


# Configuring Classifier-based QoS

## NOTE:

 On Trident and Trident+ based switches, known unicast packets can be assigned to a specific queue between queues from 0 to 7, while unknown unicast packets, multicast packets, and broadcast packets can be assigned to a specific queue between queues from 0 to 3.

## Configure a Scheduler

A scheduler, which determines the QoS working mode and weight, should be configured first when you configure QoS. The working mode can be SP, WRR, or WFQ, and the weight is 1 to 15.

SP is strictly a priority queue. When two PCs send 100% traffic to a same PC, all packets from the lower priority PC will be discarded. The default working mode is SP.

WRR is a weighted round robin queue, and under this mode, user can configure weight. If PCA and PCB sends 100% traffic to the same PCC, the PCC will receive packets from PCA and PCB according to the weight proportion in the corresponding queue.

WFQ is weighted fair queuing. Under this mode, user can configure guaranteed-rate and weight, and the guarantee is only available in WFQ mode. If PCA and PCB send 100% traffic to the same PCC, the PCC will receive packets from PCA and PCB according to the weight proportion and the guaranteed-rate in the corresponding queue.

```
admin@XorPlus# set class-of-service scheduler s1 mode WRR
admin@XorPlus# set class-of-service scheduler s1 weight 3
admin@XorPlus# commit
Merging the configuration.
Commit OK.
Save done.
```

```
admin@XorPlus# set class-of-service scheduler s1 mode WFQ
admin@XorPlus# set class-of-service scheduler s1 weight 4
admin@XorPlus# set class-of-service scheduler s1 guaranteed-rate 8
admin@XorPlus# commit
Merging the configuration.
Commit OK.
Save done.
```

## Configure a Forwarding Class

A forwarding class, which determines the queue number of the specified traffic type, should be configured after the scheduler when configuring QoS. The effective local-priority is 0 to 7.

```
admin@XorPlus# set class-of-service forwarding-class f1 local-priority 3
admin@XorPlus# commit
Merging the configuration.
Commit OK.
Save done.
```

## Configure Scheduler Profile

Scheduler profile, which defines a queue used as a kind of scheduler on egress port, is the map of a forwarding class and a scheduler.

```
admin@XorPlus# set class-of-service scheduler-profile p1 forwarding-class f1 scheduler s1
admin@XorPlus# commit
Commit OK.
Save done.
```

## Configure Scheduler Profile to Specified Port

Scheduler profile should be configured to egress port. It only applies to egress packet. Ingress packet is invalid.

```
admin@XorPlus# set class-of-service interface ge-1/1/1 scheduler-profile pl
admin@XorPlus# commit
Commit OK.
Save done.
```

## Configure a Classifier with IEEE 802.1/DSCP/ToS

A classifier should be configured first, which is used to specify the associated forwarding class. User can select a classifier trust mode, such as IEEE 802.1, DSCP, or ToS, according to need. It decides the priority trust model. Configure trust mode IEEE 802.1 as follows:

```
admin@XorPlus# set class-of-service classifier c1 trust-mode ieee-802.1
admin@XorPlus# commit
Merging the configuration.
Commit OK.
Save done.
```

## Configure Classifier Relevant to Forwarding Class

After configuring a classifier trust mode, user can configure the classifier relevant to the specified forwarding class. Code point and scheduler should be configured at the same time. The code-point is matched with the forwarding class local-priority, meaning that when the flow matches the specified code point, the flow will enter the specified queue. When the classifier trust mode is IEEE 802.1 or ToS, the code point is 0 to 7. When the classifier trust mode is dscp, the code point is 0 to 63.

```
admin@XorPlus# set class-of-service classifier c1 forwarding-class f1 code-point 5
admin@XorPlus# commit
Merging the configuration.
Commit OK.
Save done.
```

## Configure Classifier to Specified Port

After configuring as above, the classifier should be applied to specified ports. It determines the port priority trust model, data stream and queue matching rules, scheduling model, weight, and guaranteed-rate. When the classifier configures the scheduler, the classifier should be used in the egress port. When the classifier configures code point, the classifier should be used in ingress port.

```
admin@XorPlus# set class-of-service interface ge-1/1/1 classifier c1
admin@XorPlus# commit
Waiting for merging configuration.
Commit OK.
Save done.
```