

Traffic Class and Traffic-Class Groups Overview

A traffic class is a systemwide collection of buffers, queues, and bandwidth that you can allocate to provide a defined level of service to packets in the traffic class.

A traffic class corresponds to what the IETF DiffServ working group calls a traffic class in RFC 2597—Assured Forwarding PHB Group (June 1999).

Traffic classes are global to the router. Packets are:

- Classified into a traffic class on ingress or egress by input policies
- Queued on fabric queues that are specific to the traffic class
- Queued on the egress line module on queues that are specific to the traffic class
- Scheduled for transmission by the scheduler

Best-Effort Forwarding

The router has a default traffic class called best-effort. You cannot delete this class. You can add the best-effort class to a traffic-class group. The router assigns packets to the best-effort class in each of the following cases:

- You do not create any other traffic classes.
- Packets are not classified into a traffic class.
- Packets arrive at an egress line module that has no queues allocated for their traffic class.

Traffic-Class Groups Overview

You can put traffic classes into a group to create a hierarchy of scheduler nodes and queues. Organizing traffic into multiple traffic-class groups enables you to manage and shape traffic—by service class, for example—when the traffic classes are distributed across different VCs. A traffic-class group contains one or more traffic classes, but a particular traffic class can belong only to a single group—either the default group or one named group.

You can configure an auto-strict group and up to three extended traffic-class groups. You must put traffic classes that require strict-priority scheduling in the auto-strict group. You can optionally put traffic classes that need a separate round robin (for example, video) in an extended group.

A traffic class that is not contained in any named group is considered to belong to the default group. Traffic classes are placed in the default traffic-class group when the classes are configured—you can then move a class to another traffic-class group. When you delete a traffic-class from a named group, the class is automatically moved to the default traffic-class group. ATM VC nodes that are configured in the default group (which is the factory default configuration) receive backpressure from the segmentation and reassembly (SAR) feature in the default qos-mode-port node.

Traffic-class groups are global in scope by default. However, you might want to manage certain traffic classes through particular line modules. If you have already created a traffic-class group, you can subsequently specify a slot number to create a local instance of the group that is restricted to the module occupying that slot. Characteristics configured for the local group on the line module override those of the global group, for only that line module. Traffic classes in a globally scoped traffic-class group cannot belong to any other group. Traffic classes in a local traffic-class group cannot belong to any other group.

- Related Topics**
- Configuring Traffic Classes That Define Service Levels
 - Configuring Traffic-Class Groups That Define Service Levels

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