QoS Function Configuration Commands

Table of Contents

Chapter 1 QoS Service Configuration Commands

1.1 QoS Configuration Commands

QoS Configuration Commands include:

cos default

cos map

scheduler wrr bandwidth

scheduler policy

policy-map

classify

action

qos policy

1.1.1 cos default

description

cos default *cos*

no cos default

To configure the default value of CoS, use the cos default command. To disable the configuration, use the no form of this command.

parameter

parameter	description
cos	Default cos value. The range is 0-7

default

The default CoS value is 0

instruction

Layer 2 interface configuration mode

example

Set the CoS value of no-label frame received on ge0/1 interface as 4

```
Switch(config)# interface gigabitethernet0/1
Switch(config-if)# cos default 4
```

1.1.2 cos map

description

cos map *quid cos1..cosn*

no cos map

To set the CoS priority queues, use the cos map command.

parameter

parameter	description
quid	ID of CoS priority queues. The range is 1 to 8
cos1..cosn	CoS value defined by IEEE802.1p. The range is 0 to 7

default

CoS value	Priority queues
0	1
1	2
2	3
3	4
4	5
5	6
6	7
7	8

instruction

Layer 2 interface configuration mode and the global configuration mode

Using this command in the global configuration mode will affect all CoS priority queue; while configuring this command in layer 2 interface command will only affect CoS priority queue of the interface.

example

The following example maps CoS 0-2 to CoS priority queue 1and maps CoS 3 to priority queue 2:

```
Switch(config-if)# cos map 1 0 1 2
Switch(config-if)# cos map 2 3
```

1.1.3 scheduler wrr bandwidth

description

scheduler wrr bandwidth *weight1...weightn*

no scheduler wrr bandwidth

To configure cos priotiry queue bandwidth, use the **scheduler wrr bandwidth command**

parameter

parameter	description
weight1…weight8	WRR 8 CoS priority queue metrics the range is 1to 5。

default

All CoS priority queue metrics must be the same, the eight CoS priority queue metrics are all 12.

instruction

It works in the global configuration mode

Using this command will affect the priority queue broadband of all interfaces. It enables only when queue debug mode is configured wrr. It defines the CoS priority queue broadband metrics when wrr debug policy is applied.

example

Configure the eight CoS priority queue metrics as 1，2，3，4，5，6，7，8

Switch(config)# scheduler wrr bandwidth 1，2，3，4，5，6，7，8

1.1.4 scheduler policy

description

scheduler policy { **sp** | **wrr** }

no scheduler policy

To set CoS priority queue debug policy, use the scheduler policy command.

parameter

parameter	description
sp	Use the sp debug stratefgy.
wrr	Use the wrr debug strategy

default

use SP

instruction

the global configuration mode

After configure the command, the interface send debug mode is configured to specified value.

example

Configure interface send debug mode as wrr.

Switch(config)#scheduler policy wrr

1.1.5 policy-map

description

policy-map *name*

no policy-map *name*

To set QOS policy-map, use the policy-map command

parameter

Parameter	description
name	Name of the policy map , the value range is 1 to 16 characters

default

none

instruction

the global configuration mode

After inputting this command, the system will enter QoS policy mapping configuration mode. There are following commands in this mode:

classify: it is used to configure QoS flow.

description：it is used to describe QoS policy mapping.

exit：it is used to quit from QoS policy mapping configuration mode.

no：it is used to cancel the command that formerly inputs.

action：it is used to define QoS action.

example

The following example shows how to configure QoS policy map:
Switch(config)# policy-map myqos

1.1.6 classify

description

classify {**ip access-group** *access-list-name* | **dscp** *dscp-value* | **mac access-group** *mac-access-name* | **vlan** *vlan-id* | **cos** *cos* | **any** }

no classify {**ip access-group** *access-list-name* | **dscp** *dscp-value* | **mac access-group** *mac-access-name* | **vlan** *vlan-id* | **cos** *cos* | **any** }

To configure the matching data traffic of QoS policy, use the classify command

Parameter	Description
ip access-group *access-list-name*	Configure the matching IP access list name, the range is 1 to 16 characters
dscp *dscp-value*	diffserv field in IP packet. The valid range is 0 to 63
mac access-group *mac-access-name*	Configure the matching MAC access list name. the valid range is 1 to 16 characters
vlan *vlan-id*	Configure the matching VLAN, the valid range is 1 to 4094
cos *cos*	Configure the matching COS value, the valid range is 0 to 7
any	match any data packets

default

match any data packets

instruction

QoS policy map configuration mode

All data traffic in one QoS policy map must have the identical mask value, interface number in the ip access-list must be definite rather than a scope.

Only one item of rule can be included in the ip access list that used to match data flow, or the configuration fails. When the action (permit or deny) of the rule is permit, this rule is used to separate data flow; when the action of the rule is deny, this rule has no effect, that is, it will not be used to match data flow.

example

```
Switch(config-qos)# classify ip access-group ipacl1 cos 3
```

1.1.7 action

description

action [**no-match**] {**bandwidth** *max-band* | **cos** *cos-value* | **dscp** *dscp-value* | **redirect** *interface-id* | **drop** | **stat** | **monitor** }

To configure the matching data traffic policy of QoS policy map, use the action command

parameter

paramter	description
no-match	Influence all the traffic that do not meet the demand
bandwidth *max-band*	maximum bandwidth to a class ， the range is 1 to 1000kbps。
dscp *dscp-value*	Define the dscp field of the matching traffic as dscp-value, the range is 0 to 63
cos *cos-value*	Define cos field of the matching traffic as cos-value, the range is 0 to 7
redirect *interface-id*	redirect the exit of the matching traffic
drop	drops the configured packets
stat	Switch stat information of the related matching traffic
monitor	将该数据包发送到镜像端口。Send the packets to monitor interface

default

none

instruction

QoS policy map configuration mode.

One QoS policy mapping can only configures one kind of policy. Bandwidth and stat can only influence the match packets, and the above actions can be enabled at the same time, if the action is empty, then it means to forward, which means allowing the data traffic to pass.

example

Switch(config-qos)# action redirect interface g0/1

1.1.8 qos policy

description

[**no**] **qos policy** *name* { **ingress**|**egress**}

To configure the QoS policy on interface, use the qos policy command.

paramter

parameter	description
name	Name of QoS policy maps
ingress	Affect the entrance
egress	Affect the exit

deault

none

instruction

layer 2 interface configuration mode

example

Apply the QoS policy named pmap on the f0/1 interface

```
Switch(config)# interface Gigaethernet0/1
Switch(config-if)# qos policy pmap ingress
```