Frame Relay IP RTP Priority

Last Updated: October 7, 2011

This feature module describes the Frame Relay IP RTP Priority feature.

Finding Feature Information

Your software release may not support all the features documented in this module. For the latest feature information and caveats, see the release notes for your platform and software release. To find information about the features documented in this module, and to see a list of the releases in which each feature is supported, see the Feature Information Table at the end of this document.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to www.cisco.com/go/cfn. An account on Cisco.com is not required.

Feature Overview

The Frame Relay IP RTP Priority feature provides a strict priority queueing scheme on a Frame Relay permanent virtual circuit (PVC) for delay-sensitive data such as voice. Voice traffic can be identified by its Real-Time Transport Protocol (RTP) port numbers and classified into a priority queue configured by the **frame-relay ip rtp priority** command. The result of using this feature is that voice is serviced as strict priority in preference to other nonvoice traffic.

This feature extends the functionality offered by the **ip rtp priority** command by supporting Frame Relay PVCs. This feature allows you to specify a range of User Datagram Protocol (UDP) ports whose voice traffic is guaranteed strict priority service over any other queues or classes using the same output interface.

Strict priority means that if packets exist in the priority queue, they are dequeued and sent first--that is, before packets in other queues are dequeued.

Benefits

The strict priority queueing scheme allows delay-sensitive data such as voice to be dequeued and sent first--that is, before packets in other queues are dequeued. Delay-sensitive data is given preferential treatment over other traffic. This process is performed on a per-PVC basis, rather than at the interface level.

Related Features and Technologies

The Frame Relay IP RTP Priority feature is related to the following features:

- IP RTP Priority
- Class-based weighted fair queueing (CBWFQ)
- Priority queueing
- Weighted fair queueing (WFQ)

Related Documents

- *Quality of Service Solutions Configuration Guide* , Cisco IOS Release 12.0
- *Quality of Service Solutions Command Reference* , Cisco IOS Release 12.0
- *Class-Based Weighted Fair Queueing*
- *IP RTP Priority*

Supported Platforms

- Cisco 1003
- Cisco 1004
- Cisco 1005
- Cisco 1600 series
- Cisco 2500 series
- Cisco 2600 series
- Cisco 3600 series
- Cisco 3800 series
- Cisco 4000 series (Cisco 4000, 4000-M, 4500, 4500-M, 4700, 4700-M)
- Cisco 5200 series
- Cisco 7000 series
- Cisco 7200 series
- Cisco 7500 series

This feature runs on the platforms listed. However, it is most useful on voice supported platforms, such as the Cisco 2600 series, Cisco 3600 series, Cisco 7200 series, and Cisco 7500 Route Switch Processor (RSP) series.

Supported Standards and MIBs and RFCs

Standards

None

MIBs

No new or modified MIBs are supported by this feature.

RFCs

None

Prerequisites

Frame Relay traffic shaping (FRTS) and Frame Relay Fragmentation (FRF.12) must be configured before the Frame Relay IP RTP Priority feature is used.

Configuration Tasks

Configuring Frame Relay IP RTP Priority

To reserve a strict priority queue on a Frame Relay PVC for a set of RTP packet flows belonging to a range of UDP destination ports, use the following command in map-class configuration mode.

Note   Because the **frame-relay ip rtp priority** command gives absolute priority over other traffic, it should be used with care. In the event of congestion, if the traffic exceeds the configured bandwidth, then all the excess traffic is dropped.

Command	Purpose
`Router(config-map-class)#` **frame-relay ip rtp priority** *starting-rtp-port-number port-number-range bandwidth*	Reserves a strict priority queue for a set of RTP packet flows belonging to a range of UDP destination ports.

Verifying Frame Relay IP RTP Priority

To verify the Frame Relay IP RTP Priority feature, use one of the following commands in EXEC mode:

Command	Purpose
Router# **show frame relay pvc**	Displays statistics about PVCs for Frame Relay interfaces.
Router# **show queue** *interface-type interface-number*	Displays fair queueing configuration and statistics for a particular interface.
Router# **show traffic-shape queue**	Displays information about the elements queued at a particular time at the VC data link connection identifier (DLCI) level.

Monitoring and Maintaining Frame Relay IP RTP Priority

To tune your RTP bandwidth or decrease RTP traffic if the priority queue is experiencing drops, use the following command in EXEC mode:

Command	Purpose
Router# **debug priority**	Displays priority queueing output if packets are dropped from the priority queue.

Configuration Examples

Frame Relay IP RTP Priority Configuration Example

The following example first configures the Frame Relay map class called voip and then applies the map class to PVC 100 to provide strict priority service to matching RTP packets:

```
map-class frame-relay voip
 frame-relay cir 256000
 frame-relay bc 2560
 frame-relay be 600
 frame-relay mincir 256000
 no frame-relay adaptive-shaping
 frame-relay fair-queue
 frame-relay fragment 250
 frame-relay ip rtp priority 16384 16380 210
interface Serial5/0
 ip address 10.10.10.10 255.0.0.0
 no ip directed-broadcast
 encapsulation frame-relay
 no ip mroute-cache
 load-interval 30
 clockrate 1007616
 frame-relay traffic-shaping
```

```
frame-relay interface-dlci 100
 class voip
frame-relay ip rtp header-compression
frame-relay intf-type dce
```

In this example, RTP packets on PVC 100 with UDP ports in the range 16384 to 32764 will be matched and given strict priority service.