CHAPTER 5

Network Management

Network Management Tools • Management Functions for LightStream Networks • Using SNMP for Network Management

This chapter describes the different types of SNMP-based network management tools, called StreamView™, used for network operation. It also briefly discusses using SNMP for network management.

Network Management Tools

To manage your LightStream network using local management tools, you can connect to a local console port on the switch or telnet to the network processor. You can also manage the network by using a network management station (NMS) with a network connection to the switch. The NMS must be a Sun SPARCstation. Since the LightStream network uses SNMP as its management protocol, it is also compatible with a variety of SNMP-based management systems.

If you use the local console on the switch or telnet to the NP, the LightStream switch provides a line-based interface, called the command line interface (CLI) from which you can perform network management functions. If you use an NMS to manage your network, you are provided with the StreamView tools, as well as a version of CLI that runs on the workstation.

The following sections give a brief description of the LightStream network tools you can use to perform network management functions.

The Command Line Interface (CLI)

The command line interface (CLI) tool is a simple line-oriented interface that you can use to perform network operations for any switch in the network through Telnet. The CLI can also be loaded and run on a Sun SPARCstation in which case the CLI converts the CLI commands you enter into SNMP messages to be sent to the LightStream switches. From the CLI, you can perform a variety of network management functions, such as network monitoring, control, and troubleshooting. The CLI does not provide a graphical user interface.

For details on using CLI, see Chapter 2 in the *LightStream 2020 Network Operations Guide.*

The LightStream Configurator

You configure the LightStream network using a configuration program, called the *configurator.* Initially, you use the configurator to create configurations for all the LightStream switches in your network. You can then use the configurator to change existing configurations or to add new ones as your network grows. The configurator features a user-friendly graphical interface that, in many cases, reduces configuration tasks to clicking a mouse button. The configurator runs on a Sun SPARCstation.

LightStream Monitor

The LightStream monitor is a graphical interface that displays the status of individual LightStream switches, cards, and ports. When you open the monitor, it displays the front of the LightStream switch with bulkheads for the cards as they appear in the actual switch.

By doubling clicking on a particular card, you can view card information, port descriptions, and port status information.

For more information about the monitor, see Chapter 4 in the *LightStream 2020 Network Operations Guide.*

Management Functions for Lightstream Networks

Table 5-1 lists the network management tools and documents for you to use when performing these functions.

Table 5-1 Network Management Functions

To do this...	Use the...
Configure the network	Configurator
Manage security	CLI
Issue network control commands	CLI
Monitor network status	Monitor, CLI
View and collect network statistics	CLI, monitor
Run diagnostics to isolate hardware problems	CLI/diagnostics

For specific information about the monitor refer to the *LightStream 2020 Operation Guide*.

Using SNMP For Network Management

The LightStream network uses SNMP as its management protocol and is compatible with a variety of SNMP-based management systems. The LightStream software contains an SNMP agent that interacts with your network management tools. You can manage your network with a minimal knowledge of SNMP. If you are familiar with SNMP, you can also use low-level CLI commands such as **getsnmp** and **setsnmp** to monitor and manage your LightStream network.

The SNMP agent is called the Master Management Agent (MMA) and runs on the network processor. It is the focal point for all requests, responses, and trap messages that go to and from network management software. The MMA is a MIB manager and provides access to the MIB for external users (SNMP-compatible NMSes) and internal users (the CLI within a LightStream switch). The MMA manages the LightStream MIB and provides a single interface to all data internal to the LightStream switch.

For details on the LightStream MIB, see the *LightStream 2020 CLI Reference Manual*

For more information about SNMP, see *The Simple Book: An Introduction to Management of TCP/IP-based Internets*. Marshall T. Rose, 1991, Prentice Hall, Inc. (ISBN 0-13-812611-9).