CHAPTER 9

Using CiscoWorks Process Manager

This chapter provides detailed information on the CiscoWorks processes in the Process Manager application. Sections in this chapter include:

- Differences Between SunNet Manager and HP OpenView
- Process Descriptions

The Process Manager controls the CiscoWorks application daemon processes. A *process* is a UNIX-system execution of a program. A *daemon* is a process that runs in the background, independent of a terminal, and performs a function.You can use the Process Manager to start, stop, and show changes in status (on or off) for the CiscoWorks daemons.

Differences Between SunNet Manager and HP OpenView

The Process Manager on HP OpenView is very similar to the Process Manager on SunNet Manager (SNM). The primary difference is that on HP OpenView there is no device monitoring daemon (*nmdevmond*). On both platforms, the Process Manager manages the log, polling, event, syslog, Sybase dataserver daemons, and TACACS authentication server processes. In addition, on SNM, the Process Manager manages the device monitoring daemon.

Process Manager Window

Figure 9-1 illustrates the Process Manager window on SNM. On HP OpenView platforms, the window may look slightly different.

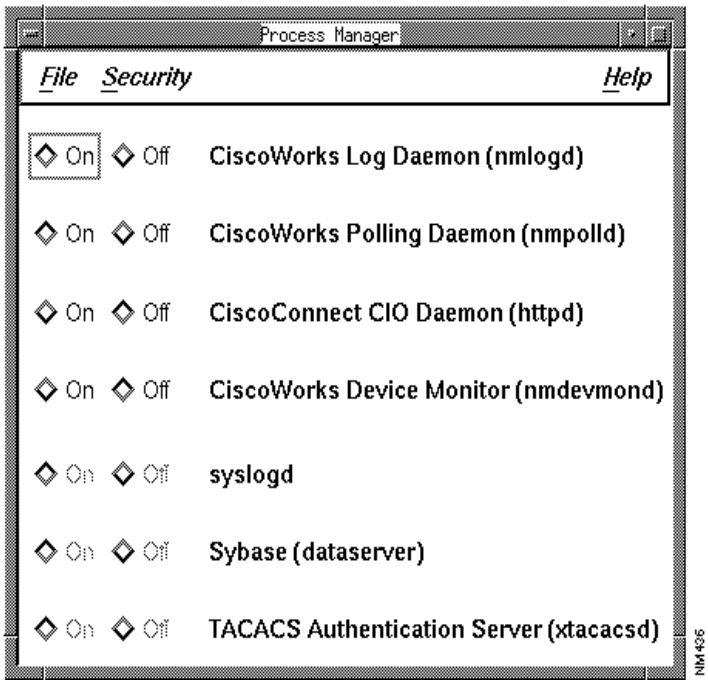


Figure 9-1 Process Manager Window

Note The Process Manager window always displays the *syslog* daemon, the Sybase dataserver, and the TACACS authentication server in a grayed-out format to indicate that you cannot start or stop these processes from this window. This ensures that these daemons or server are not turned off by mistake when the server is in use.

Table 9-1 describes the components of the Process Manager window. Note that the CiscoWorks Device Monitor option (*nmdevmond*) is only available on SNM.

Table 9-1 Components of the Process Manager Window

Component	Subcomponent	Description
File	Print	Prints a snapshot of the current window.
	Exit	Exits the current window.
Security	Privileges	Displays the security privileges for the current user.
	Change User	Enables you to change your username in order to access this application.
Help	On Version	Displays the CiscoWorks version information for this application.
	On Process Manager	Provides help text on the current window.
Log daemon (nmlogd)		Reads the Log Manager file, formats the messages into fields, and forwards them to the Sybase server daemon.
Polling daemon (nmpolld)		Performs the database polling created with the Device Polling and Polling Summary applications.

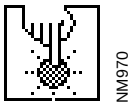
Component	Subcomponent	Description
Event Logger daemon (nmeventd)		Receives event s and traps and forwards these messages to syslog, so they can be stored in Sybase.
Device Monitor daemon (nmdevmond)[1]		Polls for device information and forwards this information to SNM.
syslog daemon (syslogd)		Logs system messages into a set of files described by the */etc/syslog.conf* configuration file. The messages can then be queried using the Log Manager. Cannot stop or start syslogd from the Process Manager window.
Sybase daemon (dataserver)		Stores the formatted log messages in the CiscoWorks database. The messages can then be queried using the Log Manager. Cannot stop or start the dataserver from the Process Manager window.
TACACS authentication server (xtacacsd)		Reads the TACACS password file of the UNIX host that is acting as a TACACS security server.

1. This process is for Sun users only.

A description of the processes managed by the Process Manager and how to use them appears later in the chapter.

For more information on Sybase server administration, refer to the section “Shutting Down the Server” in Chapter 8.

Using the Process Manager



The active CiscoWorks daemons can be started or stopped from the Process Manager window, except for *syslogd*, the Sybase dataserver, and the TACACS authentication server.

To use the Process Manager to change the status of the daemons, perform the following steps:

Step 1 Select **Process Mgr**.

On SNM, select **Tools>Process Mgr** from the menu.

On HP OpenView, select **Administer>CiscoWorks System>Process Mgr**.

The Process Manager window appears. (See Figure 9-1.)

Step 2 To start a process, click on the **On** button next to the process you want to start.

For example, to start the Log daemon process, click on the **On** button next to that field.

Step 3 Click on **OK** to start the process.

If the start is successful, the **On** button will be filled in. If you receive an error message indicating that the process could not be started, check your console window or the centralized log file for messages that describe the error condition.

Step 4 To stop a process, click on the **Off** button next to the process you want to stop.

If you are unable to shut down any of the CiscoWorks daemons, refer to the following section, “Forcing a Shut down of the CiscoWorks Daemons.”

Step 5 To check the status of a processes, check to see if the process is turned on or off.

Forcing a Shut down of the CiscoWorks Daemons

If you are unable to shut down the CiscoWorks daemons (including *nmpolld*, *nmlogd*, *nmeventd*, or *nmdevmond*) by clicking on the **Off** button in the Process Manager window, perform the following steps as a superuser.

Caution Do not attempt to turn off the Sybase dataserver, because this will result in database corruption.

Step 1 Log in as a superuser:

```
login: root
Password: <rootpassword>
```

Step 2 Enter the **ps** command to identify the process identification number (PID) for the daemon.

On Sun workstations:

```
hostname# ps vax | grep daemon_process
```

On HP workstations:

```
hostname# ps -ef | grep daemon_process
```

The PID for the daemon process displays.

Step 3 Enter the following command to remove the process:

```
hostname# kill process-id-number
```

You may have to wait several minutes for the daemon to shutdown.

Step 4 Enter the **ps** command to ensure that the displayed processes do not include the process you just removed.

On Sun workstations:

```
hostname# ps vax | grep daemon_process
```

On HP workstations:

```
hostname# ps -ef | grep daemon_process
```

Step 5 If the process is still running, enter the following command to remove the daemon:

```
hostname# kill -9 process-id-number
```

Process Descriptions

The following process information includes the status of the CiscoWorks processes at system startup and indicates what consequences exist if the status of the process changes (from up to down).

CiscoWorks Log Daemon (nmlogd)

In addition to reading the CiscoWorks syslog (nmslog), formatting the messages into fields, and forwarding them to the Sybase server daemon, the Log daemon rereads the */etc/syslog.conf* file when it receives a SIGHUP signal. A SIGHUP signal is a process signal that you send when you want the Log daemon to reread the */etc/syslog.conf*. The Log daemon runs only on the machine on which CiscoWorks is installed. This machine is called the *log host*. If you want to run applications on another machine, and you want to log events, you must customize your */etc/syslog.conf* file.

The Log daemon is on when you reboot your system after installation. If you turn off the Log daemon or it goes down, the records in the nmslog are not placed in the database. When the Log daemon is started again, it will start logging messages to Sybase where it left off. The Log daemon application also changes status in the Process Manager window. The Log daemon buttons are active; therefore, you can start or stop the Log daemon from the Process Manager window.

The Log daemon (nmlogd) establishes a connection with the Sybase server. If the Sybase dataserver dies, nmlogd attempts to reestablish the connection with the Sybase dataserver once every 60 seconds until it succeeds. If nmlogd is unable to connect to the Sybase dataserver after continuous attempts, it displays a Sybase error message that explains the reason for the error.

A typical example of an error message follows:

```
Nmlogd: Sybase error_handler: General SQL server error: Check messages from SQL error.
```

For an explanation of the Sybase error, refer to your Sybase documentation and follow the instructions for eliminating the Sybase error. The nmlogd error message will not appear again.

CiscoWorks Polling Daemon (nmpolld)

The Polling daemon performs the database queries created with the Device Polling application.

The Polling daemon is on when you reboot your system after installation. If the Polling daemon goes down, any background polling that was in progress stops, and a message is placed in the centralized log.

On SNM, a log message is also sent to the Sun Console (not the SNM Console). The Polling daemon also changes status in the Process Manager window. The Polling daemon buttons are active, so you can start or stop the Polling daemon from the Process Manager window.

CiscoWorks Event Logger Daemon (nmeventd)

The Event Logger daemon reads event and trap reports and forwards these messages to *syslog*, so they can be stored in Sybase. The Event Logger daemon uses Sybase only to read the device filter list generated using *nmdevmon*.

The Event Logger daemon is on when you reboot your system after installation. If Sybase causes the Event Logger daemon to go down, the Event Logger daemon automatically attempts to reconnect itself to Sybase. The Event Logger daemon application also changes status in the Process Manager window. The Event Logger daemon buttons are active, so you can start or stop the Event Logger daemon from the Process Manager window.

CiscoWorks Device Monitor Daemon (nmdevmond)—for SunNet Manager Only

The Device Monitor daemon polls for device status and environmental information and forwards this information to SNM. On HP OpenView, use the HP OpenView application with device monitoring capabilities.

The Device Monitor daemon is on when you reboot your system after installation. If the Device Monitor daemon goes down, your device monitoring stops, and a message is placed in the centralized log. The Device Monitor daemon also changes status in the Process Manager window.

The Device Monitor daemon buttons are active, so you can start or stop the Device Monitor daemon from the Process Manager window.

Syslog Daemon (syslogd)

The syslog daemon logs system messages into a set of files described by the */etc/syslog.conf* configuration file. The messages can be queried in the Log Manager.

The syslog daemon status cannot be changed from the Process Manager window. The syslog daemon buttons are inactive, so you cannot start or stop the syslog daemon from the Process Manager window.

Sybase Server Daemon (dataserver)

The Sybase server daemon (dataserver) stores the formatted log messages in the CiscoWorks database. The messages can then be queried in the Log Manager. The Sybase dataserver should remain on at all times so CiscoWorks can collect and store data.

If the Sybase dataserver goes down, background CiscoWorks processes (for example, the Polling daemon) will log a message to the Sun Console indicating that they can no longer communicate with the Sybase dataserver.

The Sybase dataserver cannot be changed from the Process Manager window. The Sybase dataserver buttons are inactive, so you cannot start or stop the Sybase dataserver from the Process Manager window.

Note The syslog daemon and Sybase dataserver buttons are inactive. The buttons indicate whether the processes are running. You cannot start or stop the processes using the Process Manager. This protection exists so starting or stopping the syslog daemon or the Sybase dataserver can be supervised by the database administrator. The database is central to the operation of CiscoWorks, so it is imperative that Sybase has this type of protection.

TACACS Authentication Server (xtacacsd)

The TACACS authentication server responds to authentication queries from Cisco routers/ communications servers to verify valid username/password entries on those devices.

If the TACACS authentication server goes down, you must bring the server back up. You have two options:

- If the Cisco device is configured with **last-resort succeed**, the device will try several times to reach the given daemon. If, after all the timeouts and retries, no response is received, logins will be permitted. Note that this can be a security weakness, so use with caution.
- The **last resort** function must be enabled before you can log in to the device. If the *last resort* function is not enabled, perform a hard reset. You also may need to reconfigure your device to allow users to be able to login.

If the TACACS daemon goes down, enter the following command to restart the daemon:

```
hostname% xtacacsd -s -f/etc/tacpasswd
```

The TACACS authentication server cannot be changed from the Process Manager window. The TACACS authentication server buttons are inactive, so you cannot start or stop the TACACS authentication server from the Process Manager window.

Normally, the TACACS authentication server is run automatically from your *rc.local* file at system boot time. The daemon runs in the background and responds to authentication requests. If the daemon job is stopped (via a **kill -9** command), you must restart the daemon manually (via the command line syntax).