Frame Relay MIB Enhancements

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The Cisco Frame Relay MIB describes managed objects that enable users to remotely monitor Frame Relay operations using Simple Network Management Protocol (SNMP). Frame Relay fragmentation is supported in the MIB.

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.

Prerequisites for Frame Relay MIB Enhancements

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

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Restrictions for Frame Relay MIB Enhancements

- Frame Relay-ATM Network Interworking (FRF.5)
- Frame Relay-ATM Service Interworking (FRF.8)
- Frame Relay switching

Information About Frame Relay MIB Enhancements

Feature Overview

The Cisco Frame Relay MIB describes managed objects that enable users to remotely monitor Frame Relay operations using 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
- Input and output rates of individual virtual circuits (VCs)

The table below 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

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.

Table or Object	Description
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)

How to Configure Frame Relay MIB Enhancements

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:

SUMMARY STEPS

1. Router(config-if)# **frame-relay interface-dlci** *dlci*
2. router(config-fr-dlci)# **load-interval** *seconds*

DETAILED STEPS

	Command or Action	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.

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1 DLCI = data-link connection identifier

	Command or Action	Purpose
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.

Verifying the Load Interval

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

Configuration Examples for Frame Relay MIB Enhancements

Example Setting the Load Interval for a PVC

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
```

Additional References

Related Documents

Related Topic	Document Title
WAN commands: complete command syntax, command modes, command history, defaults, usage guidelines, and examples	*Cisco IOS Wide-Area Networking Command Reference*

Standards

Standard	Title
No new or modified standards are supported by this functionality.	--

MIBs

MIB	MIBs Link
No new or modified MIBs are supported by this feature, and support for existing MIBs has not been modified by this feature.	To locate and download MIBs for selected platforms, Cisco IOS XE software releases, and feature sets, use Cisco MIB Locator found at the following URL: http://www.cisco.com/go/mibs

RFCs

RFC	Title
No new or modified RFCs are supported by this functionality.	--

Technical Assistance

Description	Link
The Cisco Support website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies. To receive security and technical information about your products, you can subscribe to various services, such as the Product Alert Tool (accessed from Field Notices), the Cisco Technical Services Newsletter, and Really Simple Syndication (RSS) Feeds. Access to most tools on the Cisco Support website requires a Cisco.com user ID and password.	http://www.cisco.com/techsupport

Feature Information for Frame Relay MIB Enhancements

The following table provides release information about the feature or features described in this module. This table lists only the software release that introduced support for a given feature in a given software release train. Unless noted otherwise, subsequent releases of that software release train also support that feature.

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.

Table 2   *Feature Information for Frame Relay MIB Enhancements*

Feature Name	Releases	Feature Information
Frame Relay MIB Enhancements	Cisco IOS XE Release 2.1	The Cisco Frame Relay MIB describes managed objects that enable users to remotely monitor Frame Relay operations using SNMP.