Frame Relay MIB Enhancements

Feature History

Release	Modification
12.2(2)T	This feature was introduced.

This document describes the Frame Relay MIB Enhancements feature. It includes the following sections:

Feature Overview

The Cisco Frame Relay MIB describes managed objects that enable users to remotely monitor Frame Relay operations using Simple Network Management Protocol (SNMP). The Frame Relay MIB Enhancements feature extends the Cisco Frame Relay MIB by adding MIB objects to monitor the following Frame Relay functionality:

- Frame Relay fragmentation
- Frame Relay–ATM Network Interworking (FRF.5)
- Frame Relay–ATM Service Interworking (FRF.8)
- Frame Relay switching
- Input and output rates of individual virtual circuits (VCs)

Table 1 describes the MIB tables and objects that are introduced by the Frame Relay MIB enhancements. For a complete description of the MIB, see the Cisco Frame Relay MIB file CISCO-FRAME-RELAY-MIB.my, available through Cisco.com at the following URL:

http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml

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Table 1 MIB Tables and Objects Introduced by the Frame Relay MIB Enhancements

Table or Object	Description
cfrFragTable	Table of Frame Relay fragmentation information.
cfrFRF5ConnectionTable	Table of Frame Relay–ATM Network Interworking connection information.
cfrFRF8ConnectionTable	Table of Frame Relay–ATM Service Interworking connection information.
cfrSwitchingTable	Table of Frame Relay switching entries.
cfrExtCircuitTxDataRate	Average rate, in bytes per second, at which data is transmitted on a circuit.
cfrExtCircuitTxPktRate	Average number of packets sent per second on a circuit.
cfrExtCircuitRcvDataRate	Average rate, in bytes per second, at which data is received on a circuit.
cfrExtCircuitRcvPktRate	Average number of packets received per second on a circuit.

The Frame Relay MIB Enhancements feature also modifies the **load-interval** command to enable you to configure the load interval per permanent virtual circuit (PVC). The load interval is the length of time for which data is used to compute load statistics, including input rate in bits and packets per second, output rate in bits and packets per second, load, and reliability. Before the introduction of this feature, the load interval could be configured only for the interface.

Benefits

The Frame Relay MIB Enhancements enable you to use SNMP to monitor the following:

- Frame Relay fragmentation
- Frame Relay–ATM Network Interworking (FRF.5)
- Frame Relay–ATM Service Interworking (FRF.8)
- Frame Relay switching
- Input and output rates of individual virtual circuits (VCs)

Related Documents

For information on configuring Frame Relay using Cisco IOS software, refer to the following documents:

- The chapter "*Configuring Frame Relay*" in the *Cisco IOS Wide-Area Networking Configuration Guide*, Release 12.2
- The chapter "*Frame Relay Commands*" in the *Cisco IOS Wide-Area Networking Command Reference*, Release 12.2

For information on configuring SNMP using Cisco IOS software, refer to the following documents:

- The chapter "*Configuring Simple Network Management Protocol*" in the *Cisco IOS Configuration Fundamentals Configuration Guide*, Release 12.2
- The chapter "*SNMP Commands*" in the *Cisco IOS Configuration Fundamentals Command Reference*, Release 12.2

Supported Platforms

- This MIB feature is platform independent, and is supported on all images that support Frame Relay and SNMP.

Determining Platform Support Through Feature Navigator

MIB introductions and updates are not tracked through Feature Navigator. Instead, use the MIB Locator tool at http://www.cisco.com/go/mibs .

Supported Standards and MIBs and RFCs

Standards

No new or modified standards are supported by this feature.

MIBs

This feature provides enhancements to the Cisco Frame Relay MIB. The MIB file CISCO-FRAME-RELAY-MIB.my can be downloaded from the Cisco MIB website on Cisco.com at the following URL:

http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml

To obtain lists of supported MIBs by platform and Cisco IOS release, and to download MIB modules, go to the Cisco MIB website on Cisco.com at the following URL:

http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml

RFCs

No new or modified RFCs are supported by this feature.

Prerequisites

The tasks in this document assume that you have configured Frame Relay and SNMP on your devices.

To access the information introduced by the Frame Relay MIB enhancements, you must have the Cisco Frame Relay MIB in the MIB file called CISCO-FRAME-RELAY-MIB.my compiled in your network management system (NMS) application. You can find this MIB on the Web at Cisco's MIB website at

http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml

Configuration Tasks

- Setting the Load Interval for a PVC (optional)

- Verifying the Load Interval (optional)

Setting the Load Interval for a PVC

You can change the period of time over which a set of data is used for computing load statistics. Decisions, such as for dial backup, depend on these statistics. If you decrease the load interval, the average statistics are computed over a shorter period of time and are more responsive to bursts of traffic.

To change the length of time for which a set of data is used to compute load statistics for a PVC, use the following commands beginning in interface configuration mode:

	Command	Purpose
Step 1	`Router(config-if)# frame-relay interface-dlci dlci`	Assigns a specific PVC to a DLCI[1], and enters Frame Relay DLCI configuration mode.
Step 2	`router(config-fr-dlci)# load-interval seconds`	Changes the length of time for which data is used to compute load statistics. The seconds argument must be a multiple of 30. The range is from 30 to 300 seconds. The default is 300 seconds.

1. DLCI = data-link connection identifier

Verifying the Load Interval

Use the **show running-config** command to verify that you have configured the load interval correctly.

Configuration Examples

- Setting the Load Interval for a PVC Example

Setting the Load Interval for a PVC Example

In the following example, the load interval is set to 60 seconds for a Frame Relay PVC with the DLCI 100:

```
interface serial 1/1
 frame-relay interface-dlci 100
  load-interval 60
```