show Commands for Frame Relay Traffic Shaping

Document ID: 9335

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Contents

Introduction

This document explains the specific **show** commands available for Frame Relay traffic shaping.

These are:

- **show frame−relay pvc** *<dlci>*
- **show traffic−shape**
- **show traffic−shape statistics**

This document provides a listing of the fields produced in the output of these commands, and a description of each field.

Before You Begin

Conventions

For more information on document conventions, see the Cisco Technical Tips Conventions.

Prerequisites

Readers of this document should be knowledgeable of the following:

- Basic knowledge of frame−relay and frame−relay traffic shaping.
- Configuring frame−relay traffic shaping.

For more information, please refer to the Related Information section below.

Components Used

These commands first appeared in Cisco IOS® Software Release 11.2. The outputs in this document were captured using Cisco IOS Software Release 12.2(10b).

The information presented in this document was created from devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If you are working in a live network, ensure that you understand the potential impact of any command before using it.

The show frame–relay pvc Command

The following traffic shaping commands are configured in the router. Please refer to Configuring Frame Relay Traffic Shaping for more information on how to configure.

```
!--- Output suppressed.

interface Serial1.1 point-to-point
 ip address 172.16.1.1 255.255.255.0
 frame-relay class test
 frame-relay interface-dlci 101
!
!
map-class frame-relay test
 frame-relay cir 100000
 frame-relay bc 8000
 frame-relay be 8000
 no frame-relay adaptive-shaping

!--- Output suppressed.
```

The **show frame–relay pvc** command output provides the information shown in the table below. The table below also explains each field.

Field	Description
CIR	Current committed information rate (CIR), in bits per second (bps).
Bc	Current committed burst size, in bits.
Be	Current excess burst size, in bits.
Byte Limit	Maximum number of bytes transmitted per internal interval (excess plus sustained).
Interval	Interval being used internally (may be smaller than the interval derived from Bc/CIR. This happens when the router determines that traffic flow is more stable with a smaller configured interval.
Mincir	Minimum CIR for the permanent virtual circuit (PVC).
Byte Increment	Number of bytes that are sustained per internal interval.
Adaptive Shaping	Shows if Frame Relay has backward explicit congestion notification (BECN) adaptation configured.
Shaping Inactive	Shows if the traffic shaping is active or inactive.

Traffic Shaping Drops	Number of packets dropped by the traffic–shaping process.
Queueing Strategy	Queuing method used for the shaping queue.
Output Queues	Output queues used for the PVC, with the current size, the maximum size, and the number of dropped frames shown for each queue.

The following is sample command output of the **show frame–relay pvc** command.

```
Router#show frame-relay pvc 202

PVC Statistics for interface Serial1 (Frame Relay DTE)

DLCI = 202, DLCI USAGE = LOCAL, PVC STATUS = ACTIVE, INTERFACE = Serial1.1

  input pkts 2878          output pkts 2879          in bytes 964143
  out bytes 964641         dropped pkts 0            in pkts dropped 0
  out pkts dropped 0               out bytes dropped 0
  in FECN pkts 0           in BECN pkts 0            out FECN pkts 0
  out BECN pkts 0          in DE pkts 0              out DE pkts 0
  out bcast pkts 2699      out bcast bytes 753021
  pvc create time 1d20h, last time pvc status changed 1d20h
  cir 100000    bc 8000       be 8000       byte limit 2000    interval 80
  mincir 50000      byte increment 1000  Adaptive Shaping none
  pkts 183        bytes 215082   pkts delayed 100       bytes delayed 142800
  shaping inactive
  traffic shaping drops 0
  Queueing strategy: fifo
  Output queue 0/40, 0 drop, 100 dequeued
```

If you have the output of the **show frame–relay pvc** command from your Cisco device, you can use the Output Interpreter (registered customers only) tool to display potential issues and fixes. To use the Output Interpreter (registered customers only) tool, you must have JavaScript enabled.

The show traffic–shape Command

Use the **show traffic–shape** EXEC command to display the current traffic–shaping configuration. The command output contains the following fields.

Field	Description
Target Rate	Rate that traffic is shaped to in bps.
Byte Limit	Maximum number of bytes transmitted per internal interval.
Sustain bits/int	Configured sustained bits per interval.
Excess bits/int	Configured excess bits in the first interval.
Interval (ms)	Interval being used internally. This interval may be smaller than the Bc divided by the CIR if the router determines that traffic flow will be more stable with a smaller configured interval.

|	
Increment (bytes)	Number of bytes that are sustained per internal interval.
Adapt Active	Contains BECN if Frame Relay has BECN adaptation configured.

The following is sample output of the **show traffic−shape** command.

```
Target Rate = CIR = 100000 bits/s
Mincir = CIR/2 = 100000/2 = 50000 bits/s
Sustain = Bc = 8000 bits/int
Excess = Be = 8000 bits/int
Interval = Bc/CIR = 8000/100000 = 80 ms
Increment = Bc/8 = 8000/8 = 1000 bytes
Byte Limit = Increment + Be/8 = 1000 + 8000/8 = 2000 bytes
```

The diagram below maps the fields described above to some sample output shown by the **show traffic−shape** command:
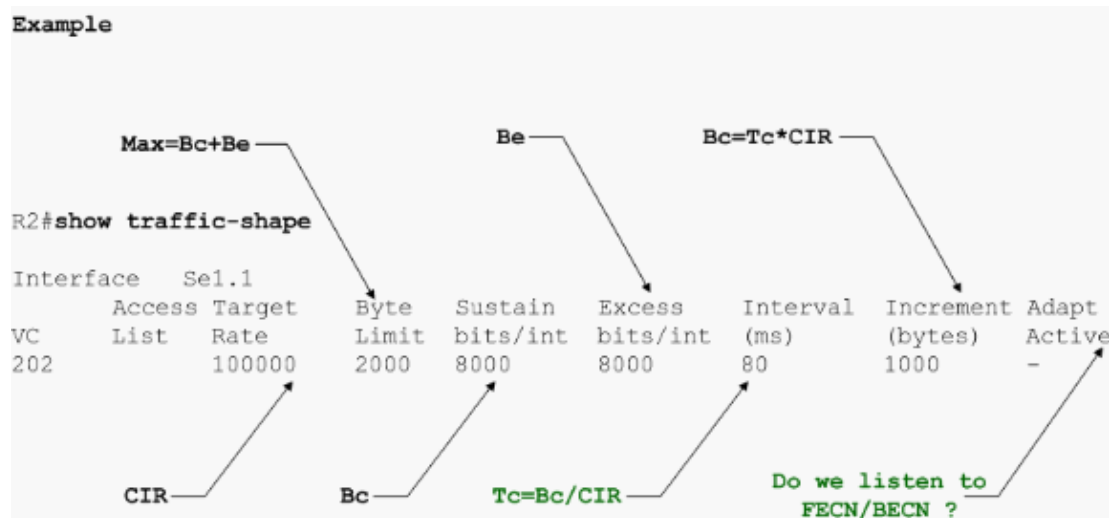
The show traffic−shape statistics Command

Use the **show traffic−shape statistics** EXEC command to display the current traffic−shaping statistics. The command output contains the following fields.

Field	Description
Queue Depth	Number of messages in the queue.
Packets	Number of packets sent through the interface.
Bytes	Number of bytes sent through the interface.
Packets Delayed	Number of packets sent through the interface that were delayed in the traffic shaping queue.
Bytes Delayed	Number of bytes sent through the interface that were delayed in the traffic shaping queue.
Shaping Active	Contains yes when timers indicate that traffic shaping is occurring and no if traffic shaping does not occur.

The diagram below maps the fields described above to some sample output shown by the **show traffic−shape statistics** command:

```
Example

            Number of packets/byte
             sent on the interface


R2#show traffic-shape statistics
                Access Queue   Packets   Bytes      Packets  Bytes    Shaping
I/F             List   Depth                         Delayed  Delayed  Active
Se1.1                  77      307       249678      100      142800   no



    Depth of the                  Subset of the previous
associated WFQ queue              number of packets/bytes
 for delayed packets              delayed via the WFQ queue
```

Related Information

- **Configuring Frame Relay Traffic Shaping**
- **Frame Relay Traffic Shaping**
- **Frame Relay Traffic Shaping Flowchart**
- **Configuring Class Based Weighted Fair Queueing with FRTS**
- **Frame Relay Traffic Shaping Compared to Generic Traffic Shaping**
- **Frame Relay Traffic Shaping With Distributed QoS on the Cisco 7500 Series**
- **Configuring and Troubleshooting Frame Relay**
- **Frame Relay – Technology Support Page**
- **Technical Support – Cisco Systems**

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