

Configuring Queue Profiles to Manage Buffers and Thresholds

A queue profile controls the buffering and dropping behavior of a set of egress queues by enabling you to set the buffer weight of the queue, the drop thresholds, and the constraints on queue lengths.

Set the queue lengths as follows:

- To oversubscribe buffer memory, set a minimum queue length.



NOTE: If the sum of the queue minimum lengths is greater than the amount of egress buffer memory, then the egress buffer memory is oversubscribed.

- To configure a minimal level of buffering or to limit the buffering in queues, set a maximum queue length. For example, if you want to control latency by configuring very small queues, set the maximum queue length to 256 bytes. The system queues no more than 256 bytes.

If you do not set the queue lengths, the router varies the queue length dynamically in the range 1 KB–7 MB.

1. Create a queue profile and enter Queue Configuration mode.

```
host1(config)#queue-profile video  
host1(config-queue)#
```

You can configure 16 queue profiles on an E Series router.

2. (Optional) Set the buffer weight of the queue.

```
host1(config-queue)#buffer-weight 16
```

Queues with a buffer weight of 16 are twice as long as queues with a buffer weight of 8. The range is 1–63; the default is 8.

3. (Optional) Set a minimum or maximum queue length for committed packets.

```
host1(config-queue)#committed-length 11000 15000
```

The range of minimum and maximum lengths is 0–1 GB. By default, there is no minimum or maximum length. The color for committed packets is green.

4. (Optional) Set a minimum or maximum queue length for conformed packets.

```
host1(config-queue)#conformed-length 10000 14000
```

The range of minimum and maximum lengths is 0–1 GB. By default, there is no minimum or maximum length. The color for conformed packets is yellow.

- (Optional) Set a minimum or maximum queue length for exceeded packets.

`host1(config-queue)#exceeded-length 9000 10000`

The range of minimum and maximum lengths is 0–1 GB. By default, there is no minimum or maximum length. The color for exceeded packets is red.

- (Optional) Set the conformed drop threshold as a percentage of the committed threshold.

`host1(config-queue)#conformed-fraction 60`

The range is 0–100 percent; the default is 50.

- (Optional) Set the exceeded drop threshold as a percentage of the committed threshold.

`host1(config-queue)#exceeded-fraction 40`

The range is 0–100 percent; the default is 25.

Related Topics

- Queuing and Buffer Management Overview
- Guidelines for Managing Queue Thresholds
- Guidelines for Managing Buffers
- Memory Requirements for Queue and Buffers
- `buffer-weight`
- `committed-length`
- `conformed-fraction`
- `conformed-length`
- `exceeded-fraction`
- `exceeded-length`
- `queue-profile`

Published: 2009-10-07