

| Guide Contents |
|--|
| Troubleshooting Cisco IOS Voice Overview |
| Debug Command Output on Cisco IOS Voice Gateways |
| Filtering Troubleshooting Output |
| Cisco VoIP Internal Error Codes |
| Troubleshooting Cisco IOS Voice Telephony |
| Troubleshooting Cisco IOS Voice Protocols |
| Troubleshooting Cisco IOS Telephony Applications |
| Monitoring the Cisco IOS Voice Network |
| Cause Codes and Debug Values |

This article provides information you can use to confirm that your VoFR configuration with QoS is working properly.

Certain **show** commands are supported by the Output Interpreter Tool (registered customers only), which allows you to view an analysis of show command output.

LLQ/IP RTP Priority Commands

The following **show** and **debug** commands can help you verify your LLQ and IP RTP priority configurations.

- **show policy-map interface serial *interface#***-This command is useful for viewing the LLQ operation and any drops in the PQ.
- **show policy-map *policy_map_name***-Displays information about the policy-map configuration.
- **show queue *interface-type interface-number***-Lists fair queueing configuration information and statistics for a particular interface.
- **debug priority**-Displays PQ events and shows whether dropping occurs in this queue.
- **show class-map *class_name***-Displays information about the class-map configuration.
- **show call active voice**-Used to check for lost packets at the DSP level.
- **show frame-relay ip rtp header-compression**-Displays RTP header compression statistics.

For more information about low-latency queueing for VoFR, refer to the [VoIP QoS for Frame Relay to ATM Interworking with LLQ, PPP LFI and cRTP, document 22383](#).

Fragmentation Commands

Use the following **debug** and **show** commands to verify and troubleshoot fragmentation configurations.

- **show frame-relay fragment**-Displays information about the Frame Relay fragmentation taking place in the Cisco router.
- **debug frame-relay fragment**-Displays event or error messages related to Frame Relay fragmentation. It is enabled at the PVC level on the selected interface.

Frame Relay/Interface Commands

Use the following **show** commands to verify and troubleshoot the Frame Relay/interface configurations.

- **show traffic-shape queue *interface***-Displays information about the elements queued at the VC data-link connection identifier (DLCI) level. The command is used to verify the operation of IP RTP priority over Frame-Relay. When the link is congested, voice flows are identified with a weight of zero. This indicates that the voice flow is using the PQ.

- **show traffic-shape**-Displays information such as Tc, Bc, Be, and CIR configured values.
- **show frame-relay pvc *dldi*-#**-Displays information such as traffic shaping parameters, fragmentation values, and dropped packets.

For more information about VoIP over Frame Relay with quality of service (QoS), refer to [VoIP over Frame Relay with Quality of Service \(Fragmentation, Traffic Shaping, LLO / IP RTP Priority\)](#), document 12156.