show platform software earl layer2

To display platform software EARL Layer 2 related information, use the **show platform software earl layer2** command.

show platform software earl layer2 {**etherchannel** {**bpm-table** {**bridge-domain** *value*}} | **l2-opt_stp_purge** {**clear | dump**}}

Syntax Description

etherchannel	Specifies Layer 2 EtherChannel forwarding related information.
bpm-table	Specifies the Bundle Port Map table.
bridge-domain *value*	Specifies the bridge domain value. Range is 1–16384.
l2-opt_stp_purge	Specifies the count of purging per port.
clear	Clears the counter.
dump	Dumps the counter.

Defaults

None

Command Modes

Privileged EXEC mode

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Usage Guidelines

There are no usage guidelines for this command.

Examples

This example shows how to display the cleared purged ports per counter in the platform software EARL Layer 2 configuration:

```
Router# show platform software earl layer2 l2-opt_stp_purge clear
```

Related Commands

Command	Description
platform software earl layer2	Configures the platform software EARL Layer 2 related information.

show platform software fabric

To display platform software crossbar switching fabric-related information, use the **show platform software fabric** command.

show platform software fabric {errors | serdes {info {**module** *number*} **| supervisor** *slot***} | state-machine** {**channel** {**event_trace** *number* **| state** *number*} **| linecard** {**event_trace** *number* **| state** *number*}} **| timeout}**

Syntax Description

errors	Specifies the fabric errors.
serdes	Specifies the fabric SerDes database commands.
info	Specifies information about a fabric SerDes configuration database.
module *number*	Specifies the module number. Range is1–6.
supervisor *slot*	Specifies the supervisor card number. 0 for first supervisor slot and 1 for second supervisor slot.
state-machine	Specifies the state machine for fabric.
channel	Specifies the state machine per channel.
event_trace *number*	Species the last events traversed. Range is 0–25.
state *number*	Specifies the present state of channel state machines. Range is 0–25.
linecard	Specifies the state machine per line card.
timeout	Specifies the fabric timeout error.

Defaults

None

Command Modes

Privileged EXEC mode

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Usage Guidelines

There are no usage guidelines for this command.

Examples

This example shows how to display the fabric timeout errors:

```
Router# show platform software fabric timeout
```

Related Commands

Command	Description
platform software fabric	Configures the platform software crossbar switching fabric.

show platform software feature-manager acg-v4

To display feature manager IPv4 access group-specific information on the platform software, use the **show platform software feature-manager acg-v4** command.

show platform software feature-manager acg-v4 {all | interface {async *number* **| auto-template** *number* **| ctunnel** *number* **| dialer** *number* **| esconphy** *number* **| filter** *number* **| filtergroup** *number* **| gigabitethernet** *number* **| longreachethernet** *number* **| loopback** *number* **| mfr** *number* **| multilink** *number* **| null** *number* **| port-channel** *number* **| portgroup** *number* **| pos-channel** *number* **| sysclock** *number* **| tengigabitethernet** *number* **| tunnel** *number* **| vif** *number* **| virtual-template** *number* **| virtual-tokenring** *number* **| vlan** *vlan_id* **| control-plane** *number* **| fcpa** *number* **| voabypassin** *number* **| voabypassout** *number* **| voafilterin** *number* **| voafilterout** *number* **| voain** *number* **| voaout** *number*}}

Syntax Description

all	Specifies IPv4 Access-group information on all interfaces.
interface	Specifies interface related information.
async *number*	Specifies the asynchronous interface number. Range is 1–999.
auto-template *number*	Specifies the auto-template interface number. Range is 1–999.
ctunnel *number*	Specifies the Ctunnel interface number. Range is 0–2147483647.
dialer *number*	Specifies the dialer interface number. Range is 0–255.
esconphy *number*	Specifies the esconPhy interface number. Range is 1–6.
filter *number*	Specifies the filter interface number. Range is 1–6.
filtergroup *number*	Specifies the filter group interface number. Range is 1–6.
gigabitethernet *number*	Specifies the gigabit Ethernet interface number. Range is 1–6.
longreachethernet *number*	Specifies the long-reach Ethernet interface number. Range is 1–6.
loopback *number*	Specifies the loopback interface number. Range is 1–2147483647.
mfr *number*	Specifies the multilink Frame Relay bundle interface number. Range is 1–2147483647.
multilink *number*	Specifies the multilink-group interface number. Range is 1–2147483647.
null *number*	Specifies the null interface number. Range is 0–0.
port-channel *number*	Specifies the Ethernet channel of interfaces. Range is 1–496.
portgroup *number*	Specifies the portgroup interface number. Range is 1–6.
pos-channel *number*	Specifies the PoS channel of interfaces. Range is 1–4094.
sysclock *number*	Specifies the telecom-bus Clock Controller interface number. Range is 1–6.
tengigabitethernet *number*	Specifies the 10-Gigabit Ethernet interface number. Range is 1–6.
tunnel *number*	Specifies the tunnel interface number. Range is 1–2147483647.
vif *number*	Specifies the PGM multicast host interface number. Range is 1–1.
virtual-template *number*	Specifies the virtual template interface number. Range is 1–200.
virtual-tokenring *number*	Specifies the virtual token ring interface number. Range is 1–2147483647.

vlan *vlan_id*	Specifies the VLAN interface number. Range is 1–4094.
fcpa *number*	Specifies the fibre channel interface number. Range is 1–6.
control-plane *number*	Specifies the control plane interface number. Range is 1–6.
voabypassin *number*	Specifies the VOA bypass-in interface number. Range is 1–6.
voabypassout *number*	Specifies the VOA bypass-out interface number. Range is 1–6.
voafilterin *number*	Specifies the VOA filter-in interface number. Range is 1–6.
voafilterout *number*	Specifies the VOA filter-out interface number. Range is 1–6.
voain *number*	Specifies the VOA in interface number. Range is 1–6.
voaout *number*	Specifies the VOA out interface number. Range is 1–6.

Defaults

None.

Command Modes

Privileged EXEC mode.

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Usage Guidelines

There are no usage guidelines for this command.

Examples

This example shows how to display the IPv4 access group information on all interfaces:

```
Router# show platform software feature-manager acg-v4 all
```

Related Commands

Command	Description
clear platform software feature-manager	Clears feature manager IPv4 access group-specific information on the platform software.

show platform software feature-manager arp-acl

To display feature manager Address Resolution Protocol (ARP) Access Control List (ACL)-specific information on the platform software, use the **show platform software feature-manager arp-acl** command.

show platform software feature-manager arp-acl {all | interface {vlan *number*}}

Syntax Description

all	Specifies ARP ACL information on all interfaces.
interface	Specifies interface-related information.
vlan *number*	Specifies the Catalyst switch VLAN number. Range is 1–999.

Defaults

None.

Command Modes

Privileged EXEC mode.

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Usage Guidelines

There are no usage guidelines for this command.

Examples

This example shows how to display the ARP ACL information on all interfaces:

```
Router# show platform software feature-manager arp-acl all
```

Related Commands

Command	Description
clear platform software feature-manager	Clears feature manager-specific information on the platform software.

show platform software feature-manager cm-requests

To display feature manager requests or responses sent to CM on the platform software, use the **show platform software feature-manager cm-requests** command.

show platform software feature-manager cm-requests

Syntax Description

This command has no argumnts or keywords.

Defaults

None.

Command Modes

Privileged EXEC mode.

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Usage Guidelines

There are no usage guidelines for this command.

Examples

This example shows how to display the feature manager requests/responses sent to CM:

```
Router# show platform software feature-manager cm-requests
```

Related Commands

Command	Description
clear platform software feature-manager	Clears feature manager-specific information on the platform software.

show platform software feature-manager cts-l3s

To display feature manager CTS Layer 3 simplified information on the platform software, use the **show platform software feature-manager cts-l3s** command.

show platform software feature-manager cts-l3s {all | interface {async *number* **| auto-template** *number* **| ctunnel** *number* **| dialer** *number* **| esconphy** *number* **| filter** *number* **| filtergroup** *number* **| gigabitethernet** *number* **| longreachethernet** *number* **| loopback** *number* **| mfr** *number* **| multilink** *number* **| null** *number* **| port-channel** *number* **| portgroup** *number* **| pos-channel** *number* **| sysclock** *number* **| tengigabitethernet** *number* **| tunnel** *number* **| vif** *number* **| virtual-template** *number* **| virtual-tokenring** *number* **| vlan** *vlan_id* **| control-plane** *number* **| fcpa** *number* **| voabypassin** *number* **| voabypassout** *number* **| voafilterin** *number* **| voafilterout** *number* **| voain** *number* **| voaout** *number*}}

Syntax Description

all	Specifies feature manager CTS layer 3 simplified information on all interfaces.
interface	Specifies interface-related feature manager CTS Layer 3 simplified information.
async *number*	Specifies the asynchronous interface number. Range is 1–999.
auto-template *number*	Specifies the auto-template interface number. Range is 1–999.
ctunnel *number*	Specifies the Ctunnel interface number. Range is 0–2147483647.
dialer *number*	Specifies the dialer interface number. Range is 0–255.
esconphy *number*	Specifies the esconPhy interface number. Range is 1–6.
filter *number*	Specifies the filter interface number. Range is 1–6.
filtergroup *number*	Specifies the filter group interface number. Range is 1–6.
gigabitethernet *number*	Specifies the gigabit Ethernet interface number. Range is 1–6.
longreachethernet *number*	Specifies the long-reach Ethernet interface number. Range is 1–6.
loopback *number*	Specifies the loopback interface number. Range is 1–2147483647.
mfr *number*	Specifies the multilink Frame Relay bundle interface number. Range is 1–2147483647.
multilink *number*	Specifies the multilink-group interface number. Range is 1–2147483647.
null *number*	Specifies the null interface number. Range is 0–0.
port-channel *number*	Specifies the Ethernet channel of interfaces. Range is 1–496.
portgroup *number*	Specifies the portgroup interface number. Range is 1–6.
pos-channel *number*	Specifies the PoS channel of interfaces. Range is 1–4094.
sysclock *number*	Specifies the telecom-bus Clock Controller interface number. Range is 1–6.
tengigabitethernet *number*	Specifies the 10-Gigabit Ethernet interface number. Range is 1–6.
tunnel *number*	Specifies the tunnel interface number. Range is 1–2147483647.
vif *number*	Specifies the PGM multicast host interface number. Range is 1–1.
virtual-template *number*	Specifies the virtual template interface number. Range is 1–200.

virtual-tokenring *number*	Specifies the virtual token ring interface number. Range is 1–2147483647.
vlan *vlan_id*	Specifies the VLAN interface number. Range is 1–4094.
fcpa *number*	Specifies the fibre channel interface number. Range is 1–6.
control-plane *number*	Specifies the control plane interface number. Range is 1–6.
voabypassin *number*	Specifies the VOA bypass-in interface number. Range is 1–6.
voabypassout *number*	Specifies the VOA bypass-out interface number. Range is 1–6.
voafilterin *number*	Specifies the VOA filter-in interface number. Range is 1–6.
voafilterout *number*	Specifies the VOA filter-out interface number. Range is 1–6.
voain *number*	Specifies the VOA in interface number. Range is 1–6.
voaout *number*	Specifies the VOA out interface number. Range is 1–6.

Defaults

None.

Command Modes

Privileged EXEC mode.

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Usage Guidelines

There are no usage guidelines for this command.

Examples

This example shows how to display the feature manager CTS Layer 3 simplified information on all interfaces:

```
Router# show platform software feature-manager cts-l3s all
```

Related Commands

Command	Description
clear platform software feature-manager	Clears feature manager-specific information on the platform software.

show platform software feature-manager dai

To display feature manager Dynamic ARP Inspection (DAI)-specific information on the platform software, use the **show platform software feature-manager dai** command.

show platform software feature-manager dai {all | interface {vlan *number*}}

Syntax Description

all	Specifies DAI information on all interfaces.
interface	Specifies interface-related information.
vlan *number*	Specifies the Catalyst switch VLAN number. Range is 1–4094.

Defaults

None.

Command Modes

Privileged EXEC mode.

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Usage Guidelines

There are no usage guidelines for this command.

Examples

This example shows how to display the DAI information on all interfaces:

```
Router# show platform software feature-manager dai all
```

Related Commands

Command	Description
clear platform software feature-manager	Clears featuremanager-specific information on the platform software.

show platform software feature-manager dhcp-snooping

To display feature manager Dynamic Host Configuration Protocol (DHCP) snooping-specific information on the platform software, use the **show platform software feature-manager dhcp-snooping** command.

show platform software feature-manager dhcp-snooping {all | interface {vlan *number*}}

Syntax Description

all	Specifies DHCP snooping information on all interfaces.
interface	Specifies interface-related information.
vlan *number*	Specifies the Catalyst switch VLAN number. Range is 1–4094.

Defaults

None.

Command Modes

Privileged EXEC mode.

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Usage Guidelines

There are no usage guidelines for this command.

Examples

This example shows how to display the DHCP snooping information on all interfaces:

```
Router# show platform software feature-manager dhcp-snooping all
```

Related Commands

Command	Description
clear platform software feature-manager	Clears feature manager-specific information on the platform software.

show platform software feature-manager features

To display feature manager features-specific information on the platform software, use the **show platform software feature-manager features** command.

show platform software feature-manager features {brief}

Syntax Description

brief	Displays brief information about all interfaces.

Defaults

None.

Command Modes

Privileged EXEC mode.

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Usage Guidelines

There are no usage guidelines for this command.

Examples

This example shows how to display brief information about all interfaces:

```
Router# show platform software feature-manager features brief
Interface: Control Plane Interface IP is disabled; admin_state is up
  hw_state[INGRESS] = not reduced, hw_state[EGRESS] = not reduced
  mcast = 0
  priority = 0
  flags = 0x0
  parent[INGRESS] = none
  outbound label: 2
    Feature IP_QOS_EGRESS:
    Feature IPV6_QOS_EGRESS:
    Feature OTHER_QOS_EGRESS:
    Feature ARP_QOS_EGRESS:
    Feature MPLS_QOS_EGRESS:
Interface: Control Plane Interface.1 IP is disabled; admin_state is up
  hw_state[INGRESS] = not reduced, hw_state[EGRESS] = not reduced
  mcast = 0
  priority = 0
  flags = 0x0
  parent[INGRESS] = none
  outbound label: 1
    Feature  GRE Tunnel Decapsulation:
    Feature Tunnel Decapsulation:
    Feature IPv6 GRE Tunnel Decapsulation:
    Feature IPv6 Tunnel Decapsulation:
```

Related Commands

Command	Description
clear platform software feature-manager	Clears feature manager-specific information on the platform software.

show platform software feature-manager fie

To display Feature Interaction Engine (FIE)-specific information on the feature manager, use the **show platform software feature-manager fie** command.

show platform software feature-manager fie {all | app-req-state | appid {*protocol* **| shadow** *protocol***} | feat-index | fidb | fie-shadow {feat-index | interface | nf-recirc {all | appid** ***number*****}} | flowmask {detail} | interface {async** *number* **| auto-template** *number* **| ctunnel** *number* **| dialer** *number* **| esconphy** *number* **| filter** *number* **| filtergroup** *number* **| gigabitethernet** *number* **| group-async** *number* **| longreachethernet** *number* **| loopback** *number* **| mfr** *number* **| multilink** *number* **| null** *number* **| port-channel** *number* **| portgroup** *number* **| pos-channel** *number* **| sysclock** *number* **| tengigabitethernet** *number* **| tunnel** *number* **| vif** *number* **| virtual-template** *number* **| virtual-tokenring** *number* **| vlan** *vlan_id* **| control-plane** *number* **| fcpa** *number* **| voabypassin** *number* **| voabypassout** *number* **| voafilterin** *number* **| voafilterout** *number* **| voain** *number* **| voaout** *number*} **| label** {*number* **| stats** {**all**}} **| mergetable | oir** {**module** *number*} **| profile {***protocol* **| shadow** *protocol***} | shadowlabel** *number* **| summary**}

Syntax Description

all	Specifies FIE status on all interfaces.
app-req-state	Specifies FIE application request state table.
appid	Specifies the application ID. Range is 1–20000.
protocol	Specifies the type of protocol. Range is 0–3. 0=IPv4, 1=IPv6, 2=Layer 2, 3=MPLS.
shadow *protocol*	Specifies the shadow application ID database. Range is 0–3. 0=IPv4, 1=IPv6, 2=Layer 2, 3=MPLS.
feat-index	Specifies the FIE feat index allocation information.
fidb	Specifies the FIE description block status.
fie-shadow	Specifies the FIE shadow state.
feat-index	Specifies the FIE shadow feat index allocation state.
interface	Displays the available interfaces.
nf-recirc	Specifies the FIE shadow nf-recirc state.
flowmask	Specifies the FIE flow mask status.
detail	Specifies the FIE flow mask detail status.
async *number*	Specifies the asynchronous interface number. Range is 1–999.
auto-template *number*	Specifies the auto-template interface number. Range is 1–999.
ctunnel *number*	Specifies the Ctunnel interface number. Range is 0–2147483647.
dialer *number*	Specifies the dialer interface number. Range is 0–255.
esconphy *number*	Specifies the esconPhy interface number. Range is 1–6.
filter *number*	Specifies the filter interface number. Range is 1–6.
filtergroup *number*	Specifies the filter group interface number. Range is 1–6.
gigabitethernet *number*	Specifies the gigabit Ethernet interface number. Range is 1–6.
longreachethernet *number*	Specifies the long-reach Ethernet interface number. Range is 1–6.

loopback *number*	Specifies the loopback interface number. Range is 1–2147483647.
mfr *number*	Specifies the multilink Frame Relay bundle interface number. Range is 1–2147483647.
multilink *number*	Specifies the multilink-group interface number. Range is 1–2147483647.
null *number*	Specifies the null interface number. Range is 0–0.
port-channel *number*	Specifies the Ethernet channel of interfaces. Range is 1–496.
portgroup *number*	Specifies the portgroup interface number. Range is 1–6.
pos-channel *number*	Specifies the PoS channel of interfaces. Range is 1–4094.
sysclock *number*	Specifies the telecom-bus Clock Controller interface number. Range is 1–6.
tengigabitethernet *number*	Specifies the 10-Gigabit Ethernet interface number. Range is 1–6.
tunnel *number*	Specifies the tunnel interface number. Range is 1–2147483647.
vif *number*	Specifies the PGM multicast host interface number. Range is 1–1.
virtual-template *number*	Specifies the virtual template interface number. Range is 1–200.
virtual-tokenring *number*	Specifies the virtual token ring interface number. Range is 1–2147483647.
vlan *vlan_id*	Specifies the VLAN interface number. Range is 1–4094.
fcpa *number*	Specifies the fibre channel interface number. Range is 1–6.
control-plane *number*	Specifies the control plane interface number. Range is 1–6.
voabypassin *number*	Specifies the VOA bypass-in interface number. Range is 1–6.
voabypassout *number*	Specifies the VOA bypass-out interface number. Range is 1–6.
voafilterin *number*	Specifies the VOA filter-in interface number. Range is 1–6.
voafilterout *number*	Specifies the VOA filter-out interface number. Range is 1–6.
voain *number*	Specifies the VOA in interface number. Range is 1–6.
voaout *number*	Specifies the VOA out interface number. Range is 1–6.
label *number*	Specifies FIE label information. Range is 1–20000.
stats	Specifies FIE VMR MD5 statistics.
mergetable	Specifies feature merging table information.
oir	Specifies FIE OIR information. Range is 1–6.
module *number*	Specifies the state of the module number. Range is 1–6.
profile	Specifies profile information.
shadowlabel *number*	Specifies FIE shadow label information. Range is 1–20000.
summary	Speacfies FIE summary.

Defaults None.

Command Modes Privileged EXEC mode.

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Usage Guidelines

There are no usage guidelines for this command.

Examples

This example shows how to display the platform feature manager FIE summary:

```
Router# show platform software feature-manager fie summary
```

Related Commands

Command	Description
clear platform software feature-manager fie	Clears the configuration for platform software-specific feature manager FIE.

show platform software feature-manager interface

To display feature manager interface-specific information on the platform software, use the **show platform software feature-manager interface** command.

show platform software feature-manager interface {async *number* **| auto-template** *number* **| ctunnel** *number* **| dialer** *number* **| esconphy** *number* **| filter** *number* **| filtergroup** *number* **| gigabitethernet** *number* **| longreachethernet** *number* **| loopback** *number* **| mfr** *number* **| multilink** *number* **| null** *number* **| port-channel** *number* **| portgroup** *number* **| pos-channel** *number* **| sysclock** *number* **| tengigabitethernet** *number* **| tunnel** *number* **| vif** *number* **| virtual-template** *number* **| virtual-tokenring** *number* **| vlan** *vlan_id* **| control-plane** *number* **| fcpa** *number* **| voabypassin** *number* **| voabypassout** *number* **| voafilterin** *number* **| voafilterout** *number* **| voain** *number* **| voaout** *number*}

Syntax Description

async *number*	Specifies the asynchronous interface number. Range is 1–999.
auto-template *number*	Specifies the auto-template interface number. Range is 1–999.
ctunnel *number*	Specifies the Ctunnel interface number. Range is 0–2147483647.
dialer *number*	Specifies the dialer interface number. Range is 0–255.
esconphy *number*	Specifies the esconPhy interface number. Range is 1–6.
filter *number*	Specifies the filter interface number. Range is 1–6.
filtergroup *number*	Specifies the filter group interface number. Range is 1–6.
gigabitethernet *number*	Specifies the gigabit Ethernet interface number. Range is 1–6.
longreachethernet *number*	Specifies the long-reach Ethernet interface number. Range is 1–6.
loopback *number*	Specifies the loopback interface number. Range is 1–2147483647.
mfr *number*	Specifies the multilink Frame Relay bundle interface number. Range is 1–2147483647.
multilink *number*	Specifies the multilink-group interface number. Range is 1–2147483647.
null *number*	Specifies the null interface number. Range is 0–0.
port-channel *number*	Specifies the Ethernet channel of interfaces. Range is 1–496.
portgroup *number*	Specifies the portgroup interface number. Range is 1–6.
pos-channel *number*	Specifies the PoS channel of interfaces. Range is 1–4094.
sysclock *number*	Specifies the telecom-bus Clock Controller interface number. Range is 1–6.
tengigabitethernet *number*	Specifies the 10-Gigabit Ethernet interface number. Range is 1–6.
tunnel *number*	Specifies the tunnel interface number. Range is 1–2147483647.
vif *number*	Specifies the PGM multicast host interface number. Range is 1–1.
virtual-template *number*	Specifies the virtual template interface number. Range is 1–200.
virtual-tokenring *number*	Specifies the virtual token ring interface number. Range is 1–2147483647.
vlan *vlan_id*	Specifies the VLAN interface number. Range is 1–4094.
fcpa *number*	Specifies the fibre channel interface number. Range is 1–6.

control-plane *number*	Specifies the control plane interface number. Range is 1–6.
voabypassin *number*	Specifies the VOA bypass-in interface number. Range is 1–6.
voabypassout *number*	Specifies the VOA bypass-out interface number. Range is 1–6.
voafilterin *number*	Specifies the VOA filter-in interface number. Range is 1–6.
voafilterout *number*	Specifies the VOA filter-out interface number. Range is 1–6.
voain *number*	Specifies the VOA in interface number. Range is 1–6.
voaout *number*	Specifies the VOA out interface number. Range is 1–6.

Defaults

None.

Command Modes

Privileged EXEC mode.

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Usage Guidelines

There are no usage guidelines for this command.

Examples

This example shows how to display the feature manager information on all interfaces:

```
Router# show platform software feature-manager interface voaout 4
```

Related Commands

Command	Description
clear platform software feature-manager	Clears feature manager-specific information on the platform software.

show platform software feature-manager ip-admission

To display feature manager IP admission-specific information on the platform software, use the **show platform software feature-manager ip-admission** command.

show platform software feature-manager ip-admission layer2 {all | interface {async *number* **| auto-template** *number* **| ctunnel** *number* **| dialer** *number* **| esconphy** *number* **| filter** *number* **| filtergroup** *number* **| gigabitethernet** *number* **| longreachethernet** *number* **| loopback** *number* **| mfr** *number* **| multilink** *number* **| null** *number* **| port-channel** *number* **| portgroup** *number* **| pos-channel** *number* **| sysclock** *number* **| tengigabitethernet** *number* **| tunnel** *number* **| vif** *number* **| virtual-template** *number* **| virtual-tokenring** *number* **| vlan** *vlan_id* **| control-plane** *number* **| fcpa** *number* **| voabypassin** *number* **| voabypassout** *number* **| voafilterin** *number* **| voafilterout** *number* **| voain** *number* **| voaout** *number*}}

show platform software feature-manager ip-admission layer3 {all | interface {async *number* **| auto-template** *number* **| ctunnel** *number* **| dialer** *number* **| esconphy** *number* **| filter** *number* **| filtergroup** *number* **| gigabitethernet** *number* **| longreachethernet** *number* **| loopback** *number* **| mfr** *number* **| multilink** *number* **| null** *number* **| port-channel** *number* **| portgroup** *number* **| pos-channel** *number* **| sysclock** *number* **| tengigabitethernet** *number* **| tunnel** *number* **| vif** *number* **| virtual-template** *number* **| virtual-tokenring** *number* **| vlan** *vlan_id* **| control-plane** *number* **| fcpa** *number* **| voabypassin** *number* **| voabypassout** *number* **| voafilterin** *number* **| voafilterout** *number* **| voain** *number* **| voaout** *number*}}

Syntax Description

layer2	Specifies IP admission Layer 2-specific information.
layer3	Specifies IP admission Layer 3-specific information.
all	Specifies IP admission information on all interfaces.
interface	Specifies interface related information.
async *number*	Specifies the asynchronous interface number. Range is 1–999.
auto-template *number*	Specifies the auto-template interface number. Range is 1–999.
ctunnel *number*	Specifies the Ctunnel interface number. Range is 0–2147483647.
dialer *number*	Specifies the dialer interface number. Range is 0–255.
esconphy *number*	Specifies the esconPhy interface number. Range is 1–6.
filter *number*	Specifies the filter interface number. Range is 1–6.
filtergroup *number*	Specifies the filter group interface number. Range is 1–6.
gigabitethernet *number*	Specifies the gigabit Ethernet interface number. Range is 1–6.
longreachethernet *number*	Specifies the long-reach Ethernet interface number. Range is 1–6.
loopback *number*	Specifies the loopback interface number. Range is 1–2147483647.
mfr *number*	Specifies the multilink Frame Relay bundle interface number. Range is 1–2147483647.
multilink *number*	Specifies the multilink-group interface number. Range is 1–2147483647.
null *number*	Specifies the null interface number. Range is 0–0.
port-channel *number*	Specifies the Ethernet channel of interfaces. Range is 1–496.
portgroup *number*	Specifies the portgroup interface number. Range is 1–6.

pos-channel *number*	Specifies the PoS channel of interfaces. Range is 1–4094.
sysclock *number*	Specifies the telecom-bus Clock Controller interface number. Range is 1–6.
tengigabitethernet *number*	Specifies the 10-Gigabit Ethernet interface number. Range is 1–6.
tunnel *number*	Specifies the tunnel interface number. Range is 1–2147483647.
vif *number*	Specifies the PGM multicast host interface number. Range is 1–1.
virtual-template *number*	Specifies the virtual template interface number. Range is 1–200.
virtual-tokenring *number*	Specifies the virtual token ring interface number. Range is 1–2147483647.
vlan *vlan_id*	Specifies the VLAN interface number. Range is 1–4094.
fcpa *number*	Specifies the fibre channel interface number. Range is 1–6.
control-plane *number*	Specifies the control plane interface number. Range is 1–6.
voabypassin *number*	Specifies the VOA bypass-in interface number. Range is 1–6.
voabypassout *number*	Specifies the VOA bypass-out interface number. Range is 1–6.
voafilterin *number*	Specifies the VOA filter-in interface number. Range is 1–6.
voafilterout *number*	Specifies the VOA filter-out interface number. Range is 1–6.
voain *number*	Specifies the VOA in interface number. Range is 1–6.
voaout *number*	Specifies the VOA out interface number. Range is 1–6.

Defaults

None.

Command Modes

Privileged EXEC mode.

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Usage Guidelines

There are no usage guidelines for this command.

Examples

This example shows how to display the IP admission information on all Layer 2 interfaces:

```
Router# show platform software feature-manager ip-admission layer2 all
```

Related Commands

Command	Description
clear platform software feature-manager	Clears feature manager-specific information on the platform software.

show platform software feature-manager ip-recirculate

To display feature manager IP recirculate-specific information on the platform software, use the **show platform software feature-manager ip-recirculate** command.

show platform software feature-manager ip-recirculate {all | interface {async *number* **| auto-template** *number* **| ctunnel** *number* **| dialer** *number* **| esconphy** *number* **| filter** *number* **| filtergroup** *number* **| gigabitethernet** *number* **| longreachethernet** *number* **| loopback** *number* **| mfr** *number* **| multilink** *number* **| null** *number* **| port-channel** *number* **| portgroup** *number* **| pos-channel** *number* **| sysclock** *number* **| tengigabitethernet** *number* **| tunnel** *number* **| vif** *number* **| virtual-template** *number* **| virtual-tokenring** *number* **| vlan** *vlan_id* **| control-plane** *number* **| fcpa** *number* **| voabypassin** *number* **| voabypassout** *number* **| voafilterin** *number* **| voafilterout** *number* **| voain** *number* **| voaout** *number*}}

Syntax Description

all	Specifies IP recirculate information on all interfaces.
interface	Specifies interface related information.
async *number*	Specifies the asynchronous interface number. Range is 1–999.
auto-template *number*	Specifies the auto-template interface number. Range is 1–999.
ctunnel *number*	Specifies the Ctunnel interface number. Range is 0–2147483647.
dialer *number*	Specifies the dialer interface number. Range is 0–255.
esconphy *number*	Specifies the esconPhy interface number. Range is 1–6.
filter *number*	Specifies the filter interface number. Range is 1–6.
filtergroup *number*	Specifies the filter group interface number. Range is 1–6.
gigabitethernet *number*	Specifies the gigabit Ethernet interface number. Range is 1–6.
longreachethernet *number*	Specifies the long-reach Ethernet interface number. Range is 1–6.
loopback *number*	Specifies the loopback interface number. Range is 1–2147483647.
mfr *number*	Specifies the multilink Frame Relay bundle interface number. Range is 1–2147483647.
multilink *number*	Specifies the multilink-group interface number. Range is 1–2147483647.
null *number*	Specifies the null interface number. Range is 0–0.
port-channel *number*	Specifies the Ethernet channel of interfaces. Range is 1–496.
portgroup *number*	Specifies the portgroup interface number. Range is 1–6.
pos-channel *number*	Specifies the PoS channel of interfaces. Range is 1–4094.
sysclock *number*	Specifies the telecom-bus Clock Controller interface number. Range is 1–6.
tengigabitethernet *number*	Specifies the 10-Gigabit Ethernet interface number. Range is 1–6.
tunnel *number*	Specifies the tunnel interface number. Range is 1–2147483647.
vif *number*	Specifies the PGM multicast host interface number. Range is 1–1.
virtual-template *number*	Specifies the virtual template interface number. Range is 1–200.
virtual-tokenring *number*	Specifies the virtual token ring interface number. Range is 1–2147483647.

vlan *vlan_id*	Specifies the VLAN interface number. Range is 1–4094.
fcpa *number*	Specifies the fibre channel interface number. Range is 1–6.
control-plane *number*	Specifies the control plane interface number. Range is 1–6.
voabypassin *number*	Specifies the VOA bypass-in interface number. Range is 1–6.
voabypassout *number*	Specifies the VOA bypass-out interface number. Range is 1–6.
voafilterin *number*	Specifies the VOA filter-in interface number. Range is 1–6.
voafilterout *number*	Specifies the VOA filter-out interface number. Range is 1–6.
voain *number*	Specifies the VOA in interface number. Range is 1–6.
voaout *number*	Specifies the VOA out interface number. Range is 1–6.

Defaults

None.

Command Modes

Privileged EXEC mode.

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Usage Guidelines

There are no usage guidelines for this command.

Examples

This example shows how to display the IP recirculate information on all interfaces:

```
Router# show platform software feature-manager ip-recirculate all
```

Related Commands

Command	Description
clear platform software feature-manager	Clears feature manager-specific information on the platform software.

show platform software feature-manager ipv6

To display feature manager IPv6-specific information on the platform software, use the **show platform software feature-manager ipv6** command.

show platform software feature-manager ipv6 pacl {all | brief | interface {async *number* **| auto-template** *number* **| ctunnel** *number* **| dialer** *number* **| esconphy** *number* **| filter** *number* **| filtergroup** *number* **| gigabitethernet** *number* **| longreachethernet** *number* **| loopback** *number* **| mfr** *number* **| multilink** *number* **| null** *number* **| port-channel** *number* **| portgroup** *number* **| pos-channel** *number* **| sysclock** *number* **| tengigabitethernet** *number* **| tunnel** *number* **| vif** *number* **| virtual-template** *number* **| virtual-tokenring** *number* **| vlan** *vlan_id* **| control-plane** *number* **| fcpa** *number* **| voabypassin** *number* **| voabypassout** *number* **| voafilterin** *number* **| voafilterout** *number* **| voain** *number* **| voaout** *number*}}

show platform software feature-manager ipv6 rpf {all | interface {async *number* **| auto-template** *number* **| ctunnel** *number* **| dialer** *number* **| esconphy** *number* **| filter** *number* **| filtergroup** *number* **| gigabitethernet** *number* **| longreachethernet** *number* **| loopback** *number* **| mfr** *number* **| multilink** *number* **| null** *number* **| port-channel** *number* **| portgroup** *number* **| pos-channel** *number* **| sysclock** *number* **| tengigabitethernet** *number* **| tunnel** *number* **| vif** *number* **| virtual-template** *number* **| virtual-tokenring** *number* **| vlan** *vlan_id* **| control-plane** *number* **| fcpa** *number* **| voabypassin** *number* **| voabypassout** *number* **| voafilterin** *number* **| voafilterout** *number* **| voain** *number* **| voaout** *number*}}

show platform software feature-manager ipv6 traffic-filter {all | interface {async *number* **| auto-template** *number* **| ctunnel** *number* **| dialer** *number* **| esconphy** *number* **| filter** *number* **| filtergroup** *number* **| gigabitethernet** *number* **| longreachethernet** *number* **| loopback** *number* **| mfr** *number* **| multilink** *number* **| null** *number* **| port-channel** *number* **| portgroup** *number* **| pos-channel** *number* **| sysclock** *number* **| tengigabitethernet** *number* **| tunnel** *number* **| vif** *number* **| virtual-template** *number* **| virtual-tokenring** *number* **| vlan** *vlan_id* **| control-plane** *number* **| fcpa** *number* **| voabypassin** *number* **| voabypassout** *number* **| voafilterin** *number* **| voafilterout** *number* **| voain** *number* **| voaout** *number*}}

Syntax Description

pacl	Specifies IPv6 PACL specific information.
rpf	Specifies feature manager IPv6 RPF specific information.
traffic-filter	Specifies feature manager IPv6 traffic filter specific information.
all	Specifies IPv6 PACL information on all interfaces.
brief	Specifies IPv6 PACL information on all interfaces in brief.
interface	Specifies interface related information.
async *number*	Specifies the asynchronous interface number. Range is 1–999.
auto-template *number*	Specifies the auto-template interface number. Range is 1–999.
ctunnel *number*	Specifies the Ctunnel interface number. Range is 0–2147483647.
dialer *number*	Specifies the dialer interface number. Range is 0–255.
esconphy *number*	Specifies the esconPhy interface number. Range is 1–6.
filter *number*	Specifies the filter interface number. Range is 1–6.
filtergroup *number*	Specifies the filter group interface number. Range is 1–6.

gigabitethernet *number*	Specifies the gigabit Ethernet interface number. Range is 1–6.
longreachethernet *number*	Specifies the long-reach Ethernet interface number. Range is 1–6.
loopback *number*	Specifies the loopback interface number. Range is 1–2147483647.
mfr *number*	Specifies the multilink Frame Relay bundle interface number. Range is 1–2147483647.
multilink *number*	Specifies the multilink-group interface number. Range is 1–2147483647.
null *number*	Specifies the null interface number. Range is 0–0.
port-channel *number*	Specifies the Ethernet channel of interfaces. Range is 1–496.
portgroup *number*	Specifies the portgroup interface number. Range is 1–6.
pos-channel *number*	Specifies the PoS channel of interfaces. Range is 1–4094.
sysclock *number*	Specifies the telecom-bus Clock Controller interface number. Range is 1–6.
tengigabitethernet *number*	Specifies the 10-Gigabit Ethernet interface number. Range is 1–6.
tunnel *number*	Specifies the tunnel interface number. Range is 1–2147483647.
vif *number*	Specifies the PGM multicast host interface number. Range is 1–1.
virtual-template *number*	Specifies the virtual template interface number. Range is 1–200.
virtual-tokenring *number*	Specifies the virtual token ring interface number. Range is 1–2147483647.
vlan *vlan_id*	Specifies the VLAN interface number. Range is 1–4094.
fcpa *number*	Specifies the fibre channel interface number. Range is 1–6.
control-plane *number*	Specifies the control plane interface number. Range is 1–6.
voabypassin *number*	Specifies the VOA bypass-in interface number. Range is 1–6.
voabypassout *number*	Specifies the VOA bypass-out interface number. Range is 1–6.
voafilterin *number*	Specifies the VOA filter-in interface number. Range is 1–6.
voafilterout *number*	Specifies the VOA filter-out interface number. Range is 1–6.
voain *number*	Specifies the VOA in interface number. Range is 1–6.
voaout *number*	Specifies the VOA out interface number. Range is 1–6.

Defaults

None.

Command Modes

Privileged EXEC mode.

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Usage Guidelines There are no usage guidelines for this command.

Examples This example shows how to display the IPv6 PACL information on all interfaces:

```
Router# show platform software feature-manager ipv6 pacl all
```

Related Commands

Command	Description
clear platform software feature-manager	Clears feature manager-specific information on the platform software.

show platform software feature-manager label

To display feature manager label-specific information on the platform software, use the **show platform software feature-manager label** command.

show platform software feature-manager label {*number*}

Syntax Description

number	Specifies the virtual label number. Range is 1–2000.

Defaults

None.

Command Modes

Privileged EXEC mode.

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Usage Guidelines

There are no usage guidelines for this command.

Examples

This example shows how to display the label information:

```
Router# show platform software feature-manager label 1
Label 1:
  Hardware state is Not Reduced
  Force merge is FALSE
  Protocol number 0:
     Protocol switching is enabled
     Configured features:
         GRE Tunnel Decapsulation (egress)
        Tunnel Decapsulation (egress)
  Protocol number 1:
     Protocol switching is enabled
     Configured features:
        IPv6 GRE Tunnel Decapsulation (egress)
        IPv6 Tunnel Decapsulation (egress)
  Interfaces (I/E = Ingress/Egress; * = associate pending)
        E  Control Plane Interface.1
```

Related Commands

Command	Description
clear platform software feature-manager	Clears feature manager-specific information on the platform software.

show platform software feature-manager nat

To display feature manager Network Address Translation (NAT)-specific information on the platform software, use the **show platform software feature-manager nat** command.

show platform software feature-manager nat {all | interface {async *number* **| auto-template** *number* **| ctunnel** *number* **| dialer** *number* **| esconphy** *number* **| filter** *number* **| filtergroup** *number* **| gigabitethernet** *number* **| longreachethernet** *number* **| loopback** *number* **| mfr** *number* **| multilink** *number* **| null** *number* **| port-channel** *number* **| portgroup** *number* **| pos-channel** *number* **| sysclock** *number* **| tengigabitethernet** *number* **| tunnel** *number* **| vif** *number* **| virtual-template** *number* **| virtual-tokenring** *number* **| vlan** *vlan_id* **| control-plane** *number* **| fcpa** *number* **| voabypassin** *number* **| voabypassout** *number* **| voafilterin** *number* **| voafilterout** *number* **| voain** *number* **| voaout** *number*} **| netflow**}

Syntax Descriptionfl

all	Specifies NAT information on all interfaces.
interface	Specifies interface related information.
async *number*	Specifies the asynchronous interface number. Range is 1–999.
auto-template *number*	Specifies the auto-template interface number. Range is 1–999.
ctunnel *number*	Specifies the Ctunnel interface number. Range is 0–2147483647.
dialer *number*	Specifies the dialer interface number. Range is 0–255.
esconphy *number*	Specifies the esconPhy interface number. Range is 1–6.
filter *number*	Specifies the filter interface number. Range is 1–6.
filtergroup *number*	Specifies the filter group interface number. Range is 1–6.
gigabitethernet *number*	Specifies the gigabit Ethernet interface number. Range is 1–6.
longreachethernet *number*	Specifies the long-reach Ethernet interface number. Range is 1–6.
loopback *number*	Specifies the loopback interface number. Range is 1–2147483647.
mfr *number*	Specifies the multilink Frame Relay bundle interface number. Range is 1–2147483647.
multilink *number*	Specifies the multilink-group interface number. Range is 1–2147483647.
null *number*	Specifies the null interface number. Range is 0–0.
port-channel *number*	Specifies the Ethernet channel of interfaces. Range is 1–496.
portgroup *number*	Specifies the portgroup interface number. Range is 1–6.
pos-channel *number*	Specifies the PoS channel of interfaces. Range is 1–4094.
sysclock *number*	Specifies the telecom-bus Clock Controller interface number. Range is 1–6.
tengigabitethernet *number*	Specifies the 10-Gigabit Ethernet interface number. Range is 1–6.
tunnel *number*	Specifies the tunnel interface number. Range is 1–2147483647.
vif *number*	Specifies the PGM multicast host interface number. Range is 1–1.
virtual-template *number*	Specifies the virtual template interface number. Range is 1–200.
virtual-tokenring *number*	Specifies the virtual token ring interface number. Range is 1–2147483647.

vlan *vlan_id*	Specifies the VLAN interface number. Range is 1–4094.
fcpa *number*	Specifies the fibre channel interface number. Range is 1–6.
control-plane *number*	Specifies the control plane interface number. Range is 1–6.
voabypassin *number*	Specifies the VOA bypass-in interface number. Range is 1–6.
voabypassout *number*	Specifies the VOA bypass-out interface number. Range is 1–6.
voafilterin *number*	Specifies the VOA filter-in interface number. Range is 1–6.
voafilterout *number*	Specifies the VOA filter-out interface number. Range is 1–6.
voain *number*	Specifies the VOA in interface number. Range is 1–6.
voaout *number*	Specifies the VOA out interface number. Range is 1–6.
netflow	Specifies NAT related netflow data.

Defaults

None.

Command Modes

Privileged EXEC mode.

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Usage Guidelines

There are no usage guidelines for this command.

Examples

This example shows how to display the NAT information on all interfaces:

```
Router# show platform software feature-manager nat all
```

Related Commands

Command	Description
clear platform software feature-manager	Clears feature manager-specific information on the platform software.

show platform software feature-manager netflow

To display feature manager NetFlow specific information on the platform software, use the **show platform software feature-manager netflow** command.

show platform software feature-manager netflow {counters | pattern | slotinfo}

Syntax Description

counters	Specifies feature manager NetFlow counters
pattern	Specifies feature manager NetFlow pattern.
slotinfo	Specifies feature manager NetFlow slot information.

Defaults

None.

Command Modes

Privileged EXEC mode.

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Usage Guidelines

There are no usage guidelines for this command.

Examples

This example shows how to display the NetFlow information for counters:

```
Router# show platform software feature-manager netflow counters
```

Related Commands

Command	Description
clear platform software feature-manager	Clears feature manager-specific information on the platform software.

show platform software feature-manager pacl

To display feature manager access group specific information on the platform software, use the **show platform software feature-manager pacl** command.

show platform software feature-manager pacl {all | interface {async *number* **| auto-template** *number* **| ctunnel** *number* **| dialer** *number* **| esconphy** *number* **| filter** *number* **| filtergroup** *number* **| gigabitethernet** *number* **| longreachethernet** *number* **| loopback** *number* **| mfr** *number* **| multilink** *number* **| null** *number* **| port-channel** *number* **| portgroup** *number* **| pos-channel** *number* **| sysclock** *number* **| tengigabitethernet** *number* **| tunnel** *number* **| vif** *number* **| virtual-template** *number* **| virtual-tokenring** *number* **| vlan** *vlan_id* **| control-plane** *number* **| fcpa** *number* **| voabypassin** *number* **| voabypassout** *number* **| voafilterin** *number* **| voafilterout** *number* **| voain** *number* **| voaout** *number*}}

Syntax Description

all	Specifies access group information on all interfaces.
interface	Specifies interface related information.
async *number*	Specifies the asynchronous interface number. Range is 1–999.
auto-template *number*	Specifies the auto-template interface number. Range is 1–999.
ctunnel *number*	Specifies the Ctunnel interface number. Range is 0–2147483647.
dialer *number*	Specifies the dialer interface number. Range is 0–255.
esconphy *number*	Specifies the esconPhy interface number. Range is 1–6.
filter *number*	Specifies the filter interface number. Range is 1–6.
filtergroup *number*	Specifies the filter group interface number. Range is 1–6.
gigabitethernet *number*	Specifies the gigabit Ethernet interface number. Range is 1–6.
longreachethernet *number*	Specifies the long-reach Ethernet interface number. Range is 1–6.
loopback *number*	Specifies the loopback interface number. Range is 1–2147483647.
mfr *number*	Specifies the multilink Frame Relay bundle interface number. Range is 1–2147483647.
multilink *number*	Specifies the multilink-group interface number. Range is 1–2147483647.
null *number*	Specifies the null interface number. Range is 0–0.
port-channel *number*	Specifies the Ethernet channel of interfaces. Range is 1–496.
portgroup *number*	Specifies the portgroup interface number. Range is 1–6.
pos-channel *number*	Specifies the PoS channel of interfaces. Range is 1–4094.
sysclock *number*	Specifies the telecom-bus Clock Controller interface number. Range is 1–6.
tengigabitethernet *number*	Specifies the 10-Gigabit Ethernet interface number. Range is 1–6.
tunnel *number*	Specifies the tunnel interface number. Range is 1–2147483647.
vif *number*	Specifies the PGM multicast host interface number. Range is 1–1.
virtual-template *number*	Specifies the virtual template interface number. Range is 1–200.
virtual-tokenring *number*	Specifies the virtual token ring interface number. Range is 1–2147483647.

vlan *vlan_id*	Specifies the VLAN interface number. Range is 1–4094.
fcpa *number*	Specifies the fibre channel interface number. Range is 1–6.
control-plane *number*	Specifies the control plane interface number. Range is 1–6.
voabypassin *number*	Specifies the VOA bypass-in interface number. Range is 1–6.
voabypassout *number*	Specifies the VOA bypass-out interface number. Range is 1–6.
voafilterin *number*	Specifies the VOA filter-in interface number. Range is 1–6.
voafilterout *number*	Specifies the VOA filter-out interface number. Range is 1–6.
voain *number*	Specifies the VOA in interface number. Range is 1–6.
voaout *number*	Specifies the VOA out interface number. Range is 1–6.

Defaults

None.

Command Modes

Privileged EXEC mode.

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Usage Guidelines

There are no usage guidelines for this command.

Examples

This example shows how to display the PACL information on all interfaces:

```
Router# show platform software feature-manager pacl all
```

Related Commands

Command	Description
clear platform software feature-manager	Clears feature manager-specific information on the platform software.

show platform software feature-manager pbr

To display feature manager Policy-Based Routing (PBR) specific information on the platform software, use the **show platform software feature-manager pbr** command.

show platform software feature-manager pbr {all | interface {async *number* **| auto-template** *number* **| ctunnel** *number* **| dialer** *number* **| esconphy** *number* **| filter** *number* **| filtergroup** *number* **| gigabitethernet** *number* **| longreachethernet** *number* **| loopback** *number* **| mfr** *number* **| multilink** *number* **| null** *number* **| port-channel** *number* **| portgroup** *number* **| pos-channel** *number* **| sysclock** *number* **| tengigabitethernet** *number* **| tunnel** *number* **| vif** *number* **| virtual-template** *number* **| virtual-tokenring** *number* **| vlan** *vlan_id* **| control-plane** *number* **| fcpa** *number* **| voabypassin** *number* **| voabypassout** *number* **| voafilterin** *number* **| voafilterout** *number* **| voain** *number* **| voaout** *number*}}

Syntax Description

all	Specifies PBR information on all interfaces.
interface	Specifies interface related information.
async *number*	Specifies the asynchronous interface number. Range is 1–999.
auto-template *number*	Specifies the auto-template interface number. Range is 1–999.
ctunnel *number*	Specifies the Ctunnel interface number. Range is 0–2147483647.
dialer *number*	Specifies the dialer interface number. Range is 0–255.
esconphy *number*	Specifies the esconPhy interface number. Range is 1–6.
filter *number*	Specifies the filter interface number. Range is 1–6.
filtergroup *number*	Specifies the filter group interface number. Range is 1–6.
gigabitethernet *number*	Specifies the gigabit Ethernet interface number. Range is 1–6.
longreachethernet *number*	Specifies the long-reach Ethernet interface number. Range is 1–6.
loopback *number*	Specifies the loopback interface number. Range is 1–2147483647.
mfr *number*	Specifies the multilink Frame Relay bundle interface number. Range is 1–2147483647.
multilink *number*	Specifies the multilink-group interface number. Range is 1–2147483647.
null *number*	Specifies the null interface number. Range is 0–0.
port-channel *number*	Specifies the Ethernet channel of interfaces. Range is 1–496.
portgroup *number*	Specifies the portgroup interface number. Range is 1–6.
pos-channel *number*	Specifies the PoS channel of interfaces. Range is 1–4094.
sysclock *number*	Specifies the telecom-bus Clock Controller interface number. Range is 1–6.
tengigabitethernet *number*	Specifies the 10-Gigabit Ethernet interface number. Range is 1–6.
tunnel *number*	Specifies the tunnel interface number. Range is 1–2147483647.
vif *number*	Specifies the PGM multicast host interface number. Range is 1–1.
virtual-template *number*	Specifies the virtual template interface number. Range is 1–200.
virtual-tokenring *number*	Specifies the virtual token ring interface number. Range is 1–2147483647.

vlan *vlan_id*	Specifies the VLAN interface number. Range is 1–4094.
fcpa *number*	Specifies the fibre channel interface number. Range is 1–6.
control-plane *number*	Specifies the control plane interface number. Range is 1–6.
voabypassin *number*	Specifies the VOA bypass-in interface number. Range is 1–6.
voabypassout *number*	Specifies the VOA bypass-out interface number. Range is 1–6.
voafilterin *number*	Specifies the VOA filter-in interface number. Range is 1–6.
voafilterout *number*	Specifies the VOA filter-out interface number. Range is 1–6.
voain *number*	Specifies the VOA in interface number. Range is 1–6.
voaout *number*	Specifies the VOA out interface number. Range is 1–6.

Defaults

None.

Command Modes

Privileged EXEC mode.

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Usage Guidelines

There are no usage guidelines for this command.

Examples

This example shows how to display the PBR information on all interfaces:

```
Router# show platform software feature-manager pbr all
```

Related Commands

Command	Description
clear platform software feature-manager	Clears feature manager-specific information on the platform software.

show platform software feature-manager private-hosts

To display feature manager private hosts-specific information on the platform software, use the **show platform software feature-manager private-hosts** command.

show platform software feature-manager private-hosts {all | interface {async *number* **| auto-template** *number* **| ctunnel** *number* **| dialer** *number* **| esconphy** *number* **| filter** *number* **| filtergroup** *number* **| gigabitethernet** *number* **| longreachethernet** *number* **| loopback** *number* **| mfr** *number* **| multilink** *number* **| null** *number* **| port-channel** *number* **| portgroup** *number* **| pos-channel** *number* **| sysclock** *number* **| tengigabitethernet** *number* **| tunnel** *number* **| vif** *number* **| virtual-template** *number* **| virtual-tokenring** *number* **| vlan** *vlan_id* **| control-plane** *number* **| fcpa** *number* **| voabypassin** *number* **| voabypassout** *number* **| voafilterin** *number* **| voafilterout** *number* **| voain** *number* **| voaout** *number*}}

Syntax Description

all	Specifies private hosts information on all interfaces.
interface	Specifies interface related information.
async *number*	Specifies the asynchronous interface number. Range is 1–999.
auto-template *number*	Specifies the auto-template interface number. Range is 1–999.
ctunnel *number*	Specifies the Ctunnel interface number. Range is 0–2147483647.
dialer *number*	Specifies the dialer interface number. Range is 0–255.
esconphy *number*	Specifies the esconPhy interface number. Range is 1–6.
filter *number*	Specifies the filter interface number. Range is 1–6.
filtergroup *number*	Specifies the filter group interface number. Range is 1–6.
gigabitethernet *number*	Specifies the gigabit Ethernet interface number. Range is 1–6.
longreachethernet *number*	Specifies the long-reach Ethernet interface number. Range is 1–6.
loopback *number*	Specifies the loopback interface number. Range is 1–2147483647.
mfr *number*	Specifies the multilink Frame Relay bundle interface number. Range is 1–2147483647.
multilink *number*	Specifies the multilink-group interface number. Range is 1–2147483647.
null *number*	Specifies the null interface number. Range is 0–0.
port-channel *number*	Specifies the Ethernet channel of interfaces. Range is 1–496.
portgroup *number*	Specifies the portgroup interface number. Range is 1–6.
pos-channel *number*	Specifies the PoS channel of interfaces. Range is 1–4094.
sysclock *number*	Specifies the telecom-bus Clock Controller interface number. Range is 1–6.
tengigabitethernet *number*	Specifies the 10-Gigabit Ethernet interface number. Range is 1–6.
tunnel *number*	Specifies the tunnel interface number. Range is 1–2147483647.
vif *number*	Specifies the PGM multicast host interface number. Range is 1–1.
virtual-template *number*	Specifies the virtual template interface number. Range is 1–200.
virtual-tokenring *number*	Specifies the virtual token ring interface number. Range is 1–2147483647.

vlan *vlan_id*	Specifies the VLAN interface number. Range is 1–4094.
fcpa *number*	Specifies the fibre channel interface number. Range is 1–6.
control-plane *number*	Specifies the control plane interface number. Range is 1–6.
voabypassin *number*	Specifies the VOA bypass-in interface number. Range is 1–6.
voabypassout *number*	Specifies the VOA bypass-out interface number. Range is 1–6.
voafilterin *number*	Specifies the VOA filter-in interface number. Range is 1–6.
voafilterout *number*	Specifies the VOA filter-out interface number. Range is 1–6.
voain *number*	Specifies the VOA in interface number. Range is 1–6.
voaout *number*	Specifies the VOA out interface number. Range is 1–6.

Defaults

None.

Command Modes

Privileged EXEC mode.

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Usage Guidelines

There are no usage guidelines for this command.

Examples

This example shows how to display the private hosts information on all interfaces:

```
Router# show platform software feature-manager private-hosts all
```

Related Commands

Command	Description
clear platform software feature-manager	Clears feature manager-specific information on the platform software.

show platform software feature-manager rdt-indices

To display feature manager redirect LDL indices specific information on the platform software, use the **show platform software feature-manager rdt-indices** command.

show platform software feature-manager rdt-indices

Syntax Description

This command has no arguments or keywords.

Defaults

None.

Command Modes

Privileged EXEC mode.

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Usage Guidelines

There are no usage guidelines for this command.

Examples

This example shows how to display the redirect LDL indices information on all interfaces:

```
Router# show platform software feature-manager rdt-indices
```

Related Commands

Command	Description
clear platform software feature-manager	Clears feature manager-specific information on the platform software.

show platform software feature-manager rpf

To display feature manager RPF-specific information on the platform software, use the **show platform software feature-manager rpf** command.

show platform software feature-manager rpf {all | interface {async *number* **| auto-template** *number* **| ctunnel** *number* **| dialer** *number* **| esconphy** *number* **| filter** *number* **| filtergroup** *number* **| gigabitethernet** *number* **| longreachethernet** *number* **| loopback** *number* **| mfr** *number* **| multilink** *number* **| null** *number* **| port-channel** *number* **| portgroup** *number* **| pos-channel** *number* **| sysclock** *number* **| tengigabitethernet** *number* **| tunnel** *number* **| vif** *number* **| virtual-template** *number* **| virtual-tokenring** *number* **| vlan** *vlan_id* **| control-plane** *number* **| fcpa** *number* **| voabypassin** *number* **| voabypassout** *number* **| voafilterin** *number* **| voafilterout** *number* **| voain** *number* **| voaout** *number*}}

Syntax Description

all	Specifies RPF information on all interfaces.
interface	Specifies interface related information.
async *number*	Specifies the asynchronous interface number. Range is 1–999.
auto-template *number*	Specifies the auto-template interface number. Range is 1–999.
ctunnel *number*	Specifies the Ctunnel interface number. Range is 0–2147483647.
dialer *number*	Specifies the dialer interface number. Range is 0–255.
esconphy *number*	Specifies the esconPhy interface number. Range is 1–6.
filter *number*	Specifies the filter interface number. Range is 1–6.
filtergroup *number*	Specifies the filter group interface number. Range is 1–6.
gigabitethernet *number*	Specifies the gigabit Ethernet interface number. Range is 1–6.
longreachethernet *number*	Specifies the long-reach Ethernet interface number. Range is 1–6.
loopback *number*	Specifies the loopback interface number. Range is 1–2147483647.
mfr *number*	Specifies the multilink Frame Relay bundle interface number. Range is 1–2147483647.
multilink *number*	Specifies the multilink-group interface number. Range is 1–2147483647.
null *number*	Specifies the null interface number. Range is 0–0.
port-channel *number*	Specifies the Ethernet channel of interfaces. Range is 1–496.
portgroup *number*	Specifies the portgroup interface number. Range is 1–6.
pos-channel *number*	Specifies the PoS channel of interfaces. Range is 1–4094.
sysclock *number*	Specifies the telecom-bus Clock Controller interface number. Range is 1–6.
tengigabitethernet *number*	Specifies the 10-Gigabit Ethernet interface number. Range is 1–6.
tunnel *number*	Specifies the tunnel interface number. Range is 1–2147483647.
vif *number*	Specifies the PGM multicast host interface number. Range is 1–1.
virtual-template *number*	Specifies the virtual template interface number. Range is 1–200.
virtual-tokenring *number*	Specifies the virtual token ring interface number. Range is 1–2147483647.

vlan *vlan_id*	Specifies the VLAN interface number. Range is 1–4094.
fcpa *number*	Specifies the fibre channel interface number. Range is 1–6.
control-plane *number*	Specifies the control plane interface number. Range is 1–6.
voabypassin *number*	Specifies the VOA bypass-in interface number. Range is 1–6.
voabypassout *number*	Specifies the VOA bypass-out interface number. Range is 1–6.
voafilterin *number*	Specifies the VOA filter-in interface number. Range is 1–6.
voafilterout *number*	Specifies the VOA filter-out interface number. Range is 1–6.
voain *number*	Specifies the VOA in interface number. Range is 1–6.
voaout *number*	Specifies the VOA out interface number. Range is 1–6.

Defaults

None.

Command Modes

Privileged EXEC mode.

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Usage Guidelines

There are no usage guidelines for this command.

Examples

This example shows how to display the RPF information on all interfaces:

```
Router# show platform software feature-manager rpf all
```

Related Commands

Command	Description
clear platform software feature-manager	Clears feature manager-specific information on the platform software.

show platform software feature-manager scl

To display feature manager SCL-specific information on the platform software, use the **show platform software feature-manager scl** command.

show platform software feature-manager scl {all | brief | interface {async *number* **| auto-template** *number* **| ctunnel** *number* **| dialer** *number* **| esconphy** *number* **| filter** *number* **| filtergroup** *number* **| gigabitethernet** *number* **| longreachethernet** *number* **| loopback** *number* **| mfr** *number* **| multilink** *number* **| null** *number* **| port-channel** *number* **| portgroup** *number* **| pos-channel** *number* **| sysclock** *number* **| tengigabitethernet** *number* **| tunnel** *number* **| vif** *number* **| virtual-template** *number* **| virtual-tokenring** *number* **| vlan** *vlan_id* **| control-plane** *number* **| fcpa** *number* **| voabypassin** *number* **| voabypassout** *number* **| voafilterin** *number* **| voafilterout** *number* **| voain** *number* **| voaout** *number*} **| netflow**}

Syntax Description

all	Specifies SCL information on all interfaces.
brief	Specifies SCL information on all interfaces in brief.
interface	Specifies interface related information.
async *number*	Specifies the asynchronous interface number. Range is 1–999.
auto-template *number*	Specifies the auto-template interface number. Range is 1–999.
ctunnel *number*	Specifies the Ctunnel interface number. Range is 0–2147483647.
dialer *number*	Specifies the dialer interface number. Range is 0–255.
esconphy *number*	Specifies the esconPhy interface number. Range is 1–6.
filter *number*	Specifies the filter interface number. Range is 1–6.
filtergroup *number*	Specifies the filter group interface number. Range is 1–6.
gigabitethernet *number*	Specifies the gigabit Ethernet interface number. Range is 1–6.
longreachethernet *number*	Specifies the long-reach Ethernet interface number. Range is 1–6.
loopback *number*	Specifies the loopback interface number. Range is 1–2147483647.
mfr *number*	Specifies the multilink Frame Relay bundle interface number. Range is 1–2147483647.
multilink *number*	Specifies the multilink-group interface number. Range is 1–2147483647.
null *number*	Specifies the null interface number. Range is 0–0.
port-channel *number*	Specifies the Ethernet channel of interfaces. Range is 1–496.
portgroup *number*	Specifies the portgroup interface number. Range is 1–6.
pos-channel *number*	Specifies the PoS channel of interfaces. Range is 1–4094.
sysclock *number*	Specifies the telecom-bus Clock Controller interface number. Range is 1–6.
tengigabitethernet *number*	Specifies the 10-Gigabit Ethernet interface number. Range is 1–6.
tunnel *number*	Specifies the tunnel interface number. Range is 1–2147483647.
vif *number*	Specifies the PGM multicast host interface number. Range is 1–1.
virtual-template *number*	Specifies the virtual template interface number. Range is 1–200.

virtual-tokenring *number*	Specifies the virtual token ring interface number. Range is 1–2147483647.
vlan *vlan_id*	Specifies the VLAN interface number. Range is 1–4094.
fcpa *number*	Specifies the fibre channel interface number. Range is 1–6.
control-plane *number*	Specifies the control plane interface number. Range is 1–6.
voabypassin *number*	Specifies the VOA bypass-in interface number. Range is 1–6.
voabypassout *number*	Specifies the VOA bypass-out interface number. Range is 1–6.
voafilterin *number*	Specifies the VOA filter-in interface number. Range is 1–6.
voafilterout *number*	Specifies the VOA filter-out interface number. Range is 1–6.
voain *number*	Specifies the VOA in interface number. Range is 1–6.
voaout *number*	Specifies the VOA out interface number. Range is 1–6.

Defaults

None.

Command Modes

Privileged EXEC mode.

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Usage Guidelines

None.

Examples

This example shows how to display the SCL information on all interfaces:

```
Router# show platform software feature-manager scl all
```

Related Commands

Command	Description
clear platform software feature-manager	Clears feature manager-specific information on the platform software.

show platform software feature-manager summary

To display the feature manager summary on the platform software, use the **show platform software feature-manager summary** command.

show platform software feature-manager summary {}

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes Privileged EXEC mode.

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Usage Guidelines There are no usage guidelines for this command.

Examples This example shows how to display the feature manager summary information:

```
Router# show platform software feature-manager summary
```

Related Commands

Command	Description
clear platform software feature-manager	Clears feature manager-specific information on the platform software.

show platform software feature-manager sve

To display feature manager SVE-specific information on the platform software, use the **show platform software feature-manager sve** command.

show platform software feature-manager sve {all | brief | interface {async *number* **| auto-template** *number* **| ctunnel** *number* **| dialer** *number* **| esconphy** *number* **| filter** *number* **| filtergroup** *number* **| gigabitethernet** *number* **| longreachethernet** *number* **| loopback** *number* **| mfr** *number* **| multilink** *number* **| null** *number* **| port-channel** *number* **| portgroup** *number* **| pos-channel** *number* **| sysclock** *number* **| tengigabitethernet** *number* **| tunnel** *number* **| vif** *number* **| virtual-template** *number* **| virtual-tokenring** *number* **| vlan** *vlan_id* **| control-plane** *number* **| fcpa** *number* **| voabypassin** *number* **| voabypassout** *number* **| voafilterin** *number* **| voafilterout** *number* **| voain** *number* **| voaout** *number*} | netflow}

Syntax Description

all	Specifies SVE information on all interfaces.
brief	Specifies SVE information on all interfaces in brief.
interface	Specifies interface related information.
async *number*	Specifies the asynchronous interface number. Range is 1–999.
auto-template *number*	Specifies the auto-template interface number. Range is 1–999.
ctunnel *number*	Specifies the Ctunnel interface number. Range is 0–2147483647.
dialer *number*	Specifies the dialer interface number. Range is 0–255.
esconphy *number*	Specifies the esconPhy interface number. Range is 1–6.
filter *number*	Specifies the filter interface number. Range is 1–6.
filtergroup *number*	Specifies the filter group interface number. Range is 1–6.
gigabitethernet *number*	Specifies the gigabit Ethernet interface number. Range is 1–6.
longreachethernet *number*	Specifies the long-reach Ethernet interface number. Range is 1–6.
loopback *number*	Specifies the loopback interface number. Range is 1–2147483647.
mfr *number*	Specifies the multilink Frame Relay bundle interface number. Range is 1–2147483647.
multilink *number*	Specifies the multilink-group interface number. Range is 1–2147483647.
null *number*	Specifies the null interface number. Range is 0–0.
port-channel *number*	Specifies the Ethernet channel of interfaces. Range is 1–496.
portgroup *number*	Specifies the portgroup interface number. Range is 1–6.
pos-channel *number*	Specifies the PoS channel of interfaces. Range is 1–4094.
sysclock *number*	Specifies the telecom-bus Clock Controller interface number. Range is 1–6.
tengigabitethernet *number*	Specifies the 10-Gigabit Ethernet interface number. Range is 1–6.
tunnel *number*	Specifies the tunnel interface number. Range is 1–2147483647.
vif *number*	Specifies the PGM multicast host interface number. Range is 1–1.
virtual-template *number*	Specifies the virtual template interface number. Range is 1–200.

virtual-tokenring *number*	Specifies the virtual token ring interface number. Range is 1–2147483647.
vlan *vlan_id*	Specifies the VLAN interface number. Range is 1–4094.
fcpa *number*	Specifies the fibre channel interface number. Range is 1–6.
control-plane *number*	Specifies the control plane interface number. Range is 1–6.
voabypassin *number*	Specifies the VOA bypass-in interface number. Range is 1–6.
voabypassout *number*	Specifies the VOA bypass-out interface number. Range is 1–6.
voafilterin *number*	Specifies the VOA filter-in interface number. Range is 1–6.
voafilterout *number*	Specifies the VOA filter-out interface number. Range is 1–6.
voain *number*	Specifies the VOA in interface number. Range is 1–6.
voaout *number*	Specifies the VOA out interface number. Range is 1–6.

Defaults

None.

Command Modes

Privileged EXEC mode.

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Usage Guidelines

There are no usage guidelines for this command.

Examples

This example shows how to display the SVE information on all interfaces:

```
Router# show platform software feature-manager sve all
```

Related Commands

Command	Description
clear platform software feature-manager	Clears feature manager-specific information on the platform software.

show platform software feature-manager tcp-mss

To display feature manager TCP MSS adjust-specific information on the platform software, use the **show platform software feature-manager tcp-mss** command.

show platform software feature-manager tcp-mss {all | interface {async *number* **| auto-template** *number* **| ctunnel** *number* **| dialer** *number* **| esconphy** *number* **| filter** *number* **| filtergroup** *number* **| gigabitethernet** *number* **| longreachethernet** *number* **| loopback** *number* **| mfr** *number* **| multilink** *number* **| null** *number* **| port-channel** *number* **| portgroup** *number* **| pos-channel** *number* **| sysclock** *number* **| tengigabitethernet** *number* **| tunnel** *number* **| vif** *number* **| virtual-template** *number* **| virtual-tokenring** *number* **| vlan** *vlan_id* **| control-plane** *number* **| fcpa** *number* **| voabypassin** *number* **| voabypassout** *number* **| voafilterin** *number* **| voafilterout** *number* **| voain** *number* **| voaout** *number*}}

Syntax Description

all	Specifies TCP MSS information on all interfaces.
interface	Specifies interface related information.
async *number*	Specifies the asynchronous interface number. Range is 1–999.
auto-template *number*	Specifies the auto-template interface number. Range is 1–999.
ctunnel *number*	Specifies the Ctunnel interface number. Range is 0–2147483647.
dialer *number*	Specifies the dialer interface number. Range is 0–255.
esconphy *number*	Specifies the esconPhy interface number. Range is 1–6.
filter *number*	Specifies the filter interface number. Range is 1–6.
filtergroup *number*	Specifies the filter group interface number. Range is 1–6.
gigabitethernet *number*	Specifies the gigabit Ethernet interface number. Range is 1–6.
longreachethernet *number*	Specifies the long-reach Ethernet interface number. Range is 1–6.
loopback *number*	Specifies the loopback interface number. Range is 1–2147483647.
mfr *number*	Specifies the multilink Frame Relay bundle interface number. Range is 1–2147483647.
multilink *number*	Specifies the multilink-group interface number. Range is 1–2147483647.
null *number*	Specifies the null interface number. Range is 0–0.
port-channel *number*	Specifies the Ethernet channel of interfaces. Range is 1–496.
portgroup *number*	Specifies the portgroup interface number. Range is 1–6.
pos-channel *number*	Specifies the PoS channel of interfaces. Range is 1–4094.
sysclock *number*	Specifies the telecom-bus Clock Controller interface number. Range is 1–6.
tengigabitethernet *number*	Specifies the 10-Gigabit Ethernet interface number. Range is 1–6.
tunnel *number*	Specifies the tunnel interface number. Range is 1–2147483647.
vif *number*	Specifies the PGM multicast host interface number. Range is 1–1.
virtual-template *number*	Specifies the virtual template interface number. Range is 1–200.
virtual-tokenring *number*	Specifies the virtual token ring interface number. Range is 1–2147483647.

vlan *vlan_id*	Specifies the VLAN interface number. Range is 1–4094.
fcpa *number*	Specifies the fibre channel interface number. Range is 1–6.
control-plane *number*	Specifies the control plane interface number. Range is 1–6.
voabypassin *number*	Specifies the VOA bypass-in interface number. Range is 1–6.
voabypassout *number*	Specifies the VOA bypass-out interface number. Range is 1–6.
voafilterin *number*	Specifies the VOA filter-in interface number. Range is 1–6.
voafilterout *number*	Specifies the VOA filter-out interface number. Range is 1–6.
voain *number*	Specifies the VOA in interface number. Range is 1–6.
voaout *number*	Specifies the VOA out interface number. Range is 1–6.

Defaults

None.

Command Modes

Privileged EXEC mode.

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Usage Guidelines

There are no usage guidelines for this command.

Examples

This example shows how to display the TCP-MSS information on all interfaces:

```
Router# show platform software feature-manager tcp-mss all
```

Related Commands

Command	Description
clear platform software feature-manager	Clears feature manager-specific information on the platform software.

show platform software feature-manager vacl

To display feature manager VACL-specific information on the platform software, use the **show platform software feature-manager vacl** command.

show platform software feature-manager vacl {all | interface {async *number* **| auto-template** *number* **| ctunnel** *number* **| dialer** *number* **| esconphy** *number* **| filter** *number* **| filtergroup** *number* **| gigabitethernet** *number* **| longreachethernet** *number* **| loopback** *number* **| mfr** *number* **| multilink** *number* **| null** *number* **| port-channel** *number* **| portgroup** *number* **| pos-channel** *number* **| sysclock** *number* **| tengigabitethernet** *number* **| tunnel** *number* **| vif** *number* **| virtual-template** *number* **| virtual-tokenring** *number* **| vlan** *vlan_id* **| control-plane** *number* **| fcpa** *number* **| voabypassin** *number* **| voabypassout** *number* **| voafilterin** *number* **| voafilterout** *number* **| voain** *number* **| voaout** *number*}}

Syntax Description

all	Specifies VACL information on all interfaces.
interface	Specifies interface related information.
async *number*	Specifies the asynchronous interface number. Range is 1–999.
auto-template *number*	Specifies the auto-template interface number. Range is 1–999.
ctunnel *number*	Specifies the Ctunnel interface number. Range is 0–2147483647.
dialer *number*	Specifies the dialer interface number. Range is 0–255.
esconphy *number*	Specifies the esconPhy interface number. Range is 1–6.
filter *number*	Specifies the filter interface number. Range is 1–6.
filtergroup *number*	Specifies the filter group interface number. Range is 1–6.
gigabitethernet *number*	Specifies the gigabit Ethernet interface number. Range is 1–6.
longreachethernet *number*	Specifies the long-reach Ethernet interface number. Range is 1–6.
loopback *number*	Specifies the loopback interface number. Range is 1–2147483647.
mfr *number*	Specifies the multilink Frame Relay bundle interface number. Range is 1–2147483647.
multilink *number*	Specifies the multilink-group interface number. Range is 1–2147483647.
null *number*	Specifies the null interface number. Range is 0–0.
port-channel *number*	Specifies the Ethernet channel of interfaces. Range is 1–496.
portgroup *number*	Specifies the portgroup interface number. Range is 1–6.
pos-channel *number*	Specifies the PoS channel of interfaces. Range is 1–4094.
sysclock *number*	Specifies the telecom-bus Clock Controller interface number. Range is 1–6.
tengigabitethernet *number*	Specifies the 10-Gigabit Ethernet interface number. Range is 1–6.
tunnel *number*	Specifies the tunnel interface number. Range is 1–2147483647.
vif *number*	Specifies the PGM multicast host interface number. Range is 1–1.
virtual-template *number*	Specifies the virtual template interface number. Range is 1–200.
virtual-tokenring *number*	Specifies the virtual token ring interface number. Range is 1–2147483647.

vlan *vlan_id*	Specifies the VLAN interface number. Range is 1–4094.
fcpa *number*	Specifies the fibre channel interface number. Range is 1–6.
control-plane *number*	Specifies the control plane interface number. Range is 1–6.
voabypassin *number*	Specifies the VOA bypass-in interface number. Range is 1–6.
voabypassout *number*	Specifies the VOA bypass-out interface number. Range is 1–6.
voafilterin *number*	Specifies the VOA filter-in interface number. Range is 1–6.
voafilterout *number*	Specifies the VOA filter-out interface number. Range is 1–6.
voain *number*	Specifies the VOA in interface number. Range is 1–6.
voaout *number*	Specifies the VOA out interface number. Range is 1–6.

Defaults

None.

Command Modes

Privileged EXEC mode.

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Usage Guidelines

There are no usage guidelines for this command.

Examples

This example shows how to display the VACLformation on all interfaces:

```
Router# show platform software feature-manager vacl all
```

Related Commands

Command	Description
clear platform software feature-manager	Clears feature manager-specific information on the platform software.

show platform software feature-manager wccp

To display feature-manager WCCP-specific information on the platform software, use the **show platform software feature-manager wccp** command.

show platform software feature-manager wccp {all | inband | interface {async *number* **| auto-template** *number* **| ctunnel** *number* **| dialer** *number* **| esconphy** *number* **| filter** *number* **| filtergroup** *number* **| gigabitethernet** *number* **| longreachethernet** *number* **| loopback** *number* **| mfr** *number* **| multilink** *number* **| null** *number* **| port-channel** *number* **| portgroup** *number* **| pos-channel** *number* **| sysclock** *number* **| tengigabitethernet** *number* **| tunnel** *number* **| vif** *number* **| virtual-template** *number* **| virtual-tokenring** *number* **| vlan** *vlan_id* **| control-plane** *number* **| fcpa** *number* **| voabypassin** *number* **| voabypassout** *number* **| voafilterin** *number* **| voafilterout** *number* **| voain** *number* **| voaout** *number*}}

Syntax Description

all	Specifies WCCP information on all interfaces.
inband	Specifies inband-related WCCP information.
interface	Specifies interface related information.
async *number*	Specifies the asynchronous interface number. Range is 1–999.
auto-template *number*	Specifies the auto-template interface number. Range is 1–999.
ctunnel *number*	Specifies the Ctunnel interface number. Range is 0–2147483647.
dialer *number*	Specifies the dialer interface number. Range is 0–255.
esconphy *number*	Specifies the esconPhy interface number. Range is 1–6.
filter *number*	Specifies the filter interface number. Range is 1–6.
filtergroup *number*	Specifies the filter group interface number. Range is 1–6.
gigabitethernet *number*	Specifies the gigabit Ethernet interface number. Range is 1–6.
longreachethernet *number*	Specifies the long-reach Ethernet interface number. Range is 1–6.
loopback *number*	Specifies the loopback interface number. Range is 1–2147483647.
mfr *number*	Specifies the multilink Frame Relay bundle interface number. Range is 1–2147483647.
multilink *number*	Specifies the multilink-group interface number. Range is 1–2147483647.
null *number*	Specifies the null interface number. Range is 0–0.
port-channel *number*	Specifies the Ethernet channel of interfaces. Range is 1–496.
portgroup *number*	Specifies the portgroup interface number. Range is 1–6.
pos-channel *number*	Specifies the PoS channel of interfaces. Range is 1–4094.
sysclock *number*	Specifies the telecom-bus Clock Controller interface number. Range is 1–6.
tengigabitethernet *number*	Specifies the 10-Gigabit Ethernet interface number. Range is 1–6.
tunnel *number*	Specifies the tunnel interface number. Range is 1–2147483647.
vif *number*	Specifies the PGM multicast host interface number. Range is 1–1.
virtual-template *number*	Specifies the virtual template interface number. Range is 1–200.

virtual-tokenring *number*	Specifies the virtual token ring interface number. Range is 1–2147483647.
vlan *vlan_id*	Specifies the VLAN interface number. Range is 1–4094.
fcpa *number*	Specifies the fibre channel interface number. Range is 1–6.
control-plane *number*	Specifies the control plane interface number. Range is 1–6.
voabypassin *number*	Specifies the VOA bypass-in interface number. Range is 1–6.
voabypassout *number*	Specifies the VOA bypass-out interface number. Range is 1–6.
voafilterin *number*	Specifies the VOA filter-in interface number. Range is 1–6.
voafilterout *number*	Specifies the VOA filter-out interface number. Range is 1–6.
voain *number*	Specifies the VOA in interface number. Range is 1–6.
voaout *number*	Specifies the VOA out interface number. Range is 1–6.

Defaults

None.

Command Modes

Privileged EXEC mode.

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Usage Guidelines

There are no usage guidelines for this command.

Examples

This example shows how to display the WCCP information on all interfaces:

```
Router# show platform software feature-manager wccp all
```

Related Commands

Command	Description
clear platform software feature-manager	Clears feature manager-specific information on the platform software.

show platform software flow internal

To display information on platform software flow internal, use the **show platform software flow internal** command.

show platform software flow internal {mgmt *statistics* **| search** *statistics* **| fnf** *statistics* **| export** *statistics* **| driver** *statistics* **| api** *statistics* **| em** *statistics* **| am** *statistics* **| tt** *statistics* **| yn** *statistics* **| cli** *statistics* **| interrupt** *statistics* **| ehsa** *statistics*}

Syntax Description

mgmt *statistics*	Specifies management statistics.
search *statistics*	Specifies search statistics.
fnf *statistics*	Specifies FNF statistics.
export *statistics*	Specifies export statistics.
driver *statistics*	Specifies driver statistics.
api *statistics*	Specifies API statistics.
em *statistics*	Specifies EM statistics.
am *statistics*	Specifies AM statistics.
tt *statistics*	Specifies TT statistics.
yn *statistics*	Specifies YN statistics.
cli *statistics*	Specifies CLI statistics.
interrupt *statistics*	Specifies interrupt statistics.
ehsa *statistics*	Specifies EHSA statistics.

Defaults

None

Command Modes

Privileged EXEC mode

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Usage Guidelines

There are no usage guidelines for this command.

Examples

This example shows how to display platform software flow internal management statistics:

```
Router# show platform software flow internal mgmt statistics
```

Related Commands

Command	Description
clear platform software flow internal	Clears information on platform software flow internal.

show platform software lif l2

To display platform software Layer 2 LIF information, use the **show platform software lif l2** command**.**

show platform software lif l2 {api_statistics {clear | dump} | idbhal{bitlist | status} | pthread_lock | queue {api | idbhal | pm | tml} | shadow {total} | table {bd *number* {all | total} | port *number* {all | total}| vlan *vlan_id* {all | total}}}

Syntax Description

api_statistics	Specifies the LDB API statistics.
clear	Clears the LDB API statistics.
dump	Dumps the LDB API statistics.
idbhal	Specifies the shadow LDB entries.
bitlist	Specifies the LDB bit list.
status	Specifies the LDB IDBHAL status.
pthread_lock	Specifies the Pthread Lock.
queue	Specifies the queue information.
api	Specifies the API events.
pm	Specifies the PM events.
tml	Specifies the TML events.
shadow	Specifies the shadow LDB entries.
total	Specifies the total number of entries in the database.
table	Specifies the software tables.
bd *number*	Specifies the hardware BD number. Range is 0–16383.
all	Specifies all the entries.
port *number*	Specifies the port number. Range is 0–16383.
vlan *vlan_id*	Specifies the VLAN ID. Range is 0–4095.

Defaults

None

Command Modes

Privileged EXEC mode

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Examples

This example shows how to display platform software LIF Layer 2 API statistics that are cleared:

```
Router# show platform software lif l2 api_statistics clear
```

Related Commands

Command	Description
platform software lif l2	Configures the platform software for Layer 2 LIF.

show platform software lif l3

To display platform software Layer 3 LIF information, use the **show platform software lif l3** command**.**

show platform software lif l3 {api_stats {display {module *number*} | reset {module}} | block *number* | handle *number* | icc_stats {display {module} | reset{module}} | index *number* | inheritance{egress {module} | ingress {module}} | mem_stats {display {module} | reset {module}} | mtu{table {dump{module} | index *number*}} | region {all {module} | id *number* | summary {module}} | special {module} | tml_stats {display {module}}}

Syntax Description

api_stats	Specifies the API library statistics information.
display	Displays LIF API library statistics information.
module *number*	Specifies the module for the command. Range1–6.
reset	Resets LIF API library statistics information.
block	Specifies the software LIF block information. Range is 0–1023.
handle *number*	Specifies the LIF handle. Range is 0– 4294967295.
icc_stats	Specifies the ICC statistics information.
index *number*	Specifies the LIF index.Range is 0–1048575.
inheritance	Specifies the LIF region based inheritance information.
egress	Specifies the software LIF egress inheritance information.
ingress	Specifies the software LIF ingress inheritance information.
mem_stats	Specifies the memory statistics information.
display	Displays LIF memory statistics information.
reset	Resets LIF memory statistics information.
mtu	Specifies the MTU information.
table	Specifies the software MTU table information.
dump	Dumps the software LIF Layer 3 MTU table.
index *number*	Specifies the software MTU table information. Range is 0– 63.
region	Specifies the software LIF region information.
all	Specifies information about the software LIF for all region ids.
id *number*	Specifies information about the software LIF region IDs. Range is 0–63.
summary	Specifies the software LIF region summary information.
special	Specifies the software LIF special entry information.
tml_stats	Specifies the TML statistics information.
display	Displays LIF TML library statistics information.

Defaults

None

Command Modes

Privileged EXEC mode

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Examples

This example shows how to display platform software LIF Layer 3 API statistics for module 4:

```
Router# show platform software lif l3 api_stats display module 4
```

Related Commands

Command	Description
platform software lif l3	Configures the platform software for Layer 3 LIF.

show platform software lif stats

To display platform software LIF statistics, use the **show platform software lif stats** command**.**

show platform software lif stats {agg {bdindex *number* **| index** *number*} **| index** *number* **| interface {gigabitethernet** *number* **| port-channel** *number* **| tengigabitethernet** *number* **| tunnel** *number* **| vlan** *vlan_id*}}

Syntax Description

agg	Specifies the software aggregate LIF statistics information.
bdindex *number*	Specifies the LIF BD index. Range is 0–16383.
index *number*	Specifies the LIF statistics index. Range is 0–131071.
index *number*	Specifies the LIF index. Range is 0–131071.
interface	Specifies the interface name.
gigabitethernet *number*	Specifies the Gigabit Ethernet IEEE 802.3z. Range is 1–6.
port-channel *number*	Specifies the Ethernet channel interface. Range is 1–496.
tengigabitethernet *number*	Specifies the 10-Gigabit Ethernet. Range is 1–6.
tunnel *number*	Specifies the tunnel interface. Range is 0–2147483647.
vlan *vlan_id*	Specifies the Catalyst VLANs. Range is 1–4094.

Defaults

None

Command Modes

Privileged EXEC mode

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Examples

This example shows how to display platform software aggregate LIF statistics information for BD index 4:

```
Router# show platform software lif stats agg bdindex 4
```

Related Commands

Command	Description
platform software lif stats	Configures the platform software LIF statistics.

show platform software ltl

To display platform LTL software information, use the **show platform software ltl** command.

show platform software ltl {allocation | assigned | callback | regions | router | span | well-known-index}

Syntax Description

allocation	Displays LTL software allocation information.
assigned	Displays LTL software-assigned region usage information.
callback	Displays LTL software port callback information.
regions	Displays LTL regions information.
router	Displays router port presence.
span	Displays SPAN port presence.
well-known-index	Displays LTL software regions WKI information.

Defaults

None

Command Modes

Privileged EXEC mode

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Usage Guidelines

There are no usage guidelines for this command.

Examples

This example shows how to display the platform software LTL regions information:

```
Router# show platform software ltl regions
```

Related Commands

Command	Description
platform software ltl	Configures the platform software LTL.

show platform software met

To display platform software MET-related information, use the **show platform software met** command.

show platform software met {detail | statistics | summary}

Syntax Description

detail	Displays detailed MET information.
statistics	Displays MET statistics information.
summary	Displays MET summary information.

Defaults

None

Command Modes

Privileged EXEC mode

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Usage Guidelines

There are no usage guidelines for this command.

Examples

This example shows how to display platform software MET information in detail:

```
Router# show platform software met detail
```

Related Commands

Command	Description
platform software met	Configures the platform software MET-related information.

show platform software met detail

To display software information for the multicast expansion table (MET), use the **show platform software met detail** command in privileged EXEC mode.

show platform software met detail

Syntax Description

This command has no keywords or arguments.

Defaults

None

Command Modes

Privileged EXEC mode

Command History

Release	Modification
15.1(1)SY	Support for this command was introduced.

Usage Guidelines

Examples

This example shows how to display software routing for the MET:

```
Router# show platform software met detail
 Replication Engine(s) in Slot : 5
 MET start address: 0x4
 MET end address: 0x7FFE
 MET total entries: 32744
 MET free entries: 14

 Total MET sets: 8
 Total references: 8
 Total oifs: 10

 MET allocation profile: [10% size 2, 30% size 4, 50% size 8, 10% size 16]

BD Flood Mgr Client Information:
========================================
 Client ID: 1
 MET sets: 0
 References: 0
 Oifs: 0
```

Related Commands

Command	Description
debug platform software multicast routing	Displays information about multicast errors.
platform software met profile	Configures the number of blocks for each block size of your MET profile.

Command	Description
show platform hardware cef adjacencies entry	Displays a single adjacency entry index.
show platform hardware cef mpls detail	Displays MPLS CEF detail information.
show platform hardware multicast routing	Matches and displays multicast routing group IP addresses.
show platform hardware met read	Displays platform hardware MET table entries.

show platform software oir

To display platform software OIR information, use the **show platform software oir** command.

show platform software oir {debug {all *number* **| mask** *number* **| oir_mask** *number* **| stdby_reset | swover_data_path_mask** *number* **| swover_global_mask** *number* **| swover_time_mask** *number***} | pmb {registers** *number***} | seq-sync-info** *number* **| state-machine** *number***}**

Syntax Description

debug	Displays the debug information.
all *number*	Displays all saved information by module number. Range is 1–6.
mask *number*	Specifies a mask to select information. Range is 0–255.
oir_mask *number*	Specifies OIR mask to select information. Range is 1–6.
stdby_reset	Specifies standby reset tracebacks.
swover_data_path_mask *number*	Specifies switchover data path mask. Range is 1–6.
swover_global_mask *number*	Specifies switchover global mask. Range is 1–6.
swover_time_mask *number*	Specifies switchover time mask. Range is 1–6.
pmb	Displays the PMB related registers.
registers *number*	Specifies the register number. Range is 1–6.
seq-sync-info *number*	Displays the pinnacle synchronization problem related registers. Range is 1–6.
state-machine *number*	Displays the last state machine transition. Range is 1–6.

Defaults

None

Command Modes

Privileged EXEC mode

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Usage Guidelines

There are no usage guidelines for this command.

Examples

This example shows how to display the platform software OIR debug information for mask 4:

```
Router# show platform software oir debug mask 4
```

Related Commands

Command	Description
platform software oir	Configures the platform software OIR.

show platform software stub

To display platform software stub-related information, use the **show platform software stub** command.

show platform software stub {all | traceback {disable {stub-function-id *number*} **| enable {stub-function-id** *number*}} **| used}**

Syntax Description

all	Displays all stubs.
traceback	Specifies disabling or enabling traceback.
disable	Specifies disabling traceback.
stub-function-id *number*	Specifies a stub function ID number. Range is 0–49.
enable	Specifies enabling traceback.
used	Displays the stubs that were called upon.

Defaults

None

Command Modes

Privileged EXEC mode

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Usage Guidelines

There are no usage guidelines for this command.

Examples

This example shows how to display the platform software stub disabled traceback with stub function ID 4:

```
Router# show platform software stub traceback disable stub-function-id 4
```

Related Commands

Command	Description
platform software stub	Configures the platform software stubs.

show platform software xconnect

To display platform software xConnect configuration details, use the **show platform software xconnect** command.

show platform software xconnect {circuit-index {all | interface {async *number* **| auto-template** *number* **| ctunnel** *number* **| dialer** *number* **| esconphy** *number* **| filter** *number* **| filtergroup** *number* **| gigabitethernet** *number* **| longreachethernet** *number* **| loopback** *number* **| mfr** *number* **| multilink** *number* **| null** *number* **| port-channel** *number* **| portgroup** *number* **| pos-channel** *number* **| sysclock** *number* **| tengigabitethernet** *number* **| tunnel** *number* **| vif** *number* **| virtual-template** *number* **| virtual-tokenring** *number* **| vlan** *vlan_id* **| fcpa** *number* **| voabypassin** *number* **| voabypassout** *number* **| voafilterin** *number* **| voafilterout** *number* **| voain** *number* **| voaout** *number*}} **| mac-addr | pstats}**

Syntax Description

circuit-index	Displays the Layer 2 circuit index information.
all	Displays all information on all Layer 2 circuit indices.
interface	Lists the various interfaces on Layer 2 circuit indices to choose from.
async *number*	Specifies the asynchronous interface number. Range is 1–999.
auto-template *number*	Specifies the auto-template interface number. Range is 1–999.
ctunnel *number*	Specifies the channel tunnel interface number. Range is 0–2147483647.
dialer *number*	Specifies the dialer interface number. Range is 0–255.
esconphy *number*	Specifies the EsconPhy interface number. Range is 1–6.
filter *number*	Specifies the filter interface number. Range is 1–6.
filtergroup *number*	Specifies the filter group interface number. Range is 1–6.
gigabitethernet *number*	Specifies the Gigabit Ethernet interface number. Range is 1–6.
longreachethernet *number*	Specifies the long-reach Ethernet interface number. Range is 1–6.
loopback *number*	Specifies the loopback interface number. Range is 1–2147483647.
mfr *number*	Specifies the multilink Frame Relay bundle interface number. Range is 1–2147483647.
multilink *number*	Specifies the multilink group interface number. Range is 1–2147483647.
null *number*	Specifies the null interface number. Range is 0–0.
port-channel *number*	Specifies the Ethernet channel interface. Range is 1–496.
portgroup *number*	Specifies the Port group interface number. Range is 1–6.
pos-channel *number*	Specifies the POS channel interface. Range is 1–4094.
sysclock *number*	Specifies the telecom-bus clock controller interface number. Range is 1–6.
tengigabitethernet *number*	Specifies the 10-Gigabit Ethernet interface number. Range is 1–6.
tunnel *number*	Specifies the tunnel interface number. Range is 1–2147483647.
vif *number*	Specifies the PGM multicast host interface number. Range is 1–1.
virtual-template *number*	Specifies the virtual template interface number. Range is 1–200.

virtual-tokenring *number*	Specifies the virtual Token Ring interface number. Range is 1–2147483647.
vlan *vlan_id*	Specifies the VLAN interface number. Range is 1–4094.
fcpa *number*	Specifies the Fibre Channel interface number. Range is 1–6.
voabypassin *number*	Specifies the VOA bypass in interface number. Range is 1–6.
voabypassout *number*	Specifies the VOA bypass out interface number. Range is 1–6.
voafilterin *number*	Specifies the VOA filter in interface number. Range is 1–6.
voafilterout *number*	Specifies the VOA filter out interface number. Range is 1–6.
voain *number*	Specifies the VOA in interface number. Range is 1–6.
voaout *number*	Specifies the VOA out interface number. Range is 1–6.
mac-addr	Specifies the proxy ARP MAC address.
pstats	Specifies the packet statistics.

Defaults

None

Command Modes

Privileged EXEC mode

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Examples

This example shows how to display the platform software xConnect packet statistics:

```
Router# show platform software xconnect pstats
```

Related Commands

Command	Description
platform software xconnect	Configures platform software xConnect.

show platform supervisor

To display platform supervisor information, use the **show platform supervisor** command in privileged EXEC mode.

show platform supervisor mtu slot *slot-number* **port** *port-number*

Syntax Description

mtu	Displays supervisor operating maximum tranmission unit (MTU).
slot *slot-number*	Displays information for the specified slot.
port *port-number*	Displays information for the specified port.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Examples

The following is sample output from the **show platform supervisor** command. The fields are self-explanatory.

```
Router# show platform supervisor mtu slot 5 port 1

 User configured MTU : 9216
 Real Operating MTU  : 9236
```

Related Commands

Command	Description
show platform	Displays platform information.

show platform supervisor mtu

To display information on platform supervisor operating MTU, use the **show platform supervisor mtu** command.

show platform supervisor mtu {slot *number***}**

Syntax Description

slot *number*	Specifies the slot number. Range is 1–6.

Command Default

None

Command Modes

Privileged EXEC mode

Command History

Release	Modification
12.2(50)SY	Support for this command was introduced.

Usage Guidelines

There are no usage guidelines for this command.

Examples

This example shows how to display information on platform supervisor operating MTU slot 4:

```
Router# show platform supervisor mtu slot 5
```

Related Commands

Command	Description
platform supervisor mtu	Configures the platform supervisor operating MTU.

show vlan group

To display the VLANs mapped to VLAN groups, use the **show vlan group** command in privileged EXEC mode.

show vlan group [**group-name** *group-name*] [**user-count**]

Syntax Description

group-name *group-name*	(Optional) Displays the VLANs mapped to the specified VLAN group.
user-count	(Optional) Displays the user count of the group's VLANs.

Defaults

This command has no default settings.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
12.2(33)SXI1	Support for this command was introduced.
12.2(50)SY	Added **user-count** keyword.

Usage Guidelines

The **show vlan group** command displays the existing VLAN groups and lists the VLANs and VLAN ranges that are members of each VLAN group. If the **group-name** keyword is entered, only the members of the VLAN group specified by the *group-name* argument are displayed.

Examples

This example shows how to display the members of a specified VLAN group:

```
Router# show vlan group group-name ganymede

Group Name Vlans Mapped
---------------- -------------------
ganymede         7-9
Router#
```

This example shows how to display the user count for a specified group:

```
Router# show vlan group group-name ganymede user-count
VLAN    : Count
-------------------
 3        : 0
 4        : 0
 5        : 0
Router#
```

Related Commands

Command	Description
vlan group	Creates or modifies a VLAN group.

snmp-server enable traps errdisable

To enable the CISCO-ERR-DISABLE-MIB Simple Network Management Protocol (SNMP) notification for traps and informs, use the **snmp-server enable traps errdisable** command in global configuration mode. To disable errdisable notifications, use the **no** form of this command.

snmp-server enable traps errdisable [**notification-rate** *rate*]

no snmp-server enable traps [**notification-rate** *rate*]

Syntax Description

notification-rate *rate*	(Optional) Sets the number of notifications per minute.

Command Default

SNMP notifications are disabled.

Command Modes

Global configuration

Command History

Release	Modification
12.2(33)SXI4	Support for this command was introduced.
12.2(50)SY	This command was integrated into Cisco IOS Release 12.2(50)SY.

Examples

This example shows how to enable the SNMP errdisable notifications:

```
Router(config)# snmp-server enable traps errdisable
Router(config)#
```

This example shows how to set the SNMP errdisable notification rate to 500 per minute:

```
Router(config)# snmp-server enable traps errdisable notification-rate 500
Router(config)#
```

Related Commands

Command	Description
test snmp trap errdisable ifevent	Tests the cErrDisableInterfaceEventRev1 trap.

snmp-server enable traps power-ethernet

To enable Simple Network Management Protocol (SNMP) power ethernet trap notifications, use the **snmp-server enable traps power-ethernet** command in global configuration mode. To disable PPPoE session count SNMP notifications, use the **no** form of this command.

snmp-server enable traps power-ethernet group *number*

no snmp-server enable traps power-ethernet group *number*

Syntax Description

group *number*	Sets the group number; valid values are 1 to 13.

Command Default

SNMP notifications are disabled.

Command Modes

Global configuration (config)

Command History

Release	Modification
12.2(33)SJX2	This command was introduced.
15.1(1)SY	This command was introduced.

Usage Guidelines

This command enables SNMP traps only. It does not support inform requests.

Examples

The following example shows how to set the notifications for power-ethernet group 3:

```
Router(config)# snmp-server enable traps power-ethernet group 3
```

snmp-server enable traps trustsec-sxp

To enable the sending of CISCO-TRUSTSEC-SXP-MIB traps on Simple Network Management Protocol (SNMP), use the **snmp-server enable traps trustsec-sxp** command in global configuration mode. To disable all available SNMP notifications, use the **no** form of this command.

snmp-server enable traps trustsec-sxp [**binding-conflict | binding-err | binding-expn-fail | conn-config-err | conn-down | conn-srcaddr-err | conn-up | msg-parse-err | oper-nodeid-change**]

no snmp-server enable traps trustsec-sxp [**binding-conflict | binding-err | binding-expn-fail | conn-config-err | conn-down | conn-srcaddr-err | conn-up | msg-parse-err | oper-nodeid-change**]

Syntax Description

binding-conflict	(Optional) Enables ctsxSxpBindingConflictNotif notifications.
binding-err	(Optional) Enables ctsxSxpBindingErrNotif notifications.
binding-expn-fail	(Optional) Enables ctsxSxpBindingExpnFailNotif notifications.
conn-config-err	(Optional) Enables ctsxSxpConnConfigErrNotif notifications.
conn-down	(Optional) Enables ctsxSxpConnDownNotif notifications.
conn-srcaddr-err	(Optional) Enables ctsxSxpConnSourceAddrErrNotif notifications.
conn-up	(Optional) Enables ctsxSxpConnUpNotif notifications.
msg-parse-err	(Optional) Enables ctsxSxpMsgParseErrNotif notifications.
oper-nodeid-change	(Optional) Enables ctsxSxpOperNodeIdChangeNotif notifications.

Defaults

No notifications controlled by this command are sent.

Command Modes

Global configuration (config)

Command History

Release	Modification
15.1(1)SY	Support for this command was introduced.

Usage Guidelines

SNMP notifications can be sent as traps or inform requests. This command enables both traps and inform requests.

If you do not specify any of the optional keywords, all TrustSec SXP notifications are enabled.

The snmp-server enable traps snmp command is used in conjunction with the snmp-server host command. Use the snmp-server host command to specify which host or hosts receive SNMP notifications. To send SNMP notifications, you must configure at least one snmp-server host command.

Examples

The following example shows how to enable the router to enable ctsxSxpBindingConflictNotif notifications:

```
Router(config)# snmp-server enable traps trustsec-sxp binding-conflict
```

The following example shows how to enable the router to enable ctsxSxpBindingErrNotif notifications:

```
Router(config)# snmp-server enable traps trustsec-sxp binding-err
```

The following example shows how to enable the router to enable ctsxSxpBindingExpnFailNotif notifications:

```
Router(config)# snmp-server enable traps trustsec-sxp binding-expn-fail
```

The following example shows how to enable the router to enable ctsxSxpConnConfigErrNotif notifications:

```
Router(config)# snmp-server enable traps trustsec-sxp conn-config-err
```

The following example shows how to enable the router to enable ctsxSxpConnDownNotif notifications:

```
Router(config)# snmp-server enable traps trustsec-sxp conn-down
```

The following example shows how to enable the router to enable ctsxSxpConnUpNotif notifications:

```
Router(config)# snmp-server enable traps trustsec-sxp conn-up
```

The following example shows how to enable the router to enable ctsxSxpMsgParseErrNotif notifications:

```
Router(config)# snmp-server enable traps trustsec-sxp msg-parse-err
```

The following example shows how to enable the router to enable ctsxSxpConnConfigErrNotif notifications:

```
Router(config)# snmp-server enable traps trustsec-sxp conn-config-err
```

The following example shows how to enable the router to enable ctsxSxpOperNodeIdChangeNotif notifications:

```
Router(config)# snmp-server enable traps trustsec-sxp oper-nodeid-change
```

Related Commands

Command	Description
test snmp trap trustsec	test snmp trap trustsecTests CISCO-TRUSTSEC-MIB traps.
test snmp trap trustsec-interface	test snmp trap trustsec-interfaceTests CISCO-TRUSTSEC-INTERFACE-MIB traps.
test snmp trap trustsec-policy	test snmp trap trustsec-policyTests CISCO-TRUSTSEC-POLICY-MIB traps.
test snmp trap trustsec-server	test snmp trap trustsec-serverTests CISCO-TRUSTSEC-SERVER-MIB traps.

switch pmk

To enable VSL on the switch, use the **switch pmk** command in Privileged EXEC mode. To disable VSL use the **no** form of the command.

switch pmk *hex-data*

no switch pmk *hex-data*

Syntax Description

hex-data	Pairwise Master Key (PMK) without the leading 0x.

Defaults

None

Command Modes

Privileged EXEC mode

Command History

Release	Modification
15.0(1)SY1	This command was introduced.

Usage Guidelines

You must enter an even number of hexidecimal characters or prefix the last character with a zero.

Examples

This example shows how to enable VSL on a switch:

```
Switch(config-vs-domain) switch pmk
Switch(config-vs-domain) #
```

This example shows how to disable VSL on a switch:

```
Switch(config-vs-domain) no switch pmk
Switch(config-vs-domain) #
```

Related Commands

Command	Description
vsl-encryption	Configures VSL encryption on the switch.

switchport trunk

To set the trunk characteristics when the interface is in trunking mode, use the **switchport trunk** command in interface configuration mode. To reset all of the trunking characteristics back to the original defaults, use the **no** form of this command.

Cisco 2600 Series, Cisco 3600 Series, and Cisco 3700 Series Routers

switchport trunk {**encapsulation dot1q** | **native vlan** | **allowed vlan**}

no switchport trunk {**encapsulation dot1q** | **native vlan** | **allowed vlan**}

Cisco 7600 Series Routers and Catalyst 6500 Series Switches

switchport trunk {**encapsulation** {**isl** | **dot1q** [**ethertype** *value*] | **negotiate**}} | { **native vlan** {**tag** | *vlan-id*}} | {**allowed vlan** *vlan-list*} | {**pruning vlan** *vlan-list*}

no switchport trunk {**encapsulation** {**isl** | **dot1q** [**ethertype** *value*] | **negotiate**} | **native vlan** [**tag**]| **allowed vlan** | **pruning vlan**}

Syntax Description

encapsulation isl	Sets the trunk encapsulation format to Inter-Switch Link (ISL).
encapsulation dot1q	Sets the trunk encapsulation format to 802.1Q.
native vlan	Sets the native VLAN for the trunk in 802.1Q trunking mode.
allowed vlan *vlan-list*	Sets the list of allowed VLANs that transmit traffic from this interface in tagged format when in trunking mode.
ethertype *value*	(Optional) Sets the EtherType value; valid values are from 0x0 to 0x5EF-0xFFFF.
encapsulation negotiate	Specifies that if the Dynamic Inter-Switch Link (DISL) protocol and Dynamic Trunking Protocol (DTP) negotiation do not resolve the encapsulation format, ISL is the selected format.
native vlan tag	Enables the native VLAN tagging state on the interface.
native vlan *vlan-id*	The particular native VLAN.
pruning vlan *vlan-list*	Sets the list of VLANs that are enabled for VLAN Trunking Protocol (VTP) pruning when the interface is in trunking mode. See the "Usage Guidelines" section for the *vlan-list* argument formatting guidelines.

Defaults

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- The default encapsulation type is dot1q.
- The default access VLAN and trunk interface native VLAN are default VLANs that correspond to the platform or interface hardware.
- The default for all VLAN lists is to include all VLANs.

Cisco 7600 Series Routers and Catalyst 6500 Series Switches

- The encapsulation type is dependent on the platform or interface hardware.
- The access VLAN and trunk interface native VLAN are default VLANs that correspond to the platform or interface hardware.

- The default for all VLAN lists is to include all VLANs.
- **ethertype** *value* for 802.1Q encapsulation is 0x8100.

Command Modes

Interface configuration (config-if)

Command History

Release	Modification
12.0(7)XE	Support for this command was introduced.
12.1(1)E	This command was integrated into Cisco IOS Release 12.1(1)E.
12.2(14)SX	This command was integrated into Cisco IOS Release 12.2(14)SX.
12.2(17a)SX	This command was modified to include the following: • Restriction of ISL trunk-encapsulation. • Addition of the **dot1q** keyword and **ethertype** *value* keyword and argument.
12.2(18)SXD	This command was modified to allow the **switchport trunk allowed vlan** command to be entered on interfaces where the span destination port is either a trunk or an access port.
12.2(18)SXE	This command was modified to remove support for Gigabit Ethernet (GE) Optimized Layer 2 WAN ports.
12.2(33)SXH	This command was modified to allow the tagging of native VLAN traffic on a per-port basis.
12.2(33)SXI4	This command was modified to allow the **switchport trunk** command to only be applied on the port channel (PO) itself.
12.2(50)SY	This command was modified to remove the **isl** and **negotiate** keywords in Cisco IOS Release 12.2(50)SY.

Usage Guidelines

802.1Q Trunks

- When you connect Cisco switches through an 802.1Q trunk, make sure that the native VLAN for an 802.1Q trunk is the same on both ends of the trunk link. If the native VLAN on one end of the trunk is different from the native VLAN on the other end, spanning-tree loops might result.
- Disabling spanning tree on the native VLAN of an 802.1Q trunk without disabling spanning tree on every VLAN in the network can cause spanning-tree loops. Cisco recommends that you leave spanning tree enabled on the native VLAN of an 802.1Q trunk. If this is not possible, disable spanning tree on every VLAN in the network. Make sure that your network is free of physical loops before disabling spanning tree.
- When you connect two Cisco switches through 802.1Q trunks, the switches exchange spanning-tree bridge protocol data units (BPDUs) on each VLAN allowed on the trunks. The BPDUs on the native VLAN of the trunk are sent untagged to the reserved IEEE 802.1d spanning-tree multicast MAC address (01-80-C2-00-00-00). The BPDUs on all other VLANs on the trunk are sent tagged to the reserved Shared Spanning Tree Protocol (SSTP) multicast MAC address (01-00-0c-cc-cc-cd).
- The 802.1Q switches that are not Cisco switches maintain only a single instance of spanning-tree (Mono Spanning Tree [MST]) that defines the spanning-tree topology for all VLANs. When you connect a Cisco switch to a switch through an 802.1Q trunk without a Cisco switch, the MST of the switch and the native VLAN spanning tree of the Cisco switch combine to form a single spanning-tree topology known as the Common Spanning Tree (CST).

- Because Cisco switches transmit BPDUs to the SSTP multicast MAC address on VLANs other than the native VLAN of the trunk, switches that are not Cisco switches do not recognize these frames as BPDUs and flood them on all ports in the corresponding VLAN. Other Cisco switches connected to the 802.1Q cloud receive these flooded BPDUs. This condition allows Cisco switches to maintain a per-VLAN spanning-tree topology across a cloud of 802.1Q switches that are not Cisco switches. The 802.1Q cloud of switches separating the Cisco switches is treated as a single broadcast segment among all switches connected to the 802.1Q cloud of switches that are not Cisco switches through 802.1Q trunks.
- Make sure that the native VLAN is the same on *all* of the 802.1Q trunks that connect the Cisco switches to the 802.1Q cloud of switches that are not Cisco switches.
- If you are connecting multiple Cisco switches to a 802.1Q cloud of switches that are not Cisco switches, all of the connections must be through 802.1Q trunks. You cannot connect Cisco switches to an 802.1Q cloud of switches that are not Cisco switches through ISL trunks or through access ports. Doing so will cause the switch to place the ISL trunk port or access port into the spanning-tree "port inconsistent" state and no traffic will pass through the port.

Cisco 2600 Series, Cisco 3600 Series, and Cisco 3700 Series Routers

The **switchport trunk encapsulation** command is supported only for platforms and interface hardware that can support 802.1Q formats.

The *vlan-list* format is **all | none | add | remove | except** *vlan-list*[,*vlan-list*...] where:

- **all**—Specifies all VLANs from 1 to 1005. Beginning with Cisco IOS Release 12.4(15)T, the valid VLAN ID range is from 1 to 4094.
- **none**—Indicates an empty list. This keyword is not supported in the **switchport trunk allowed vlan** form of the command.
- **add**—Adds the defined list of VLANs to those currently set instead of replacing the list.
- **remove**—Removes the defined list of VLANs from those currently set instead of replacing the list.
- **except**—Lists the VLANs that should be calculated by inverting the defined list of VLANs.
- *vlan-list*—Is either a single VLAN number from 1 to 1005 or a continuous range of VLANs described by two VLAN numbers, the lesser one first, separated by a hyphen that represents the VLAN IDs of the allowed VLANs when this port is in trunking mode. Beginning with Cisco IOS Release 12.4(15)T, the valid VLAN ID range is from 1 to 4094.

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This command is not supported on GE Layer 2 WAN ports.

You can enter the **switchport trunk** command only on the PO. If you enter the **switchport trunk** command on a port member the following message is displayed:

```
Configuration is not allowed on Port members. Remove the interface from the Port Channel
to modify its config
```

The **switchport trunk encapsulation dot1q** command is supported only for platforms and interface hardware that can support both ISL and 802.1Q formats. Only 802.1Q encapsulation is supported by shared port adapters (SPAs).

The **switchport trunk encapsulation isl** command is not supported in Cisco IOS Release 12.2(50)SY.

If you enter the **switchport trunk encapsulation isl** command on a port channel containing an interface that does not support ISL-trunk encapsulation, the command is rejected.

You can enter the **switchport trunk allowed vlan** command on interfaces where the span destination port is either a trunk or an access port.

You can enter the **switchport trunk native vlan tag** command to enable the tagging of native VLAN traffic on a per-port basis. When tagging is enabled, all the packets on the native VLAN are tagged and all incoming untagged data packets are dropped, but untagged control packets are accepted. When tagging is disabled, the native VLAN packets going out on trunk ports are not tagged and the incoming untagged packets are allowed and assigned to the native VLAN. The **no switchport trunk native vlan tag** command overrides the **vlan dot1q tag native** command for global tagging.

Note The **switchport trunk native vlan tag** interface configuration mode command does not enable native VLAN tagging unless you first configure the switch to tag native VLAN traffic globally. To enable native VLAN tagging globally, use the **vlan dot1q tag native** command in global configuration mode.

Note The **switchport trunk pruning vlan** *vlan-list* command does not support extended-range VLANs; valid *vlan-list* values are from 1 to 1005.

The **dot1q ethertype** *value* keyword and argument are not supported on port-channel interfaces. You can enter the command on the individual port interface only. Also, you can configure the ports in a channel group to have different EtherType configurations.

The **switchport trunk encapsulation negotiate** command is not supported in Cisco IOS Release 12.2(50)SY.

Caution Be careful when configuring the custom EtherType value on a port. If you enter the **negotiate** keyword and DISL and Dynamic Trunking Protocol (DTP) negotiation do not resolve the encapsulation format, then ISL is the selected format and may pose as a security risk. The **no** form of this command resets the trunk-encapsulation format to the default.

- The **no** form of the **switchport trunk native vlan** command resets the native mode VLAN to the appropriate default VLAN for the device.
- The **no** form of the **switchport trunk native vlan tag** command configures the Layer 2 port not to tag native VLAN traffic.
- The **no** form of the **switchport trunk allowed vlan** command resets the list to the default list, which allows all VLANs.
- The **no** form of the **switchport trunk pruning vlan** command resets the list to the default list, which enables all VLANs for VTP pruning.
- The **no** form of the **switchport trunk encapsulation dot1q ethertype** *value* command resets the list to the default value.

The *vlan-list* format is **all | none | add | remove | except** [*vlan-list*[**,***vlan-list*...]] where:

- **all**—Specifies all the appropriate VLANs. This keyword is not supported in the **switchport trunk pruning vlan** command.
- **none**—Indicates an empty list. This keyword is not supported in the **switchport trunk allowed vlan** command.
- **add** *vlan-list*[**,***vlan-list*...]—Adds the defined list of VLANs to those currently set instead of replacing the list.

- **remove** *vlan-list*[**,***vlan-list...*]—Removes the defined list of VLANs from those currently set instead of replacing the list. You can remove VLAN 1. If you remove VLAN 1 from a trunk, the trunk interface continues to send and receive management traffic (for example, Cisco Discovery Protocol, version 3; VTP; Port Aggregation Protocol, version 4 (PAgP4); and DTP) in VLAN 1.

Note You can remove any of the default VLANs (1002 to 1005) from a trunk; this action is not allowed in earlier releases.

- **except** *vlan-list*[**,***vlan-list...*]—Excludes the specified list of VLANs from those currently set instead of replacing the list.
- *vlan-list*[**,***vlan-list...*]—Specifies a single VLAN number from 1 to 4094 or a continuous range of VLANs that are described by two VLAN numbers from 1 to 4094. You can specify multiple VLAN numbers or ranges of numbers using a comma-separated list.

  To specify a range of VLANs, enter the smaller VLAN number first, separated by a hyphen and the larger VLAN number at the end of the range.

Do not enable the reserved VLAN range (1006 to 1024) on trunks when connecting a Cisco 7600 series router running the Cisco IOS software on both the supervisor engine and the Multilayer Switch Feature Card (MSFC) to a Cisco 7600 series router running the Catalyst operating system. These VLANs are reserved in Cisco 7600 series routers running the Catalyst operating system. If enabled, Cisco 7600 series routers running the Catalyst operating system may disable the ports if a trunking channel is between these systems.

Examples

The following example shows how to cause a port interface configured as a switched interface to encapsulate in 802.1Q trunking format regardless of its default trunking format in trunking mode:

```
Router(config-if)# switchport trunk encapsulation dot1q
```

The following example shows how to configure the Layer 2 port to tag native VLAN traffic:

```
Router(config-if)# switchport trunk native vlan tag
```

Related Commands

Command	Description
show interfaces switchport	Displays administrative and operational status of a switching (nonrouting) port.
vlan dot1q tag native	Enables dot1q tagging for all VLANs in a trunk.

test platform software console disconnect-timeout

To test the platform software timeout after physically disconnecting a console port, use the **test platform software console disconnect-timeout** command.

test platform software console disconnect-timeout *time*

Syntax Description

time	Specifies the time in seconds; valid values are 1 through 10.

Defaults

Disabled and 1 second.

Command Modes

Privileged EXEC mode

Command History

Release	Modification
15.1(1)SY	Support for this command was introduced.
15.1(2)SY	Update Defaults updated.

Examples

This example shows how to set the disconnect timeout test to 4 seconds:

```
Router# test platform software console disconnect-timeout 4
```

Related Commands

Command	Description
disconnect-timeout	Changes the EXEC timeout value for the main console after the console cable is removed.

test snmp trap errdisable ifevent

To test CISCO-ERR-DISABLE-MIB cErrDisableInterfaceEventRev1 Simple Network Management Protocol (SNMP) traps and informs, use the **test snmp trap errdisable ifevent** command in priveleged EXEC mode.

test snmp trap errdisable ifevent

Syntax Description

This command has no keywords or arguments.

Command Default

This command has no default settings.

Command Modes

Privileged EXEC mode

Command History

Release	Modification
12.2(33)SXI4	Support for this command was introduced.
12.2(50)SY	This command was integrated into Cisco IOS Release 12.2(50)SY.

Examples

This example shows the output of **test snmp trap errdisable ifevent** when snmp-server enable traps errdisable is not configured:

```
Router# test snmp trap errdisable ifevent
cErrDisableInterfaceEventRev1 notification is disabled.
Router#
```

This example shows the output of **test snmp trap errdisable ifevent** when snmp-server enable traps errdisable is configured:

```
Router# test snmp trap errdisable ifevent
cErrDisableInterfaceEventRev1 notification was sent.
Router#
```

Related Commands

Command	Description
snmp-server enable traps errdisable	Enables SNMP errdisable notifications.

test snmp trap trustsec-server provision-secret

To test ctsvNoProvisionSecretNotif traps, use the **test snmp trap trustsec-server provision-secret** command in priveleged EXEC mode.

test snmp trap trustsec-server provision-secret

Syntax Description

This command has no keywords or arguments.

Command Default

None

Command Modes

Privileged EXEC mode

Command History

Release	Modification
15.1(1)SY	Support for this command was introduced.

Examples

This example shows how to the ctsvNoProvisionSecretNotif traps:

```
Router# test snmp trap trustsec-server provision-secret
```

test snmp trap trustsec-server radius-server

To test ctsvNoRadiusServertNotif traps, use the **test snmp trap trustsec-server radius-server** command in priveleged EXEC mode.

test snmp trap trustsec-server radius-server

Syntax Description

This command has no keywords or arguments.

Command Default

None

Command Modes

Privileged EXEC mode

Command History

Release	Modification
15.1(1)SY	Support for this command was introduced.

Examples

This example shows how to the ctsvNoRadiusServertNotif traps:

```
Router# test snmp trap trustsec-server radius-server
```

test snmp trap trustsec-sxp

To test CISCO-TRUSTSEC-SXP-MIB traps on Simple Network Management Protocol (SNMP), use the **test snmp trap trustsec-sxp** command in Exec mode.

test snmp trap trustsec-sxp [**binding-conflict** | **binding-err** | **binding-expn-fall** | **conn-config-err** | **conn-down** | **conn-sraddr-err** | **conn-up** | **msg-parse-err** | **oper-nodeid-change**]

Syntax Description

binding-conflict	(Optional) Enables ctsxSxpBindingConflictnotif notications.
binding-err	(Optional) Enables ctsxSxpBindingErrnotif notifications.
binding-expn-fall	(Optional) Enables ctsxSxpBindingExpnFailNotif notifications.
conn-config-err	(Optional) Enables ctsxSxpConnConfigErrNotif notifications.
conn-down	(Optional) Enables ctsxSxpConnDownNotif notifications.
conn-sraddr-err	(Optional) Enables ctsxSxpConnSourceAddrErrnotif notifications.
conn-up	(Optional) Enables ctsxSxpConnUpNotif notifications.
msg-parse-err	(Optional) Enables ctsxSxpMsgParseErrNotif notifications.
oper-nodeid-change	(Optional) Enables ctsxSxpOperNodeIdChangeNotif notifications.

Command Default

Disabled.

Command Modes

EXEC mode (#)

Command History

Release	Modification
15.1(1)SY	This command was introduced.

Usage Guidelines

SNMP notifications can be sent as traps or inform requests. This command enables both traps and inform requests.

If you do not specify any of the optional keywords, all TrustSec SXP notifications are enabled.

The **snmp-server enable traps snmp** command is used in conjunction with the **snmp-server host** command. Use the **snmp-server host** command to specify which host or hosts receive SNMP notifications. To send SNMP notifications, you must configure at least one **snmp-server host** command.

Examples

The following example shows how to test the binding conflict MIB:

```
Router# test snmp trap trustsec-sxp binding-conflict
ctsxSxpBindingConflictNotif notification is disabled.
Router#
```

The following example shows how to test the binding err MIB:

```
Router# test snmp trap trustsec-sxp binding-err
ctsxSxpBindingErrNotif notification is disabled.
```

```
Router#
```

The following example shows how to test the binding-expn-fail MIB:

```
Router# test snmp trap trustsec-sxp binding-expn-fail
ctsxSxpBindingExpnFailNotif notification is disabled.
Router#
```

The following example shows how to test the conn-config-err MIB:

```
Router# test snmp trap trustsec-sxp conn-config-err
ctsxSxpConnConfigErrNotif notification is disabled.
Router#
```

The following example shows how to test the conn-down MIB:

```
Router# test snmp trap trustsec-sxp conn-down
ctsxSxpConnDownNotif notification is disabled.
Router#
```

The following example shows how to test the conn-srcaddr-err MIB:

```
Router# test snmp trap trustsec-sxp conn-srcaddr-err
ctsxSxpConnSourceAddrErrNotif notification is disabled.
Router#
```

The following example shows how to test the conn-up MIB

```
Router# test snmp trap trustsec-sxp conn-up
ctsxSxpConnUpNotif notification is disabled.
Router#
```

The following example shows how to test the msg-parse-err MIB:

```
Router# test snmp trap trustsec-sxp msg-parse-err
ctsxSxpMsgParseErrNotif notification is disabled.
Router#
```

The following example shows how to test the oper-nodeid-change MIB:

```
Router# test snmp trap trustsec-sxp msg-parse-err
ctsxSxpMsgParseErrNotif notification is disabled.
Router#
```

Related Commands

Command	Description
test snmp trap trustsec	Tests CISCO-TRUSTSEC-MIB traps.
test snmp trap trustsec-interface	Tests CISCO-TRUSTSEC-INTERFACE-MIB traps.
test snmp trap trustsec-policy	Tests CISCO-TRUSTSEC-POLICY-MIB traps.
test snmp trap trustsec-server	Tests CISCO-TRUSTSEC-SERVER-MIB traps.

upgrade hardware database

To upgrade the hardwupare database, use the **upgrade hardware database** command.

upgrade hardware database {**file** *file_name* | {**preference** | **invalidate**} {**region1** | **region2**} | **slot** *slot_number* {**file** *file_name* | **invalidate** {**region1** | **region2**}}}

Syntax Description

file *file_name*	Specifies the name of a hardware database file.
preference	Specifies the hardware dateabase boot file.
invalidate	Specifies the hardware database region to invalidate.
region1	Specifies the hardware database region1.
region2	Specifies the hardware database region2.
slot_number	Specifies the slot number of a module that has hardware abstraction layer (HAL) support.

Defaults

None

Command Modes

Privileged EXEC mode

Command History

Release	Modification
15.0(1)SY1	Support for this command was introduced.

Usage Guidelines

This command is useful only if a new hardware database version becomes available.

Examples

This example shows how to upgrade the platform hardware database version:

```
Router# upgrade hardware database file bootdisk:file_name
Router#
*date_and_time: Hardware database upgrade in progress
*date_and_time: Erasing flash
*date_and_time: Programming flash
*date_and_time: Verifying new hardware database
*date_and_time: Hardware database upgrade complete

*date_and_time: The system must be reload for this to take effect
```

Related Commands

Command	Description
show platform hardware database	Displays the platform hardware database version.

upgrade hardware image

To upgrade the hardware image, use the **upgrade hardware image** command.

upgrade hardware image slot *slot_number* {**file** *file_name* | {**preference** | **invalidate**} *region_number* | **reset**}

Syntax Description

slot *slot_number*	Specifies the slot number of a module that has hardware abstraction layer (HAL) support.
file *file_name*	Specifies the name of a hardware image file.
preference	Specifies the hardware dateabase boot file.
invalidate	Specifies the hardware database region to invalidate.
region_number	Specifies the number of a hardware image region.
reset	Specfies the slot to reset.

Defaults

None

Command Modes

Privileged EXEC mode

Command History

Release	Modification
15.0(1)SY1	Support for this command was introduced.

Usage Guidelines

This command is useful only if a new hardware image version becomes available.

This command is supported only on modules that have hardware abstraction layer (HAL) support.

Examples

This example shows how to upgrade the platform hardware database version:

```
Router# upgrade hardware image slot 4 file bootdisk:file_name
!!! {...} !!!
Linecard must be reset. Please use "upgrade hardware image slot 4 reset" command to reset
linecard.
Router# upgrade hardware image slot 4 reset
Router#
*date_and_time: %OIR-6-SP_REMCARD: Card removed from slot 4, interfaces disabled
*date_and_time: %DIAG-6-RUN_COMPLETE: Module 4: Running Complete Diagnostics..4
*date_and_time: %DIAG-6-DIAG_OK: Module 4: Passed Online Diagnostics
Upgrade XML file complete
Upgrade image file complete
Please wait for automatic linecard reset to make upgrade taking effect
*date_and_time: %OIR-6-SP_INSCARD: Card inserted in slot 4, interfaces are now online
*date_and_time: %OIR-6-SP_REMCARD: Card removed from slot 4, interfaces disabled
*date_and_time: %DIAG-6-RUN_COMPLETE: Module 4: Running Complete Diagnostics...
*date_and_time: %DIAG-6-DIAG_OK: Module 4: Passed Online Diagnostics
*date_and_time: %OIR-6-SP_INSCARD: Card inserted in slot 4, interfaces are now online
```

Related Commands

Command	Description
show platform hardware image version	Displays the platform hardware image version.

upgrade hardware transceiver xml

To upgrade the hardware transceiver xml version, use the **upgrade hardware transceiver xml** command.

upgrade hardware transceiver xml {**file** *file_name* | {**preference** | **invalidate**} *region_number*}

Syntax Description

file *file_name*	Specifies the name of a transceiver xml file.
preference	Specifies the hardware dateabase boot file.
invalidate	Specifies the hardware database region to invalidate.
region_number	Specifies the number of a transceiver xml region.

Defaults

None

Command Modes

Privileged EXEC mode

Command History

Release	Modification
15.0(1)SY1	Support for this command was introduced.

Usage Guidelines

This command is useful only if a new hardware transceiver xml version becomes available.

Examples

This example shows how to upgrade the platform hardware database version:

```
Router# upgrade hardware transceiver xml file bootdisk:file_name
Transceiver XML is upgraded successfully
Please unplug and replug supported transceiver
Router#
```

Related Commands

Command	Description
show platform hardware transceiver xml version	Displays the platform hardware transceiver xml version.

upgrade hardware xml slot

To upgrade the hardware xml version, use the **upgrade hardware xml slot** command.

upgrade hardware xml slot *slot_number* {**file** *file_name* | {**preference** | **invalidate**} *region_number* | **reset**}

Syntax Description

slot_number	Specifies the slot number of a module that has hardware abstraction layer (HAL) support.
file *file_name*	Specifies the name of a transceiver xml file.
preference	Specifies the hardware dateabase boot file.
invalidate	Specifies the hardware database region to invalidate.
region_number	Specifies the number of a transceiver xml region.
reset	Specfies the slot to reset.

Defaults

None

Command Modes

Privileged EXEC mode

Command History

Release	Modification
15.0(1)SY1	Support for this command was introduced.

Usage Guidelines

This command is useful only if a new hardware xml version becomes available.

This command is supported only on modules that have hardware abstraction layer (HAL) support.

Examples

This example shows how to upgrade the platform hardware xml version:

```
Router# upgrade hardware xml slot 4 file bootdisk:file_name
Linecard must be reset. Please use "upgrade hardware xml slot 4 reset" command to reset
linecard.
Router# upgrade hardware xml slot 4 reset

Upgrade XML file complete
Please wait for automatic linecard reset to make upgrade taking effect

*date_and_time: %OIR-6-SP_INSCARD: Card inserted in slot 4, interfaces are now online
*date_and_time: %OIR-6-SP_REMCARD: Card removed from slot 4, interfaces disabled

*date_and_time: %OIR-6-SP_INSCARD: Card inserted in slot 4, interfaces are now online
Router#
```

Related Commands

Command	Description
show platform hardware xml version	Displays the platform hardware xml version.

vlan access-log

To configure the VLAN access control list (VACL)-logging properties, including the log-table size, redirect-packet rate, and logging threshold, use the **vlan access-log** command in global configuration. To return to the default settings, use the **no** form of this command.

vlan access-log {**maxflow** *max-number* | **ratelimit** *pps* | **threshold** *pkt-count*}

no vlan access-log {**maxflow** | **ratelimit** | **threshold**}

Syntax Description

maxflow *max-number*	Specifies the maximum log-table size. Valid values are from 0 to 2048; 0 deletes the contents of the log table.
ratelimit *pps*	Specifies the maximum redirect VACL-logging packet rate; valid values are from 0 to 5000.
threshold *pkt-count*	Specifies the logging-update threshold; valid values are from 0 to 2147483647. 0 means that the threshold is not set.

Command Default

The defaults are as follows:

- *max-number* is **500**.
- *pps* is **2000** pps in Cisco IOS 12.2SX releases.
- *pps* is **0** pps in Cisco IOS release 12.2(50)SY and later.
- *pkt-count* is not set.

Command Modes

Global configuration (config)

Command History

Release	Modification
12.2(14)SX	Support for this command was introduced on the Supervisor Engine 720.
12.2(17d)SXB	Support for this command on the Supervisor Engine 2 was extended to Release 12.2(17d)SXB.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.2(50)SY	This command was integrated into Cisco IOS Release 12.2(50)SY. Added a new default for the **ratelimit** keyword.

Usage Guidelines

Due to the rate-limiting function for redirected packets, VACL-logging counters may not be accurate.

Only denied IP packets are logged.

When the log-table size is full, the logging packets from the new flows are dropped by the software.

The packets that exceed the maximum redirect VACL-logging packet rate limit are dropped by the hardware.

A logging message is displayed if the flow threshold is reached before the 5-minute interval.

If you do not configure the maximum log-table size, maximum packet rate, or threshold, or if you enter the **no** form of the commands, the default values are assumed.

Examples

This example shows how to set the maximum log-table size:

```
Router(config)# vlan access-log maxflow 500
Router(config)#
```

This example shows how to set the maximum redirect VACL-logging packet rate after which packets are dropped:

```
Router(config)# vlan access-log ratelimit 200
Router(config)#
```

This example shows how to set the logging-update threshold:

```
Router(config)# vlan access-log threshold 3500
Router(config)#
```

Related Commands

Command	Description
show vlan access-log	Displays information about the VACL logging including the configured logging properties.

vsl-encryption

To configure VSL encryption on the switch, use the **vsl-encryption** command in Virtual switch domain mode, use the **no** form of the command to disable VSL encryption.

vsl-encryption

no vsl-encryption

Syntax Description

This command has no keywords or arguments.

Defaults

None

Command Modes

Virtual switch domain mode

Command History

Release	Modification
15.0(1)SY1	This command was introduced.

Usage Guidelines

You do not need to enable FIPs before you enable VSL encryption; however if you intend to use FIPs you should enable VSL encryption first.

Examples

This example shows how to enable VSL encryption on a switch:

```
Switch(config-vs-domain) vsl-encryption
Switch(config-vs-domain) #
```

This example shows how to disable VSL encryption on a switch:

```
Switch(config-vs-domain) no vsl-encryption
Switch(config-vs-domain) #
```

Related Commands

Command	Description
switch pmk	Enables VSL on the switch.

wrr-queue bandwidth

To allocate the bandwidth between the standard transmit queues, use the **wrr-queue bandwidth** command in interface configuration mode. To return to the default settings, use the **no** form of this command.

wrr-queue bandwidth *weight-1 ... weight-n*

no wrr-queue bandwidth

Syntax Description

weight-1 ... weight-n	WRR weights; valid values are from 1 to 255.

Defaults

The defaults are as follows:

- QoS enabled—4:255
- QoS disabled—255:1

Command Modes

Interface configuration

Command History

Release	Modification
12.2(14)SX	Support for this command was introduced.
12.2(17a)SX	This command was changed to support seven queue weights.
12.2(17d)SXB	Support for this command on the Supervisor Engine 2 was extended to Release 12.2(17d)SXB.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.2(50)SY	This command was integrated into Cisco IOS Release 12.2(50)SY.

Usage Guidelines

Note In Cisco IOS Release 12.2(50)SY and later releases, you can enable this command only if either the **platform qos queueing-only** command or the **auto qos default** command is configured.

You can configure up to seven queue weights on Cisco 7600 series routers that are configured with a Supervisor Engine 720.

You can configure up to three queue weights on Cisco 7600 series routers that are configured with a Supervisor Engine 2.

WRR allows bandwidth sharing at the egress port. This command defines the bandwidths for egress WRR through scheduling weights. Four queues participate in the WRR unless you enable the egress-expedite queue. The expedite queue is a strict-priority queue that is used until it is empty before using one of the WRR queues.

There is no order of dependencies for the **wrr-queue bandwidth** command. If you enable the egress priority, the weight ratio is calculated with the first two and the last parameters; otherwise, all four parameters are used.

The WRR weights are used to partition the bandwidth between the queues if all queues are nonempty. For example, entering weights of 1:3 means that one queue gets 25 percent of the bandwidth and the other queue gets 75 percent as long as both queues have data.

Examples

This example shows how to allocate a three-to-one bandwidth ratio:

```
Router(config-if)# wrr-queue bandwidth 3 1
```

Related Commands

Command	Description
show queueing interface	Displays queueing information.
wrr-queue queue-limit	Sets the transmit-queue size ratio on an interface.

wrr-queue cos-map

To map CoS values to drop thresholds for a queue, use the **wrr-queue cos-map** command in interface configuration mode. To return to the default settings, use the **no** form of this command.

wrr-queue cos-map *queue-id threshold-id cos-1 ... cos-n*

no wrr-queue cos-map

Syntax Description

queue-id	Queue number; the valid values are from **1 to 2**.
threshold-id	Threshold ID; valid values are from 1 to 2.
cos-1 ... cos-n	CoS value; valid values are from 0 to 7.

Defaults

The defaults are as follows:

- Receive queue 1/drop threshold 1 and transmit queue 1/drop threshold 1: CoS 0 and 1.
- Receive queue 1/drop threshold 2 and transmit queue 1/drop threshold 2: CoS 2 and 3.
- Receive queue 2/drop threshold 3 and transmit queue 2/drop threshold 1: CoS 4 and 6.
- Receive queue 2/drop threshold 4 and transmit queue 2/drop threshold 2: CoS 7.
- On 1p1q4t, 1p2q2t, and 1p3q1t interfaces, CoS 5 is mapped to the strict-priority queues.

Command Modes

Interface configuration

Command History

Release	Modification
12.2(14)SX	Support for this command was introduced on the Supervisor Engine 720.
12.2(17d)SXB	Support for this command on the Supervisor Engine 2 was extended to Release 12.2(17d)SXB.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.2(50)SY	This command was integrated into Cisco IOS Release 12.2(50)SY.

Usage Guidelines

Note In Cisco IOS Release 12.2(50)SY and later releases, you can enable this command only if either the **platform qos queueing-only** command or the **auto qos default** command is configured.

Enter up to eight CoS values to map to the threshold.

The threshold for 1p3q1t is always 1.

Examples

This example shows how to map the CoS values 0 and 1 to standard transmit queue 1/threshold 1:

```
Router(config-if)# wrr-queue cos-map 1 1 0 1
```

wrr-queue dscp-map

To map the hardware Differentiated Services Code Point (DSCP) values to the drop threshold values for a queue, use the **wrr-queue dscp-map** command in interface configuration mode. To return to the default settings, use the **no** form of this command.

wrr-queue dscp-map *queue-id threshold-id dscp-1 ... dscp-n*

no wrr-queue dscp-map *queue-id*

Syntax Description

queue-id	Queue number; valid values are from 1 to 8.
threshold-id	Threshold ID; valid values are from 1 to 4.
dscp-1 ... dscp-n	DSCP value; valid values are from 0 to 7.

Defaults

The interface is in Class of Service (CoS) mode.

Command Modes

Interface configuration

Command History

Release	Modification
12.2(18)SXF5	Support for this command was introduced.
12.2(50)SY	This command was integrated into Cisco IOS Release 12.2(50)SY.

Usage Guidelines

Note In Cisco IOS Release 12.2(50)SY and later releases, you can enable this command only if either the **platform qos queueing-only** command or the **auto qos default** command is configured.

Note To enter the **wrr-queue dscp-map** command, the interface must be in DSCP-queuing mode. Use the **mls qos queue-mode mode-dscp** command to set the mode to DSCP.

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

When mapping DSCP values, follow these guidelines:

- You can enter up to eight DSCP values that map to a queue and threshold.
- You can enter multiple commands to map additional DSCP values to the queue and threshold.
- You must enter a separate command for each queue and threshold.

Examples

This example shows how to map the hardware DSCP values to the drop threshold values for a queue:

```
wrr-queue dscp-map 8 1 0 1 2 3
```

Related Commands		
	show queueing interface	Displays queueing information.

wrr-queue queue-limit

To set the transmit-queue size ratio on an interface, use the **wrr-queue queue-limit** command in interface configuration mode. To return to the default settings, use the **no** form of this command.

wrr-queue queue-limit *queue1-weight* [*queue2-weight*] *queue3-weight*

no wrr-queue queue-limit

Syntax Description

queue1-weight	Ratio of the low-priority queue weight; valid values are from 1 and 100 percent.
queue2-weight	(Optional) Ratio of the medium-priority queue weight; valid values are from 1 and 100 percent.
queue3-weight	Ratio of the high-priority queue weight; see the "Usage Guidelines" section for valid values.

Defaults

The defaults are as follows:

- 90 percent for low priority
- 10 percent for high priority

Command Modes

Interface configuration

Command History

Release	Modification
12.2(14)SX	Support for this command was introduced on the Supervisor Engine 720.
12.2(17d)SXB	Support for this command on the Supervisor Engine 2 was extended to Release 12.2(17d)SXB.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.2(50)SY	This command was integrated into Cisco IOS Release 12.2(50)SY.

Usage Guidelines

Note In Cisco IOS Release 12.2(50)SY and later releases, you can enable this command only if either the **platform qos queueing-only** command or the **auto qos default** command is configured.

Valid high-priority weight values are from 1 to 100 percent, except on 1p2q1t egress LAN ports, where valid values for the high-priority queue are from 5 to 100 percent.

On 1p2q2t interfaces, QoS sets the strict-priority queue size equal to the high-priority queue size.

Estimate the mix of low priority-to-high priority traffic on your network (for example, 80 percent low-priority traffic and 20 percent high-priority traffic). Use the estimated percentages as queue weights.

Due to the granularity of programming the hardware, the values that are set in the hardware are close approximations of the provided values. For example, if you specify 0 percent, the actual value that is programmed is not necessarily 0.

Examples

This example shows how to configure the transmit-queue size ratio:

```
Router(config-if)# wrr-queue queue-limit 75 25
```

Related Commands

Command	Description
show queueing interface	Displays queueing information.
wrr-queue bandwidth	Allocates the bandwidth between the standard transmit queues.

wrr-queue random-detect

To enable WRED or specify the minimum and maximum WRED threshold for the specified queues on 1p2q2t and 1p3q1t interfaces, use the **wrr-queue random-detect** command in interface configuration mode. To return to the default settings, use the **no** form of this command.

wrr-queue random-detect *queue-id*

wrr-queue random-detect {**max-threshold** | **min-threshold**} *queue-id threshold-percent-1 ... threshold-percent-n*

no wrr-queue random-detect *queue-id*

no wrr-queue random-detect {**max-threshold** | **min-threshold**} *queue-id*

Syntax Description

queue-id	Queue number; valid values are 1, 2, or 3.
max-threshold	Specifies the maximum WRED-drop threshold.
min-threshold	Specifies the minimum WRED-drop threshold.
threshold-percent-1 threshold-percent-n	Threshold weights; valid values are from 1 to 100 percent.

Defaults

The default is that WRED is disabled. When WRED is enabled, the defaults are as follows:

- The maximum threshold is (low) 40 percent and (high) 100 percent.
- The minimum thresholds are both set to zero.

Command Modes

Interface configuration

Command History

Release	Modification
12.2(14)SX	Support for this command was introduced on the Supervisor Engine 720.
12.2(17d)SXB	Support for this command on the Supervisor Engine 2 was extended to Release 12.2(17d)SXB.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.2(50)SY	This command was integrated into Cisco IOS Release 12.2(50)SY.

Usage Guidelines

Note In Cisco IOS Release 12.2(50)SY and later releases, you can enable this command only if either the **platform qos queueing-only** command or the **auto qos default** command is configured.

1p2q1t and 1p3q1t interfaces have WRED-drop thresholds in their standard transmit queues. You can configure 1p3q1t transmit queues to use a WRED-drop threshold or a tail-drop threshold.

To enable WRED-drop thresholds on 1p2p1t interfaces, enter the **wrr-queue random-detect** *queue-id* command. Use the **no** form of this command to disable WRED.

To enable WRED-drop thresholds on 1p3q1t interfaces, enter the **wrr-queue random-detect** *queue-id* command. To return to the tail-drop threshold, enter the **no wrr-queue random-detect** *queue-id* command.

The *queue-id* argument is 1 for the standard low-priority queue, 2 for the standard high-priority queue, and 3 for strict priority.

The threshold in the strict-priority queue is not configurable.

Each queue on a 1p2q2t interface has two thresholds; 1p3q1t interfaces have one threshold.

Each threshold has a low and a high WRED value.

WRED values are a percentage of the queue capacity.

For additional information on configuring WRED thresholds, refer to the QoS chapter in the *Cisco 7600 Series Router Cisco IOS Software Configuration Guide*.

Examples

This example shows how to configure the low-priority transmit-queue high-WRED drop thresholds:

```
Router(config-if)# wrr-queue random-detect max-threshold 1 60 100
```

Related Commands

Command	Description
show queueing interface	Displays queueing information.
wrr-queue queue-limit	Sets the transmit-queue size ratio on an interface.

wrr-queue threshold

To configure the drop-threshold percentages for the standard receive and transmit queues on 1q4t and 2q2t interfaces, use the **wrr-queue threshold** command in interface configuration mode. To return to the default settings, use the **no** form of this command.

wrr-queue threshold *queue-id threshold-percent-1 ... threshold-percent-n*

no wrr-queue threshold *queue-id*

Syntax Description

queue-id	Queue number; valid values are 1 and 2.
threshold-percent-1 *threshold-percent-n*	Number of weights for queues 1 and 2; valid values are from 1 to 100 percent.

Defaults

When you enable QoS, the default values are as follows:

- **100** percent for threshold 1
- **60** percent for threshold 2

Command Modes

Interface configuration

Command History

Release	Modification
12.2(14)SX	Support for this command was introduced on the Supervisor Engine 720.
12.2(17d)SXB	Support for this command on the Supervisor Engine 2 was extended to Release 12.2(17d)SXB.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.2(50)SY	This command was integrated into Cisco IOS Release 12.2(50)SY.

Usage Guidelines

Note In Cisco IOS Release 12.2(50)SY and later releases, you can enable this command only if either the **platform qos queueing-only** command or the **auto qos default** command is configured.

Use the transmit queue and threshold numbers.

The *queue-id* argument is 1 for the standard low-priority queue and 2 for the standard high-priority queue.

Always set threshold 2 to 100 percent.

Receive-queue drop thresholds are supported only on Gigabit Ethernet interfaces that are configured to trust CoS.

Examples

This example shows how to configure receive queue 1/threshold 1 and transmit queue 1/threshold 1:

```
Router(config-if)# wrr-queue threshold 1 60 100
```

Related Commands

Command	Description
show queueing interface	Displays queueing information.
wrr-queue queue-limit	Sets the transmit-queue size ratio on an interface.