANs.
spanning-tree cost	Sets the path cost of the interface for STP calculations.
spanning-tree guard	Enables or disables the guard mode.
spanning-tree pathcost method	Sets the default path-cost calculation method.
spanning-tree portfast (interface configuration mode)	Enables PortFast mode.
spanning-tree portfast bpdufilter default	Enables BPDU filtering by default on all PortFast ports.
spanning-tree portfast bpduguard default	Enables BPDU guard by default on all PortFast ports.
spanning-tree port-priority	Sets an interface priority when two bridges vie for position as the root bridge.
spanning-tree uplinkfast	Enables UplinkFast.
spanning-tree vlan	Configures STP on a per-VLAN basis.

show spanning-tree mst

To display the information about the MST protocol, use the **show spanning-tree mst** command.

show spanning-tree mst [**configuration** [**digest**]]

show spanning-tree mst [*instance-id*] [**detail**]

show spanning-tree mst [*instance-id*] **interface** *interface* [**detail**]

Syntax Description

configuration	(Optional) Displays information about the region configuration.
digest	(Optional) Displays information about the MD5 digest included in the current MSTCI.
instance-id	(Optional) Instance identification number; valid values are from 0 to 4094.
detail	(Optional) Displays detailed information about the MST protocol.
interface *interface*	(Optional) Displays the interface type and number; possible valid values for type are **ethernet**, **fastethernet**, **gigabitethernet**, **tengigabitethernet**, **pos**, **atm**, **ge-wan**, **port-channel**, and **vlan**. See the "Usage Guidelines" section for valid number values.

Command Default

This command has no default settings.

Command Modes

EXEC (>)

Command History

Release	Modification
12.2(18)ZY	Support for this command was introduced.

Usage Guidelines

The valid values for *interface* depend on the specified interface type and the chassis and module that are used. For example, if you specify a Gigabit Ethernet interface and have a 48-port 10/100BASE-T Ethernet module that is installed in a 13-slot chassis, valid values for the module number are from 2 to 13 and valid values for the port number are from 1 to 48.

The number of valid values for **port-channel** *number* are a maximum of 64 values ranging from 1 to 282. The **port-channel** *number* values from 257 to 282 are supported on the CSM and the FWSM only.

The number of valid values for **vlan** are from 1 to 4094.

Valid values for *instance-id* are from 0 to 4094.

In the output display of the **show spanning-tree mst configuration** command, a warning message may display. This message appears if you do not map secondary VLANs to the same instance as the associated primary VLAN. The display includes a list of the secondary VLANs that are not mapped to the same instance as the associated primary VLAN. The warning message is as follows:

```
These secondary vlans are not mapped to the same instance as their primary:
-> 3
```

In the output display of the **show spanning-tree mst configuration digest** command, if the output applies to both standard and prestandard bridges at the same time on a per-port basis, two different digests are displayed.

If you configure a port to transmit prestandard BPDUs only, the prestandard flag displays in the **show spanning-tree** commands. The variations of the prestandard flag are as follows:

- Pre-STD (or prestandard in long format)—This flag displays if the port is configured to transmit prestandard BPDUs and if a prestandard neighbor bridge has been detected on this interface.
- Pre-STD-Cf (or prestandard (config) in long format)—This flag displays if the port is configured to transmit prestandard BPDUs but a prestandard BPDU has not been received on the port, the autodetection mechanism has failed, or a misconfiguration, if there is no prestandard neighbor, has occurred.
- Pre-STD-Rx (or prestandard (rcvd) in long format)—This flag displays when a prestandard BPDU has been received on the port but it has not been configured to send prestandard BPDUs. The port will send prestandard BPDUs, but we recommend that you change the port configuration so that the interaction with the prestandard neighbor does not rely only on the autodetection mechanism.

If the configuration is not prestandard compliant (for example, a single MST instance has an ID that is greater than or equal to 16), the prestandard digest is not computed and the following output is displayed:

```
Router# show spanning-tree mst configuration digest
Name      [region1]
Revision  2     Instances configured 3
Digest          0x3C60DBF24B03EBF09C5922F456D18A03
Pre-std Digest  N/A, configuration not pre-standard compatible
Router#
```

MST BPDUs include an MST configuration identifier (MSTCI) that consists of the region name, region revision, and an MD5 digest of the VLAN-to-instance mapping of the MST configuration.

See the **show spanning-tree** command for output definitions.

Examples

This example shows how to display information about the region configuration:

```
Router> show spanning-tree mst configuration
Name      [leo]
Revision  2702
Instance  Vlans mapped
--------  ---------------------------------------------------------------------
0         1-9,11-19,21-29,31-39,41-4094
1         10,20,30,40
---------------------------------------------------------------------------
```

This example shows how to display additional MST-protocol values:

```
Router# show spanning-tree mst 3 detail
###### MST03 vlans mapped: 3,3000-3999
Bridge address 0002.172c.f400 priority 32771 (32768 sysid 3)
Root this switch for MST03
```

```
GigabitEthernet1/1 of MST03 is boundary forwarding
Port info port id 128.1 priority 128
cost 20000
Designated root address 0002.172c.f400 priority 32771
cost 0
Designated bridge address 0002.172c.f400 priority 32771 port
id 128.1
Timers: message expires in 0 sec, forward delay 0, forward transitions 1
Bpdus (MRecords) sent 4, received 0

FastEthernet4/1 of MST03 is designated forwarding
Port info port id 128.193 priority 128 cost
200000
Designated root address 0002.172c.f400 priority 32771
cost 0
Designated bridge address 0002.172c.f400 priority 32771 port id
128.193
Timers: message expires in 0 sec, forward delay 0, forward transitions 1
Bpdus (MRecords) sent 254, received 1

FastEthernet4/2 of MST03 is backup blocking
Port info port id 128.194 priority 128 cost
200000
Designated root address 0002.172c.f400 priority 32771
cost 0
Designated bridge address 0002.172c.f400 priority 32771 port id
128.193
Timers: message expires in 2 sec, forward delay 0, forward transitions 1
Bpdus (MRecords) sent 3, received 252
Router#
```

This example shows how to display MST information for a specific interface:

```
Router# show spanning-tree mst 0 interface fastethernet 4/1 detail
Edge port: no (trunk) port guard : none
(default)
Link type: point-to-point (point-to-point) bpdu filter: disable
(default)
Boundary : internal bpdu guard : disable
(default)
FastEthernet4/1 of MST00 is designated forwarding
Vlans mapped to MST00 1-2,4-2999,4000-4094
Port info port id 128.193 priority 128 cost
200000
Designated root address 0050.3e66.d000 priority 8193
cost 20004
Designated ist master address 0002.172c.f400 priority 49152
cost 0
Designated bridge address 0002.172c.f400 priority 49152 port id
128.193
Timers: message expires in 0 sec, forward delay 0, forward transitions 1
Bpdus sent 492, received 3
Router#
```

This example shows how to display the MD5 digest included in the current MSTCI:

```
Router# show spanning-tree mst configuration digest
Name      [mst-config]
Revision  10    Instances configured 25
Digest          0x40D5ECA178C657835C83BBCB16723192
Pre-std Digest  0x27BF112A75B72781ED928D9EC5BB4251
Router#
```

This example displays the new master role for all MST instances at the boundary of the region on the port that is a CIST root port:

```
Router# show spanning-tree mst interface fastethernet4/9

FastEthernet4/9 of MST00 is root forwarding
Edge port: no             (default)        port guard : none        (default)
Link type: point-to-point (auto)           bpdu filter: disable     (default)
Boundary : boundary       (RSTP)           bpdu guard : disable     (default)
Bpdus sent 3428, received 6771

Instance Role Sts Cost      Prio.Nbr Vlans mapped
-------- ---- --- --------- -------- --------------------------------
0        Root FWD 200000    128.201  2-7,10,12-99,101-999,2001-3999,4001-4094
8        Mstr FWD 200000    128.201  8,4000
9        Mstr FWD 200000    128.201  1,9,100
11       Mstr FWD 200000    128.201  11,1000-2000
Router#
```

Related Commands

Command	Description
spanning-tree mst	Sets the path cost and port-priority parameters for any MST instance.
spanning-tree mst forward-time	Sets the forward-delay timer for all the instances on the Catalyst 6500 series switch.
spanning-tree mst hello-time	Sets the hello-time delay timer for all the instances on the Catalyst 6500 series switch.
spanning-tree mst max-hops	Specifies the number of possible hops in the region before a BPDU is discarded.
spanning-tree mst root	Designates the primary and secondary root, sets the bridge priority, and sets the timer value for an instance.

show standby delay

To display HSRP information about the delay periods, use the **show standby delay** command.

show standby delay [*type number*]

Syntax Description

type number	(Optional) Interface type and number for which output is displayed.

Command Default

This command has no default settings.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
12.2(18)ZY	Support for this command was introduced.

Examples

This example shows how to display information about the delay periods:

```
Router# show standby delay

 Interface          Minimum Reload
 Ethernet0/3        1       5
Router#
```

Related Commands

Command	Description
standby delay minimum reload	Configures the delay period before the initialization of HSRP groups.

show sup-bootflash

To display information about the sup-bootflash file system, use the **show sup-bootflash** command.

show sup-bootflash [**all** | **chips** | **filesys**]

Syntax Description

all	(Optional) Displays all possible flash information.
chips	(Optional) Displays information about the flash chip.
filesys	(Optional) Displays information about the file system.

Command Default

This command has no default settings.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
12.2(18)ZY	Support for this command was introduced.

Examples

This example shows how to display a summary of bootflash information:

```
Router# show sup-bootflash
-#- ED --type-- --crc--- -seek-- nlen -length- -----date/time------ name
1   .. image    EBC8FC4D  A7487C    6 10700796 Nov 19 1999 07:07:37 halley
2   .. unknown  C7EB077D  EE2620   25  4644130 Nov 19 1999 07:50:44 cat6000-sup_
5-3-3-CSX.bin

645600 bytes available (15345184 bytes used)
Router#
```

This example shows how to display all bootflash information:

```
Router# show sup-bootflash all
-#- ED --type-- --crc--- -seek-- nlen -length- -----date/time------ name
1   .. image    EBC8FC4D  A7487C    6 10700796 Nov 19 1999 07:07:37 halley
2   .. unknown  C7EB077D  EE2620   25  4644130 Nov 19 1999 07:50:44 cat6000-sup_
5-3-3-CSX.bin

645600 bytes available (15345184 bytes used)

-------- F I L E   S Y S T E M   S T A T U S --------
  Device Number = 2
DEVICE INFO BLOCK: bootflash
  Magic Number          = 6887635   File System Vers = 10000    (1.0)
  Length                = 1000000   Sector Size      = 40000
  Programming Algorithm = 19        Erased State     = FFFFFFFF
  File System Offset    = 40000     Length = F40000
  MONLIB Offset         = 100       Length = F568
  Bad Sector Map Offset = 3FFF8     Length = 8
  Squeeze Log Offset    = F80000    Length = 40000
  Squeeze Buffer Offset = FC0000    Length = 40000
  Num Spare Sectors     = 0
```

```
    Spares:
STATUS INFO:
  Writable
  NO File Open for Write
  Complete Stats
  No Unrecovered Errors
  No Squeeze in progress
USAGE INFO:
  Bytes Used     = EA2620  Bytes Available = 9D9E0
  Bad Sectors    = 0       Spared Sectors  = 0
  OK Files       = 2       Bytes = EA2520
  Deleted Files  = 0       Bytes = 0
  Files w/Errors = 0       Bytes = 0

******** Intel SCS Status/Register Dump ********

COMMON MEMORY REGISTERS: Bank 0
  Intelligent ID Code  : 890089
  Compatible Status Reg: 800080

DEVICE TYPE:
  Layout                 : Paired x16 Mode
  Write Queue Size       : 64
  Queued Erase Supported : No

Router#
```

This example shows how to display information about the flash chip:

```
Router# show sup-bootflash chips

******** Intel SCS Status/Register Dump ********

COMMON MEMORY REGISTERS: Bank 0
  Intelligent ID Code  : 890089
  Compatible Status Reg: 800080

DEVICE TYPE:
  Layout                 : Paired x16 Mode
  Write Queue Size       : 64
  Queued Erase Supported : No

Router#
```

This example shows how to display information about the file system:

```
Router# show sup-bootflash filesys

-------- F I L E   S Y S T E M   S T A T U S --------
  Device Number = 2
DEVICE INFO BLOCK: bootflash
  Magic Number          = 6887635   File System Vers = 10000    (1.0)
  Length                = 1000000   Sector Size      = 40000
  Programming Algorithm = 19        Erased State     = FFFFFFFF
  File System Offset    = 40000     Length = F40000
  MONLIB Offset         = 100       Length = F568
  Bad Sector Map Offset = 3FFF8     Length = 8
  Squeeze Log Offset    = F80000    Length = 40000
  Squeeze Buffer Offset = FC0000    Length = 40000
  Num Spare Sectors     = 0
    Spares:
STATUS INFO:
  Writable
  NO File Open for Write
```

```
  Complete Stats
  No Unrecovered Errors
  No Squeeze in progress
USAGE INFO:
  Bytes Used     = EA2620  Bytes Available = 9D9E0
  Bad Sectors    = 0       Spared Sectors  = 0
  OK Files       = 2       Bytes = EA2520
  Deleted Files  = 0       Bytes = 0
  Files w/Errors = 0       Bytes = 0

Router#
```

show system jumbomtu

To display the global MTU setting, use the **show system jumbomtu** command.

show system jumbomtu

Syntax Description

This command has no arguments or keywords.

Command Default

This command has no default settings.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
12.2(18)ZY	Support for this command was introduced.

Examples

This example shows how to display the global MTU setting:

```
Router# show system jumbomtu
Global Ethernet MTU is 1550 bytes.
Router#
```

Related Commands

Command	Description
system jumbomtu	Sets the maximum size of the Layer 2 and Layer 3 packets.

show tcam counts

To display the TCAM statistics, use the **show tcam counts** command.

show tcam counts [**module** *number*]

Syntax Description

module *number*	(Optional) Specifies the module number; see the "Usage Guidelines" section for valid values.

Command Default

This command has no default settings.

Command Modes

EXEC (>)

Command History

Release	Modification
12.2(18)ZY	Support for this command was introduced.

Usage Guidelines

The **module** *number* keyword and argument designate the module and port number. Valid values for *number* depend on the chassis and module that are used. For example, if you have a 48-port 10/100BASE-T Ethernet module that is installed in a 13-slot chassis, valid values for the module number are from 2 to 13 and valid values for the port number are from 1 to 48.

Examples

This example shows how to display the TCAM statistics:

```
Router# show tcam counts
           Used        Free        Percent Used       Reserved
           ----        ----        ------------       --------
 Labels:      8         504            1

ACL_TCAM
--------
  Masks:      6        4090            0                  0
Entries:     37       32731            0                  0

QOS_TCAM
--------
  Masks:      3        4093            0                  0
Entries:     20       32748            0                  0

    LOU:      0         128            0
  ANDOR:      0          16            0
  ORAND:      0          16            0
    ADJ:      1        2047            0
Router#
```

Table 2-87 describes the fields that are shown in the example.

Table 2-87 show tcam counts Command Output Fields

Field	Description
Labels Used	Number of labels that are used (maximum of 512).
Labels Free	Number of free labels remaining.
Labels Percent Used	Percentage of labels that are used.
Masks Used	Number of masks that are used (maximum of 4096).
Masks Free	Number of free labels remaining.
Masks Percent Used	Percentage of masks that are used.
Entries Used	Number of labels that are used (maximum of 32767).
Entries Free	Number of free labels that are remaining.
Entries Percent Used	Percentage of entries that are used.

show tcam interface

To display information about the interface-based TCAM, use the **show tcam interface** command.

show tcam interface {*interface interface-number*} | {**null** *interface-number*} | {**vlan** *vlan-id*} {**acl** {**in** | **out**}} | {**qos** {**type1** | **type2**}} *type* [**detail** | **module** *number*]

Syntax Description

interface	(Optional) Interface type; possible valid values are **ethernet**, **fastethernet**, **gigabitethernet**, **tengigabitethernet**, **pos**, **atm**, and **ge-wan**.
interface-number	(Optional) Module and port number; see the "Usage Guidelines" section for valid values.
null *interface-number*	(Optional) Specifies the null interface; the valid value is **0**.
vlan *vlan-id*	(Optional) Specifies the VLAN; see the "Usage Guidelines" section for valid values.
acl in	(Optional) Displays the ACL-based incoming packets.
acl out	(Optional) Displays the ACL-based outgoing packets.
qos type1	(Optional) Displays the QoS-based Type 1 packets.
qos type2	(Optional) Displays the QoS-based Type 2 packets.
type	Protocol type to display; valid values are **arp**, **ipv4**, **ipv6**, **mpls**, and **other**.
detail	(Optional) Displays detailed information.
module *number*	(Optional) Specifies the module number.

Command Default

This command has no default settings.

Command Modes

EXEC (>)

Command History

Release	Modification
12.2(18)ZY	Support for this command was introduced.

Usage Guidelines

Use the **clear mls acl counters** command to clear the TCAM ACL match counters.

Examples

This example shows how to display interface-based TCAM information:

```
Router# show tcam interface vlan 7 acl in ip
deny ip any any
permit ip 20.20.0.0 0.0.255.255 22.22.0.0 0.0.255.255
redirect ip 20.21.0.0 0.0.255.255 22.23.0.0 0.0.255.255
permit tcp 24.24.0.0 0.0.255.255 30.30.0.0 0.0.255.255
Fragments (1 match)
permit tcp 25.25.0.0 0.0.255.255 31.31.0.0 0.0.255.255
fragments
permit tcp 25.25.0.0 0.0.255.255 range 30000 30020 31.31.0.0
0.0.255.255 range 10000 10010 (102 matches)
permit tcp 24.24.0.0 0.0.255.255 eq 9000 30.30.0.0 0.0.255.255
eq telnet
deny ip any any
deny ip any any
Router#
```

This example shows how to display detailed TCAM information:

```
Router# show tcam interface fa5/2 acl in ip detail

---------------------------------------------------------------------------------
----------------------------------
DPort - Destination Port   SPort - Source Port        TCP-F - U -URG
 Pro   - Protocol
I     - Inverted LOU       TOS   - TOS Value                - A -ACK
 rtr   - Router
MRFM  - M -MPLS Packet     TN    - T -Tcp Control           - P -PSH
 COD   - C -Bank Care Flag
      - R -Recirc. Flag          - N -Non-cachable          - R -RST
       - I -OrdIndep. Flag
      - F -Fragment Flag   CAP   - Capture Flag             - S -SYN
       - D -Dynamic Flag
      - M -More Fragments  F-P   - FlowMask-Prior.          - F -FIN
 T     - V(Value)/M(Mask)/R(Result)
X     - XTAG               (*)   - Bank Priority
---------------------------------------------------------------------------------
----------------------------------


Interface: 1018   label: 1   lookup_type: 0
protocol: IP   packet-type: 0

+-+-----+---------------+---------------+---------------+---------------+-------
+---+----+-+---+--+---+---+
|T|Index|  Dest Ip Addr | Source Ip Addr|     DPort     |     SPort     | TCP-F
|Pro|MRFM|X|TOS|TN|COD|F-P|
+-+-----+---------------+---------------+---------------+---------------+-------
+---+----+-+---+--+---+---+
 V 18396         0.0.0.0         0.0.0.0       P=0             P=0        ------
   0 ---- 0   0 -- --- 0-0
 M 18404         0.0.0.0         0.0.0.0         0               0
```

```
   0 ---- 0    0
 R rslt: L3_DENY_RESULT                rtr_rslt: L3_DENY_RESULT


 V 36828          0.0.0.0          0.0.0.0       P=0              P=0         ------
   0 ---- 0    0 -- --- 0-0
 M 36836          0.0.0.0          0.0.0.0         0                0
   0 ---- 0    0
 R rslt: L3_DENY_RESULT (*)            rtr_rslt: L3_DENY_RESULT (*)
Router#
```

Related Commands

Command	Description
clear mls acl counters	Clears the MLS ACL counters.

show tech-support

To display information that is useful to Cisco TAC when reporting a problem, use the **show tech-support** command.

show tech-support [**cef** | **ipmulticast** [**vrf** *instance-number*] | **isis** | **password** [**page**] | **platform** | **page** | **rsvp**]

Syntax Description

cef	(Optional) Displays CEF-related TAC information.
ipmulticast	(Optional) Displays IP multicast-related TAC information.
vrf *instance-number*	(Optional) Specifies an VRF instance number.
isis	(Optional) Displays CLNS- and ISIS-related TAC information.
password	(Optional) Removes passwords and other security information in the output.
page	(Optional) Causes the output to display a page of information at a time.
platform	(Optional) Displays platform-specific TAC information.
rsvp	(Optional) Displays IP RSVP-related TAC information.

Command Default

The defaults are as follows:

- Outputs are displayed without page breaks.
- Passwords and other security information are removed from the output.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
12.2(18)ZY	Support for this command was introduced.

Usage Guidelines

To interrupt and terminate the **show tech-support** output, simultaneously press and release the **CTRL**, **ALT**, and **6** keys.

Press the **Return** key to display the next line of output, or press the **Space** bar to display the next page of information. If you do not enter the **page** keyword, the output scrolls (that is, it does not stop for page breaks).

If you do not enter the **password** keyword, passwords and other security-sensitive information in the output are replaced with the label "<removed>."

The **show tech-support** commands are a compilation of several **show** commands and can be lengthy. For a sample display of the output of the **show tech-support** command, see the individual **show** command listed.

If you enter the **show tech-support** command without arguments, the output displays, but is not limited to, the equivalent of these **show** commands:

- **show version**
- **show running-config**
- **show stacks**
- **show interfaces**
- **show controllers**
- **show process memory**
- **show process cpu**
- **show buffers**
- **show logging**
- **show module**
- **show power**
- **show environment**
- **show interfaces switchport**
- **show interfaces trunk**
- **show vlan**
- **show mac-address-table**
- **show spanning-tree**

If you enter the **ipmulticast** keyword, the output displays, but is not limited to, these **show** commands:

- **show ip pim interface**
- **show ip pim interface count**
- **show ip pim interface df**
- **show ip pim mdt**
- **show ip pim mdt bgp**
- **show ip pim neighbor**
- **show ip pim rp**
- **show ip pim rp metric**
- **show ip igmp groups**
- **show ip igmp interface**
- **show mls ip multicast rp-mapping gm-cache**
- **show ip mroute count**
- **show ip mroute**
- **show ip mcache**
- **show ip dvmrp route**
- **show mmls msc rpdf-cache**
- **show mmls gc process**

If you enter the **isis** keyword, the output displays the equivalent of the **show isis** commands.

If you enter the **rsvp** keyword, the output displays the equivalent of the **show ip rsvp** commands.

Examples

For a sample display of the **show tech-support** command output, see the commands that are listed in the "Usage Guidelines" section.

show top counters interface report

To display TopN reports and information, use the **show top counters interface report** command.

show top counters interface report [*number*]

Syntax Description

number	(Optional) Number of the report to be displayed; valid values are from 1 to 5.

Command Default

This command has no default settings.

Command Modes

EXEC (>)

Command History

Release	Modification
12.2(18)ZY	Support for this command was introduced.

Usage Guidelines

This command is supported on Fast Ethernet, Gigabit Ethernet, and 10-Gigabit Ethernet ports only.

When you enter a TopN request, a round of polling is performed, the counters for all the applicable ports in the Catalyst 6500 series switch are read, and the information is saved. The TopN process then sleeps for the specified interval. After wakeup, another round of polling is performed and the counter information from the ports is read. The difference between the two sets of data is stored. The ports are then sorted, the ports choose from one of the seven types of statistics information, and a TopN report is generated.

The port statistics will not be displayed in the following cases:

- If a port is not present during the first poll.
- If a port is not present during the second poll.
- If a port's speed or duplex changes during the polling interval.
- If a port's type changes from Layer 2 to Layer 3 or Layer 3 to Layer 2 during the polling interval.

Note For the report display format, due to the 80 characters per line limitation, only 10 spaces are reserved for the *Tx/Rx-okts, Tx/Rx-bcst,* and *Tx/Rx-mcst* columns. When these columns are larger than 10 digits, the display wraps around to the next line.

When you start the TopN processes from a Telnet session and the Telnet session is terminated before the TopN processes are completed, all the backgound TopN processes continue and generate the TopN reports, but the foreground TopN processes are terminated once the Telnet session is terminated.

When the TopN report is being generated against a large number of ports (for example, 13 slot x 96 ports/slot) in a very short interval (10 seconds), the actual interval time between the first and second polling may be longer than the specified interval time because polling takes time.

Examples

This example shows how to display TopN reports and information:

```
Router# show top counters interface report
Id Start Time                    Int N   Sort-By   Status  Owner
-- ----------------------------- --- --- --------- ------- ----------------------
1  08:18:25 UTC Tue Nov 23 2004 76  20  util      done    console
2  08:19:54 UTC Tue Nov 23 2004 76  20  util      done    console
3  08:21:34 UTC Tue Nov 23 2004 76  20  util      done    console
4  08:26:50 UTC Tue Nov 23 2004 90  20  util      done    bambam onvty0 (9.10.69.13)
Router#
```

This example shows how to display TopN reports and information for a specific report:

```
Router# show top counters interface report 1
Started By        : console
Start Time        : 08:18:25 UTC Tue Nov 23 2004
End Time          : 08:19:42 UTC Tue Nov 23 2004
Port Type         : All
Sort By           : util
Interval          : 76 seconds
Port    Band  Util Bytes       Packets     Broadcast  Multicast  In-  Buf-
        width      (Tx + Rx)   (Tx + Rx)   (Tx + Rx)  (Tx + Rx)  err  ovflw
------- ----- ---- ----------- ----------- ---------- ---------- ---- -----

Fa2/5   100   50   726047564   11344488    11344487   1          0    0
Fa2/48  100   35   508018905   7937789     0          43         0    0
Fa2/46  100   25   362860697   5669693     0          43         0    0
Fa2/47  100   22   323852889   4762539     4762495    43         0    0
Fa2/6   100   15   217815835   3403372     0          39         21   0
Fa2/44  100   10   145146009   2267900     0          43         0    0
Gi4/15  1000  0    0           0           0          0          0    0
Gi4/14  1000  0    0           0           0          0          0    0
Gi4/13  1000  0    0           0           0          0          0    0
Gi4/12  1000  0    0           0           0          0          0    0
Gi4/11  1000  0    0           0           0          0          0    0
Gi4/10  1000  0    0           0           0          0          0    0
Gi4/9   1000  0    0           0           0          0          0    0
Gi4/8   1000  0    776         2           0          2          0    0
Gi4/7   1000  0    0           0           0          0          0    0
Gi4/6   1000  0    0           0           0          0          0    0
Gi4/5   1000  0    0           0           0          0          0    0
Gi4/4   1000  0    0           0           0          0          0    0
Gi4/3   1000  0    776         2           0          2          0    0
Gi4/2   1000  0    0           0           0          0          0    0
Router#
```

This example shows the display if you request a TopN report that is still in pending status:

```
Router# show top counters interface report 4
Id   Start time           Int N   Sort-by     Status   Owner (type/machine/user)
---  -------------------- --- --- ----------- -------- -------------------------
  4  1/24/2004,11:34:26   30  20  In-Errors   pending  Console//
Router#
```

Related Commands

Command	Description
clear top counters interface report	Clears the TopN reports.
collect top counters interface	Lists the TopN processes and specific TopN reports.

show udld

To display the administrative and operational UDLD status, use the **show udld** command.

show udld [*interface-id* | **neighbors**]

Syntax Description

interface-id	(Optional) Interface name.
neighbors	(Optional) Displays neighbor information only.

Command Default

This command has no default settings.

Command Modes

EXEC (>)

Command History

Release	Modification
12.2(18)ZY	Support for this command was introduced.

Usage Guidelines

If you do not enter an *interface-id* value, the administrative and operational UDLD status for all interfaces is displayed.

Examples

This example shows how to display the UDLD state for a single interface:

```
Router# show udld gigabitethernet2/2

Interface Gi2/2
---
Port enable administrative configuration setting: Follows device default
Port enable operational state: Enabled
Current bidirectional state: Bidirectional
Current operational state: Advertisement
Message interval: 60
Time out interval: 5
No multiple neighbors detected
    Entry 1
    ---
    Expiration time: 146
    Device ID: 1
    Current neighbor state: Bidirectional
    Device name: 0050e2826000
    Port ID: 2/1
    Neighbor echo 1 device: SAD03160954
    Neighbor echo 1 port: Gi1/1

    Message interval: 5
    CDP Device name: 066527791
Router#
```

This example shows how to display neighbor information only:

```
Router# show udld neighbors
Port     Device Name                    Device ID    Port-ID OperState
-------- ------------------------------ ------------ ------- --------------
Gi3/1    SAL0734K5R2                    1            Gi4/1   Bidirectional
Gi4/1    SAL0734K5R2                    1            Gi3/1   Bidirectional
Router#
```

Related Commands

Command	Description
udld	Enables aggressive or normal mode in UDLD and sets the configurable message time.
udld port	Enables UDLD on the interface or enables UDLD in aggressive mode on the interface.

show version

To display the configuration of the system hardware, the software version, the names and sources of configuration files, and the boot images, use the **show version** command.

show version

Syntax Description

This command has no arguments or keywords.

Command Default

This command has no default settings.

Command Modes

EXEC (>)

Command History

Release	Modification
12.2(18)ZY	Support for this command was introduced.

Examples

This example shows how to display the configuration of the system hardware, the software version, the names and sources of configuration files, and the boot images:

```
Router# show version
Cisco Internetwork Operating System Software
IOS (tm) c6sup2_rp Software (c6sup2_rp-JSV-M), Version 12.1(nightly.E020626) NIG
HTLY BUILD
Copyright (c) 1986-2002 by cisco Systems, Inc.
Compiled Wed 26-Jun-02 06:20 by
Image text-base: 0x40008BF0, data-base: 0x419BA000

ROM: System Bootstrap, Version 12.1(11r)E1, RELEASE SOFTWARE (fc1)

Router uptime is 2 weeks, 8 hours, 48 minutes
Time since Router switched to active is 1 minute
System returned to ROM by power-on (SP by power-on)
System image file is "sup-bootflash:c6sup22-jsv-mz"

cisco Catalyst 6000 (R7000) processor with 112640K/18432K bytes of memory.
Processor board ID SAD06210067
R7000 CPU at 300Mhz, Implementation 39, Rev 3.3, 256KB L2, 1024KB L3 Cache
Last reset from power-on
Bridging software.
X.25 software, Version 3.0.0.
SuperLAT software (copyright 1990 by Meridian Technology Corp).
TN3270 Emulation software.
3 Virtual Ethernet/IEEE 802.3  interface(s)
48 FastEthernet/IEEE 802.3 interface(s)
381K bytes of non-volatile configuration memory.

16384K bytes of Flash internal SIMM (Sector size 512K).
Configuration register is 0x2102
Router#
```

Table 2-88 describes the fields that are shown in the example.

Table 2-88 show version Field Descriptions

Field	Description
IOS (tm) c6sup2_rp Software (c6sup2_rp-JSV-M), Version 12.1(nightly.E020626) NIGHTLY BUILD	Version number. Always specify the complete version number when reporting a possible software problem. In the example output, the version number is 12.1.
ROM: System Bootstrap, Version 12.1(11r)E1, RELEASE SOFTWARE (fc1)	Bootstrap version string.
BOOTFLASH: 7200 Software (C7200-BOOT-M), Version 11.1(472), RELEASE SOFTWARE	Boot version string.
Router uptime is	Amount of time that the system has been up and running.
Time since Router switched to active	Amount of time since switchover occurred.
System restarted by	Log of how the system was last booted, both as a result of normal system startup and of system error. For example, information can be displayed to indicate a bus error that is typically the result of an attempt to access a nonexistent address, as follows: System restarted by bus error at PC 0xC4CA, address 0x210C0C0
System image file is	If the software was booted over the network, the Internet address of the boot host is shown. If the software was loaded from onboard ROM, this line reads “running default software.”
cisco Catalyst 6000 (R7000) processor with 112640K/18432K bytes of memory.	Remaining output in each display that shows the hardware configuration and any nonstandard software options.
Configuration register is	Configuration register contents that are displayed in hexadecimal notation.

The output of the **show version** EXEC command can provide certain messages, such as bus error messages. If such error messages appear, report the complete text of this message to your technical support specialist.

show vlan

To display VLAN information, use the **show vlan** command.

show vlan [{**brief** | {**id** *vlan-id*} | {**name** *name*} [**ifindex**]} | **ifindex**]

Syntax Description

brief	(Optional) Displays only a single line for each VLAN, naming the VLAN, status, and ports.
id *vlan-id*	(Optional) Displays information about a single VLAN that is identified by a VLAN ID number; valid values are from 1 to 4094.
name *name*	(Optional) Displays information about a single VLAN that is identified by VLAN name; valid values are an ASCII string from 1 to 32 characters.
ifindex	(Optional) Displays the VLAN's ifIndex number.

Command Default

This command has no default settings.

Command Modes

EXEC (>)

Command History

Release	Modification
12.2(18)ZY	Support for this command was introduced.

Usage Guidelines

Each Ethernet switch port and Ethernet repeater group belong to only one VLAN. Trunk ports can be on multiple VLANs.

If you shut down a VLAN using the **state suspend** or the **state active** command, these values appear in the Status field:

- suspended—VLAN is suspended.
- active—VLAN is active.

If you shut down a VLAN using the **shutdown** command, these values appear in the Status field:

- act/lshut—VLAN status is active but shut down locally.
- sus/lshut—VLAN status is suspended but shut down locally.

If a VLAN is shut down internally, these values appear in the Status field:

- act/ishut—VLAN status is active but shut down internally.
- sus/ishut—VLAN status is suspended but shut down internally.

If a VLAN is shut down locally and internally, the value that is displayed in the Status field is act/ishut or sus/ishut. If a VLAN is shut down locally only, the value that is displayed in the Status field is act/lshut or sus/lshut.

Separate VLAN ranges with a hyphen, and separate VLANs with a comma and no spaces in between. For example, you can enter the following:

```
Router# show vlan id 1-4,3,7,5-20
```

Examples

This example shows the ouput for a VLAN (VLAN0002) that is active but shut down internally:

```
Router# show vlan
VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa5/9
2    VLAN0002                         act/ishut Fa5/9
<...Output truncated...>
```

This example shows the ouput for a VLAN (VLAN0002) that is active but shut down locally:

```
Router# show vlan
VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa5/9
2    VLAN0002                         act/lshut Fa5/9
<...Output truncated...>
```

This example shows how to display the VLAN parameters for all VLANs within the administrative domain:

```
Router# show vlan
VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa5/9
2    VLAN0002                         active    Fa5/9
3    VLAN0003                         active    Fa5/9
4    VLAN0004                         active    Fa5/9
5    VLAN0005                         active    Fa5/9
6    VLAN0006                         active    Fa5/9
<...Output truncated...>

1004 fddinet-default                  active    Fa5/9
1005 trbrf-default                    active    Fa5/9

VLAN Type  SAID       MTU   Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
---- ----- ---------- ----- ------ ------ -------- ---- -------- ------ ------
1    enet  100001     1500  -      -      -        -    -        0      0
2    enet  100002     1500  -      -      -        -    -        0      0
3    enet  100003     1500  -      -      -        -    -        303    0
4    enet  100004     1500  -      -      -        -    -        304    0
5    enet  100005     1500  -      -      -        -    -        305    0
6    enet  100006     1500  -      -      -        -    -        0      0
10   enet  100010     1500  -      -      -        -    -        0      0

<...Output truncated...>

Remote SPAN VLANs
-----------------
2, 20

Primary Secondary Type              Ports
------- --------- ----------------- ------------------------------------------
Router#
```

This example shows how to display the VLAN name, status, and associated ports only:

```
Router# show vlan brief
VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa5/9
2    VLAN0002                         active    Fa5/9
3    VLAN0003                         act/lshut Fa5/9
4    VLAN0004                         act/lshut Fa5/9
```

```
5    VLAN0005                         active    Fa5/9
10   VLAN0010                         active    Fa5/9
.
.
.
999  VLAN0999                         active    Fa5/9
1002 fddi-default                     active    Fa5/9
1003 trcrf-default                    active    Fa5/9
1004 fddinet-default                  active    Fa5/9
1005 trbrf-default                    active    Fa5/9
Router#
```

This example shows how to display the VLAN parameters for multiple VLANs:

```
Router# show vlan id 1-4,3,7,5-20

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa5/7, Fa5/12
2    VLAN0002                         active
3    VLAN0003                         act/lshut
4    VLAN0004                         act/lshut
5    VLAN0005                         active
6    VLAN0006                         active
10   VLAN0010                         active
20   VLAN0020                         active

VLAN Type  SAID       MTU   Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
---- ----- ---------- ----- ------ ------ -------- ---- -------- ------ ------
1    enet  100001     1500  -      -      -        -    -        0      0
2    enet  100002     1500  -      -      -        -    -        0      0
3    enet  100003     1500  -      -      -        -    -        303    0
4    enet  100004     1500  -      -      -        -    -        304    0
5    enet  100005     1500  -      -      -        -    -        305    0
6    enet  100006     1500  -      -      -        -    -        0      0
10   enet  100010     1500  -      -      -        -    -        0      0
20   enet  100020     1500  -      -      -        -    -        0      0

Remote SPAN VLANs
------------------------------------------------------------------------------


Primary Secondary Type              Ports
------- --------- ----------------- ------------------------------------------

Router#
```

This example shows how to display the ifIndex number for VLAN 10 only:

```
Router# show vlan id 10 ifindex

 VLAN Ifindex
 ---- -------
 10   37
Router#
```

Table 2-89 describes the fields that are shown in the example.

Table 2-89 show vlan Command Output Fields

Field	Description
VLAN	VLAN number.
Name	Name, if configured, of the VLAN.
Status	Status of the VLAN (active or suspend, act/lshut or sus/lshut, or act/ishut or sus/ishut).
Ports	Ports that belong to the VLAN.
Type	Media type of the VLAN.
SAID	Security association ID value for the VLAN.
MTU	Maximum transmission unit size for the VLAN.
Parent	Parent VLAN, if one exists.
RingNo	Ring number for the VLAN, if applicable.
BrdgNo	Bridge number for the VLAN, if applicable.
Stp	Spanning Tree Protocol type that is used on the VLAN.
BrdgMode	Bridging mode for this VLAN—possible values are SRB and SRT; the default is SRB.
AREHops	Maximum number of hops for All-Routes Explorer frames—possible values are 1 through 13; the default is 7.
STEHops	Maximum number of hops for Spanning Tree Explorer frames—possible values are 1 through 13; the default is 7.
Backup CRF	Status of whether the TrCRF is a backup path for traffic.
Ifindex	Number of the ifIndex.
Remote SPAN VLAN	RSPAN status.
Primary	Number of the primary VLAN.
Secondary	Number of the secondary VLAN.
Ports	Indicates the ports within a VLAN.
Type	Type of VLAN—Possible values are primary, isolated, community, nonoperation, or normal.

Related Commands

Command	Description
show vlan private-vlan	Displays PVLAN information.
vlan (config-VLAN submode)	Configures a specific VLAN.
vtp	Configures the global VTP state.

show vlan access-log

To display information about the VACL logging including the configured logging properties, flow table contents, and statistics, use the **show vlan access-log** command.

show vlan access-log config

show vlan access-log flow *protocol* {{*src-addr src-mask*} | **any** | {**host** {*hostname* | *host-ip*}}} {{*dst-addr dst-mask*} | **any** | {**host** {*hostname* | *host-ip*}}} [**vlan** *vlan-id*]

show vlan access-log statistics

Syntax Description

config	Displays the configured VACL-logging properties.
flow	Displays the contents of the VACL-flow table.
protocol	Protocol name or number; valid values are **icmp**, **igmp**, **ip**, **tcp**, **udp**, or numbers from 0 to 255 to designate a protocol.
src-addr src-mask	Source address and mask.
any	Displays information for any host.
host *hostname*	Displays information for a hostname.
host *host-ip*	Displays information for an IP address.
dst-addr dst-mask	Destination address and mask.
vlan *vlan-id*	(Optional) Displays information for a specific VLAN; valid values are from 1 to 4094.
statistics	Displays packet and message counts and other statistics.

Command Default

This command has no default settings.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
12.2(18)ZY	Support for this command was introduced.

Examples

This command shows how to display the configured VACL-logging properties:

```
Router# show vlan access-log config
VACL Logging Configuration:
        max log table size     :500
        log threshold          :4000
        rate limiter           :3000
Router#
```

This example shows how to display the VACL statistics:

```
Router# show vlan access-log statistics
VACL Logging Statistics:
        total packets          :0
        logged                 :0
        dropped                :0
Dropped Packets Statistics:
        unsupported protocol   :0
        no packet buffer       :0
        hash queue full        :0
        flow table full        :0
Misc Information:
        VACL Logging LTL Index :0x7E02
        free packet buffers    :8192
        log messages sent      :0
        log table size         :0
Router#
```

Related Commands

Command	Description
vlan access-log	Configures the VACL-logging properties, including the log-table size, redirect-packet rate, and logging threshold.

show vlan access-map

To display the contents of a VLAN-access map, use the **show vlan access-map** command.

show vlan access-map [*map-name*]

Syntax Description

map-name	(Optional) VLAN access-map name.

Command Default

This command has no default settings.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
12.2(18)ZY	Support for this command was introduced.

Examples

This command shows how to display the contents of a VLAN-access map:

```
Router# show vlan access-map mordred
Vlan access-map "mordred"  1
        match: ip address 13
        action: forward capture
Router#
show vlan counters
```

Related Commands

Command	Description
action	Sets the packet action clause.
match	Specifies the match clause by selecting one or more ACLs for a VLAN access-map sequence.
vlan access-map	Creates a VLAN access map or enters VLAN access-map command mode.

show vlan counters

To display the software-cached counter values, use the **show vlan counters** command.

show vlan [**id** *vlanid*] **counters**

Syntax Description

id *vlanid*	(Optional) Displays the software-cached counter values for a specific VLAN; valid values are from 1 to 4094.

Command Default

This command has no default settings.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
12.2(18)ZY	Support for this command was introduced.

Usage Guidelines

The **show vlan id counters** command is not supported on SVIs.

For Layer 2 and Layer 3 VLAN interfaces and router ports, per-interface switching statistics and VLAN-counter information to the PISA are exported approximately every 3 minutes.

If you enter the **show vlan counters** command with no arguments, the software-cached counter values for all VLANs are displayed.

Examples

This example shows how to display the software-cached counter values for a specific VLAN:

```
Router> show vlan id 205 counters
VLAN vlanid 205
L2-Unicast-Pkts      10
L3-In-Unicast-Pkts   0
L3-Out-Unicast-Pkts  0
L2-NonUnicast-Pkts + L3-In-NonUnicast-Pkts  5
L3-Out-NonUnicast-Pkts   6
L2-Unicast-Octets 6
L3-In-Unicast-Octets 6
L3-Out-Unicast-Octets 6
L2-NonUnicast-Octets + L3-In-NonUnicast-Octets 6
L3-Out-NonUnicast-Octets 6
```

Related Commands

Command	Description
clear vlan counters	Clears the software-cached counter values to zero for a specified VLAN or all existing VLANs.

show vlan dot1q tag native

To display native VLAN-tagging information, use the **show vlan dot1q tag native** command.

show vlan dot1q tag native

Syntax Description

This command has no arguments or keywords.

Command Default

This command has no default settings.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
12.2(18)ZY	Support for this command was introduced.

Examples

This example shows how to display native VLAN-tagging information:

```
Router# show vlan dot1q tag native
dot1q native vlan tagging is enabled
Internal dot1q native vlan: 1015

Router#
```

Related Commands

Command	Description
vlan dot1q tag native	Enables 802.1Q tagging for all VLANs in a trunk.

show vlan filter

To display information about the VLAN filter, use the **show vlan filter** command.

show vlan filter [{**access-map** *map-name*} | {**vlan** *vlan-id*} | {**interface** *interface interface-number*}]

Syntax Description

access-map *map-name*	(Optional) Displays the VLANs that are filtered by the specified map.
vlan *vlan-id*	(Optional) Displays the filter for the specified VLAN; valid values are from 1 to 4094.
interface *interface*	Specifies the interface type; valid values are **pos**, **atm**, or **serial**. See the "Usage Guidelines" section for additional information.
interface-number	Interface number; see the "Usage Guidelines" section for additional information.

Command Default

This command has no default settings.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
12.2(18)ZY	Support for this command was introduced.

Usage Guidelines

The **show vlan filter** *map-name* **interface** command accepts only ATM, POS, or serial interface types. If your system is not configured with any of these interface types, the **interface** *interface interface-number* keyword and arguments are not provided.

The *interface-number* argument designates the module and port number. Valid values for *interface-number* depend on the specified interface type and the chassis and module that are used. For example, if you specify a Gigabit Ethernet interface and have a 48-port 10/100BASE-T Ethernet module that is installed in a 13-slot chassis, valid values for the module number are from 2 to 13 and valid values for the port number are from 1 to 48.

If you do not specify an optional keyword and argument, all mappings are displayed. If you enter **access-map** *map_name*, all the VLANs and interfaces that are associated with the specified map are shown. If you enter **vlan** *vlan-id* or **interface** *interface interface-number*, its associated access map, if existing, is shown.

In the output for VACLs on VLANs, the following applies:

- Configured on VLANs—User configured
- Active on VLANs—VLAN list on which the VACL is active

Examples

This example shows how to display mappings between the VACLs and the VLANs and the VACLs and the interfaces:

```
Router# show vlan filter
VLAN Map mordred:
   Configured on VLANs: 2,4-6
   Active on VLANs: 2,4-6
Router#
```

Related Commands

Command	Description
vlan access-map	Creates a VLAN access map or enters VLAN access-map command mode.
vlan filter	Applies a VLAN access map.

show vlan internal usage

To display information about the internal VLAN allocation, use the **show vlan internal usage** command.

show vlan [**id** *vlan-id*] **internal usage**

Syntax Description

id *vlan-id*	(Optional) Displays information about the internal VLAN allocation for the specified VLAN; valid values are from 1 to 4094.

Command Default

This command has no default settings.

Command Default

Privileged EXEC (#)

Command History

Release	Modification
12.2(18)ZY	Support for this command was introduced.

Usage Guidelines

In some cases, the output displays the following:

```
workaround vlan
```

A workaround VLAN is used to enable the PFC-based policing on the PWAN1 main interface. Without the workaround VLAN, the packets hit the PFC policer twice for PWAN1 because the same VLAN is used when packets traverse the local bus before and after PXF processing.

Usage Guidelines

Entering the **show vlan internal usage** command displays the Ethernet interfaces.

Examples

This example shows how to display the current internal VLAN allocation:

```
Router# show vlan internal usage

VLAN Usage
---- --------------------
1025 -
1026 -
1027 -
1028 -
1029 Port-channel6
1030 GigabitEthernet1/2
1032 FastEthernet3/20
1033 FastEthernet3/21
1129 -
```

This example shows how to display the internal VLAN allocation for a specific VLAN:

```
Router# show vlan id 1030 internal usage
```

```
VLAN Usage
---- --------------------
1030 GigabitEthernet1/2
```

show vlan mapping

To register a mapping of an 802.1Q VLAN to an ISL VLAN, use the **show vlan mapping** command.

show vlan mapping

Syntax Description

This command has no arguments or keywords.

Command Default

This command has no default settings.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
12.2(18)ZY	Support for this command was introduced.

Examples

This example shows how to list the map for an 802.1Q VLAN to an ISL VLAN:

```
Router# show vlan mapping
802.1Q Trunk Remapped VLANs:
802.1Q VLAN ISL VLAN
----------- -----------
101         202
200         330
Router#
```

Related Commands

Command	Description
show interfaces vlan mapping	Displays the status of a VLAN mapping on a port.
switchport vlan mapping enable	Enables VLAN mapping per switch port.

show vlan private-vlan

To display PVLAN information, use the **show vlan private-vlan** command.

show vlan private-vlan [**type**]

Syntax Description

type	(Optional) Displays the PVLAN type (isolated, community, or primary).

Command Default

This command has no default settings.

Command Modes

EXEC (>)

Command History

Release	Modification
12.2(18)ZY	Support for this command was introduced.

Usage Guidelines

In the **show vlan private-vlan type** command output display, "normal" displayed as a type indicates a regular VLAN that is configured in a PVLAN. A display of "normal" means that two VLANs have been associated before the type was set and that the PVLAN is not operational. This information is useful for debugging purposes.

Examples

This example shows how to display information about all currently configured PVLANs:

```
Router# show vlan private-vlan

Primary Secondary Type              Ports
------- --------- ----------------- ------------------------------------------
2       301       community         Fa5/3, Fa5/25
2       302       community
        10        community
100     101       isolated
150     151       non-operational
        202       community
        303       community
401     402       non-operational
Router#
```

This example shows how to display information about all currently configured PVLAN types:

```
Router# show vlan private-vlan type

Vlan Type
---- -----------------
202  primary
303  community
304  community
305  community
306  community
307  community
```

```
308  normal
309  community
440  isolated
Router#
```

Table 2-90 describes the fields that are shown in the example.

Table 2-90 show vlan private-vlan Command Output Fields

Field	Description
Primary	Number of the primary VLAN.
Secondary	Number of the secondary VLAN.
Secondary-Type	Secondary VLAN type—Possible values are isolated or community.
Ports	Indicates the ports within a VLAN.
Type	Type of VLAN—Possible values are primary, isolated, community, nonoperation, or normal.

Related Commands

Command	Description
private-vlan mapping	Creates a mapping between the primary and the secondary VLANs so that both VLANs share the same primary VLAN SVI.
private-vlan	Configures PVLANs and the association between a PVLAN and a secondary VLAN.

show vlan remote-span

To display a list of RSPAN VLANs, use the **show vlan remote-span** command.

show vlan remote-span

Syntax Description

This command has no arguments or keywords.

Command Default

This command has no default settings.

Command Modes

EXEC (>)

Command History

Release	Modification
12.2(18)ZY	Support for this command was introduced.

Examples

This example shows how to display a list of remote SPAN VLANs:

```
Router# show vlan remote-span
Remote SPAN VLANs
------------------------------------------------------------------------------
2,20
```

Related Commands

Command	Description
remote-span	Configures a VLAN as an RSPAN VLAN.
vlan (config-VLAN submode)	Configures a specific VLAN.

show vlans

To display information about the Cisco IOS VLAN subinterfaces, use the **show vlans** command.

show vlans [*vlan*]

Syntax Description

vlan	(Optional) VLAN ID number; valid values are from 1 to 4094.

Command Default

This command has no default settings.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
12.2(18)ZY	Support for this command was introduced.

Usage Guidelines

The EXEC **show vlan** command displays information about the Layer 2 VLAN. The privileged EXEC **show vlans** command displays information about the VLAN subinterface in Layer 3.

When entering the **show vlans** command, you cannot shorten the **vlans** keyword.

Examples

This example shows how to display information about the Cisco IOS VLAN subinterfaces:

```
Router# show vlans
Virtual LAN ID: 122 (Inter Switch Link Encapsulation)
VLAN Trunk Interface:  GE-WAN9/1.1
Protocols Configured:  Address:            Received:       Transmitted:
          IP             10.122.0.2                 18                 16
Virtual LAN ID: 123 (Inter Switch Link Encapsulation)
VLAN Trunk Interface:  GE-WAN9/1.2
Protocols Configured:  Address:            Received:       Transmitted:
          IP             10.123.0.2                 13                 16
Virtual LAN ID: 124 (Inter Switch Link Encapsulation)
VLAN Trunk Interface:  GE-WAN9/1.3
Protocols Configured:  Address:            Received:       Transmitted:
          IP             10.124.0.2                  0                 17
Virtual LAN ID: 133 (Inter Switch Link Encapsulation)
VLAN Trunk Interface:  GE-WAN9/3.1
Protocols Configured:  Address:            Received:       Transmitted:
          IP             11.133.0.1                  0                  1
Virtual LAN ID: 134 (Inter Switch Link Encapsulation)
VLAN Trunk Interface:  GE-WAN9/3.2
Protocols Configured:  Address:            Received:       Transmitted:
          IP             11.134.0.1                  0                  1
Router#
```

Table 2-91 describes the fields that are shown in the example.

Table 2-91 show vlans Command Output Fields

Field	Description
Virtual LAN ID	Domain number of the VLAN.
VLAN Trunk Interface	Subinterface carrying the VLAN traffic.
Protocols Configured	Protocols that are configured on the VLAN.
Address	Network address.
Received	Number of packets that are received.
Transmitted	Number of packets that are transmitted.

show vlan virtual-port

To display the number of logical virtual ports required, use the **show vlan virtual-port** command.

show vlan virtual-port [**slot** *num*]

Syntax Description

slot *num*	(Optional) Specifies the slot number of which status is to be displayed.

Command Default

This command has no default settings.

Command Modes

EXEC (>)

Command History

Release	Modification
12.2(18)ZY	Support for this command was introduced.

Examples

This example shows how to display the number of logical virtual ports that are required for a specific slot:

```
Router# show vlan virtual-port slot 3
Slot 3
Port        Virtual-ports
------------------------
Fa3/1             1
Fa3/2             1
Fa3/3             1
Fa3/4             1
Fa3/5             1
Fa3/6             1
Fa3/7             1
Fa3/8             1
Fa3/11            1
Fa3/12            1
Fa3/13            1
.
.
.
Fa3/33            4
Fa3/34            4
Fa3/35            4
Fa3/36            4
Fa3/37            4
Fa3/38            4
Fa3/39            4
Fa3/40            4
Total virtual ports:82
Router#
```

This example shows how to display the number of logical virtual ports that are required for all slots:

```
Router# show vlan virtual-port
Slot 1
-------
Total slot virtual ports 1
Slot 3
-------
Total slot virtual ports 82
Slot 4
-------
Total slot virtual ports 4
Total chassis virtual ports 87
Router#
```

show vtp

To display the VTP statistics and domain information, use the **show vtp** command.

show vtp {**counters** | **status**}

Syntax Description

counters	Displays information about the VTP statistics.
status	Displays information about the VTP domain status.

Command Default

This command has no default settings.

Command Modes

EXEC (>)

Command History

Release	Modification
12.2(18)ZY	Support for this command was introduced.

Usage Guidelines

In the output of the **show vtp status** command, the last modified time is of the modifier itself, for example, the time displayed in the line "Configuration last modified by 7.0.22.11 at 5-5-06 05:51:49", is the time that the modifier (7.0.22.11) last modified the VLAN configuration.

Examples

This example shows how to display the VTP statistics:

```
Router# show vtp counters
VTP statistics:
Summary advertisements received    : 1
Subset advertisements received     : 1
Request advertisements received    : 0
Summary advertisements transmitted : 31
Subset advertisements transmitted  : 1
Request advertisements transmitted : 0
Number of config revision errors   : 0
Number of config digest errors     : 0
Number of V1 summary errors        : 0

VTP pruning statistics:

Trunk            Join Transmitted Join Received    Summary advts received from
                                                   non-pruning-capable device
---------------- ---------------- ---------------- ---------------------------
Fa5/9               1555             1564             0
Router#
```

This example shows how to display the status of the VTP domain:

```
Router# show vtp status
VTP Version                     : 2
Configuration Revision          : 250
Maximum VLANs supported locally : 1005
```

```
Number of existing VLANs        : 33
VTP Operating Mode              : Server
VTP Domain Name                 : Lab_Network
VTP Pruning Mode                : Enabled
VTP V2 Mode                     : Enabled
VTP Traps Generation            : Disabled
MD5 digest                      : 0xE6 0xF8 0x3E 0xDD 0xA4 0xF5 0xC2 0x0E
Configuration last modified by 172.20.52.18 at 9-22-99 11:18:20
Local updater ID is 172.20.52.18 on interface Vl1 (lowest numbered VLAN interfac
e found)
Router#
```

This example shows how to display only those lines in the **show vtp** output that contain the word Summary:

```
Router# show vtp counters | include Summary
Summary advertisements received    : 1
Summary advertisements transmitted : 32
Trunk            Join Transmitted Join Received    Summary advts received from
Router#
```

Table 2-92 describes the fields that are shown in the example.

Table 2-92 show vtp Command Output Fields

Field	Description
Summary advts received	Total number of summary advts that are received.
Subset advts received	Total number of subset advts that are received.
Request advts received	Total number of request advts that are received.
Summary advts transmitted	Total number of summary advts that are transmitted.
Subset advts transmitted	Total number of subset advts that are transmitted.
Request advts transmitted	Total number of request advts that are transmitted.
No of config revision errors	Number of config revision errors.
No of config digest errors	Number of config revision digest errors.
Trunk	Trunk port participating in VTP pruning.
Join Transmitted	Number of VTP-Pruning Joins that are transmitted.
Join Received	Number of VTP-Pruning Joins that are received.
Summary advts received from non-pruning-capable device	Number of Summary advts that are received from nonpruning-capable devices.
Number of existing VLANs	Total number of VLANs in the domain.
Configuration Revision	VTP revision number that is used to exchange VLAN information.
Maximum VLANs supported locally	Maximum number of VLANs that are allowed on the device.
Number of existing VLANs	Number of existing VLANs.
VTP Operating Mode	Status on whether VTP is enabled or disabled.

Table 2-92 show vtp Command Output Fields (continued)

Field	Description
VTP Domain Name	Name of the VTP domain.
VTP Pruning Mode	Status on whether VTP pruning is enabled or disabled.
VTP V2 Mode	Status of the VTP V2 mode as server, client, or transparent.
VTP Traps Generation	Status on whether VTP-trap generation mode is enabled or disabled.
MD5 digest	Checksum values.

Related Commands

Command	Description
vtp	Configures the global VTP state.