CHAPTER 6

Configuring the Cisco 2518 SNMP Agent with SPSET

This chapter describes the System Parameter Setup program (SPSET). SPSET resides in the Cisco router/hub firmware, and is used to configure or modify the Cisco router/hub simple network management protocol (SNMP) agent.

Note You do not need to run SPSET to configure the SNMP agent. After you have configured the router card, PCbus ARP automatically assigns the agent's IP address and subnet mask.

Use SPSET to perform the following modifications:

- Modify parameters.
- Set serial port communication parameters.
- Establish SNMP community names.
- Set the SNMP managers to receive SNMP trap messages.
- Save or delete router/hub management functions in NVRAM.

Running SPSET

Connect a terminal or PC to the Cisco router/hub console port as described in the chapter "Installing the Router/Hub." SPSET is designed to use ANSI screen codes, therefore to see a proper screen display, you should use a PC or VT100 terminal running ANSI emulation.

When the Cisco router/hub is powered on, the SNMP agent is configured to the values stored in SPSET. To run the SPSET program, perform the following steps:

Step 1 If the SNMP agent is running, enter **Ctrl-E** several times until you see the <<C>> prompt. This will stop the SNMP agent.

Note To restart the SNMP agent, enter **AGENT** at the <<C>> prompt.

Step 2 Enter **SPSET** and press **Return** to display the System Parameters Setup Main Menu. If you want help messages to display at the bottom of the screen, enter **SPSET -HELP** and press **Return**.

```
                SYSTEM PARAMETERS SETUP - MAIN MENU
-----------------------------------------------------------------------

-----------------------------------------------------------------------
                          GENERAL SETUP
-----------------------------------------------------------------------
                            IP SETUP
                           SNMP SETUP
                         WRITE TO PORT
                      RESET SAVED HUB FUNCTIONS
                LOAD FACTORY-SET CONFIGURATION
                      EXIT WITHOUT SAVE
                       EXIT WITH SAVE

----------------------------HELP-----------------------------------
```

Step 3 Use the arrow keys to move through the menu options. When the selection you want is highlighted, press **Return**.

General Setup Options

The General Setup screen contains options for the boot device, serial port setup, router agent interface setup, and hub setup.

```
              SYSTEM PARAMETERS SETUP - GENERAL SETUP
---------------------------------------------------------------------

---------------------------------------------------------------------
                          General Setup

Boot Device:   ROM-disk
                          Serial Setup

Serial Mode:  None                    Port Selection:  COM1
Baud Rate:    9600                    Word Length:     8
Stop Bits:    1                       Parity Check:    None
                  Router-Agent Interface Setup

KeepAlive (sec):  00010               Memory Base Addr: D
Password: 00000
                          Hub Setup

Hub Functions:  Not Saved

----------------------------HELP-----------------------------------
```

To move the cursor through the options, press the **Tab** key to move forward or **Shift-Tab** to move backward. To return to the main menu, press the **Esc** key.

Table 6-1 describes the general setup options.

Table 6-1 General Setup Options

Parameter	Meaning	Default
Boot Device	This option is read-only, and indicates that the Cisco hub management card boots from the ROM disk.	None
Serial Mode	Options are SLIP, and None. Use SLIP to communicate with a PC running the Cisco Hub/Ring Manager.	None

Parameter	Meaning	Default
Port selection (SLIP)	Serial port used for the connection. SLIP options are COM 1 and COM 2.	COM 1
Baud rate (SLIP)	Baud rate for the serial connection. SLIP options are 1200, 2400, 4800, and 9600 bps.	2400
Word length	Length of each data word. Options are 7 or 8.	8
Stop bits	Number of stop bits. Options are 1, 1.5, or 2.	1
Parity check	Parity setting. Options are odd, even, or none.	None
Keepalive (sec)	Time interval for "keepalive" signals between the router card and the management card. The keepalive interval set for the router's PCbus must be the same as the keepalive interval configured with SPSET.	00010
Memory Base Addr	Set the memory base address to the same value as the router, either A (0xA0000) or D (0xD0000).	D
Password	Used with ring management. The password is sent to the LAN Reporting Mechanism (LRM) in the router when requesting a reporting link. The password must be identical on both the router and management card.	0
Hub functions	Determines whether or not hub functions performed by the network management station (for example, port disconnect) are saved in the management card's NVRAM. If the hub functions are saved, you can delete them with the Delete Hub Functions option of the SPSET Main Menu.	Not saved

IP Setup

The IP setup screen displays the IP address for the default gateway, LAN interface, and serial line interface protocol (SLIP) interface. This screen is read-only with no modifiable parameters.

```
              SYSTEM PARAMETERS SETUP - IP SETUP
------------------------------------------------------------------
                        Default Gateway

IP Address:  000.000.000.000

            LAN/PCbus Interface        SLIP Interface
Address:  000.000.000.000              000.000.000.000
Net Mask: 255.255.255.000              255.255.255.000


----------------------------HELP-----------------------------------
```

Table 6-2 describes the IP setup options.

Table 6-2 IP Setup Screen Options

Parameter	Meaning
IP address (default gateway)	Default gateway IP address is the PCbus IP address of the router. This field is filled in automatically.
LAN PCbus interface: address	IP address of the SNMP agent. This field is filled in automatically.
SLIP interface: address	IP address of the SLIP interface.
Net mask	Subnet mask, or address of the network.The first column displays the subnet mask of the PCBus interface, and is read-only. The second column displays the subnet mask of the SLIP interface and can be changed.

SNMP Community and Traps

The SNMP Setup screen contains options for setting SNMP community names and SNMP trap addresses.

```
              SYSTEM PARAMETERS - SNMP SETUP
-------------------------------------------------------------------
                       SNMP COMMUNITIES

Community 1  Community Name:  public              Privilege:   R
Community 2  Community Name:  cisco               Privilege:  R/W
Community 3  Community Name:                      Privilege:   R
Community 4  Community Name:                      Privilege:   R
Community 5  Community Name:                      Privilege:   R

                     SNMP TRAP MANAGER

Community 1  IP Address  :  000.000.000.000
Community 2  IP Address  :  000.000.000.000
Community 3  IP Address  :  000.000.000.000
Community 3  IP Address  :  000.000.000.000
Community 5  IP Address  :  000.000.000.000
----------------------------HELP-------------------------------------
```

Move the cursor through the options by pressing the **Tab** key to move forward or **Shift-Tab** to move backward. To return to the main menu, press the **Esc** key.

Table 6-3 describes the SNMP Setup screen options.

Table 6-3 SNMP Setup Screen Options

Parameter	Meaning
Community *n* community name	Specifies SNMP community names. Names may be up to 16 characters in length. All characters are translated as lowercase.
Privilege	Options are R for read only and R/W for read/write. The network management station can read or write to and from the SNMP agent's management information base (MIB) according to the privilege setting.
Community *n* IP Address	IP address of the SNMP management station that will receive SNMP trap messages from the Cisco 2518.

Write-to-Port

The Write to Port screen contains options for writing a specific hexadecimal value to a hardware port. See Table 6-4.

```
                SYSTEM PARAMETERS -- WRITE TO PORT
  ------------------------------------------------------------------------


                Enter I/O Port: 0000

                Enter I/O value: 00


  ----------------------------HELP-----------------------------------
```

Table 6-4 Write-to-Port Screen Options

Parameter	Meaning	Default
Enter I/O port	Address of the hardware port, a value from 0000 to FFFF.	0000
Enter I/O value	Hexadecimal number to write to the port, a value from 00 to FF.	00

Caution Do not use this command unless directed by Cisco authorized service personnel.

Additional Main Menu Options

This section describes additional options available from the Main Menu. See Table 6-5.

Table 6-5 Additional Main Menu Options

Menu Option	Meaning
Reset Saved Hub Functions	Deletes the functions performed by the hub from NVRAM. The Hub Functions option in the General Setup menu determines whether or not the hub functions are stored in NVRAM.
Load Factory Set Configuration	Factory-set configuration will overwrite the current configuration.
Exit Without Save	Quits SPSET without saving the current configuration.
Exit With Save	Quits SPSET and saves the current configuration to NVRAM.

PCbus ARP

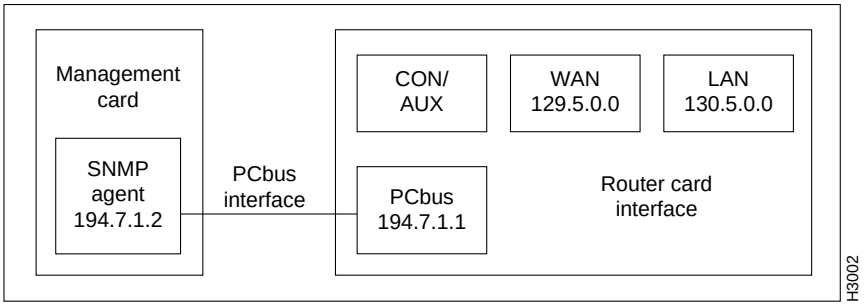
The PCbus ARP automatically assigns IP addressing to the SNMP agent. The three addresses set by ARP are as follows:

- PCbus IP address
- PCbus net mask
- Default gateway IP address

These addresses are determined by the IP address you assign for the router PCbus interface.

Figure 6-1 illustrates a sample IP address assignment for the Cisco 2518. Note that the IP address of the SNMP agent is one greater then the IP address of the PCbus interface, and that it is on its own unique network.

Figure 6-1 Sample IP Addressing for the Cisco 2518



To verify the SNMP agent address assigned by the PCbus ARP process, perform the following steps:

Step 1 Power on the Cisco router/hub to activate the SNMP agent.

Step 2 Press **Ctrl-E** to escape to the <<C>> prompt.

Step 3 Run **SPSET**. The agent's SNMP address and subnet mask will display in the LAN PCbus interface field of the IP Setup menu. The router card's IP address is located in the default gateway field.