CHAPTER 5

CiscoWorks Getting Started

This chapter briefly describes some CiscoWorks applications and provides instructions on how to use them. It also contains an overview of how CiscoWorks functions with your network management platforms. The chapter includes the following sections:

- CiscoWorks Online Help
- Learning to Use CiscoWorks
- Getting Started with CiscoWorks on SunNet Manager
- Getting Started with CiscoWorks on HP OpenView
- Quick Tutorial on Using a CiscoWorks Application
- Security Options

For detailed CiscoWorks application information, refer to the CiscoWorks online help system.

CiscoWorks Online Help

CiscoWorks now includes a new form of online help based on help systems supplied with Windows-based platforms. It replaces the *CiscoWorks User Guide*, which is no longer supplied with CiscoWorks.

Once you start the CiscoWorks online help system, you can jump to any topic within the system. For information on how to use the Help viewer, select **Help>How to Use Help** when the first help window appears.

Online help is available from several parts of CiscoWorks and its network management platforms:

- Network management platform menus, so you can view help before starting a CiscoWorks application.
- CiscoWorks application Help menus, which start the help system and display the Contents page for that application.
- CiscoWorks Toolbox application, so you can view help before starting a CiscoWorks application.

CiscoWorks online help includes a **Find** button that allows you to do full-text searches within the help system. For information on how to do a search, select **Help>How to Use Help** when the first Help window appears.

Viewing Online Help

The online system includes help descriptions for all CiscoWorks menus and windows, including windows that do not have help menus. You can view your online help system in the following ways:

- Starting **CW - Application Help** from your NMS platform menus.
  - — To view CiscoWorks online help from SunNet Manager, select **Tools>CW - Application Help**. The CiscoWorks Help Contents window opens.
  - — To view CiscoWorks online help from HP OpenView, select **Help>CW - Application Help**. The CiscoWorks Help Contents window opens.
- Starting help from inside a CiscoWorks application.
  - — Select **Help>On *window_name*** from any CiscoWorks window that has a **Help** menu. The CiscoWorks Help Contents window for that application opens.
- Starting help from the CiscoWorks Toolbox application:
  - — Press the **F1** key while pointing to a CiscoWorks application icon in the Toolbox window. The CiscoWorks Help Contents window for that application opens.
- To get help for a window that does not have a **Help** menu or get help for a menu:
  - — Start the Help system for that application from a window that has a **Help** menu, or use one of the other methods for starting the help system.

    The Contents page for each application, titled "Using *Application_name*," includes highlighted jumps to topics containing lists of all the windows and menus for that application.
  - — Click on the highlighted jumps, *Application_name* Windows or *Application_name* Menus, for information on windows and menus.

Learning to Use CiscoWorks

CiscoWorks applications appear on your network management platform menus. To use CiscoWorks features and your NMS software to the fullest, you must understand how to start the applications and complete some basic tasks. This section describes the location of the CiscoWorks applications on the NMS menus and provides an overview of the post-installation tasks to complete before you begin to use CiscoWorks.

CiscoWorks Applications

Table 5-1 lists the CiscoWorks applications and their menu locations, and explains the tasks they perform. The CiscoWorks applications are listed in alphabetical order.

In SunNet Manager, start the CiscoWorks applications via the **Tools** and **Glyphs** menus. In HP OpenView, start the CiscoWorks applications through any of the standard menu options (**Administer**, **Monitor**, **Diagnose**, or **Misc**).

Table 5-1 Accessing CiscoWorks Applications from Your NMS Platform

SunNet Manager Menu Location	HP OpenView Menu Location	Tasks
Tools>CW - Application Help	**Help>CW - Application Help**	CiscoWorks online help system that allows you to investigate different levels of details within the online help system by selecting highlighted text to open additional windows. The online help system provides overview, related information, procedures, and glossary data on the CiscoWorks applications and features. It allows both keyword and full-text searches to enable users to search for specific text.
Tools>CW - AutoInstall Manager	**Administer>Cisco Devices>CW - AutoInstall Manager**	Remotely deploy a new router using a neighbor router. Perform AutoInstall tasks remotely by running CiscoWorks instead of a Telnet session.
Tools>CW - CiscoConnect	**Administer>CW - CiscoConnect**	Creates detailed customer network profiles, allows for automatic submission of Cisco cases to the Technical Assistance Center (TAC), and allows you to check the status of existing cases and add information to them. CiscoConnect uses a Mosaic HTML-1.0 compliant browser and HTTPD server, sending and receiving e-mail over the Internet to Cisco.
Tools>CW - CiscoView	**Monitor>CiscoView**	Allows you to view the front and rear panels of Cisco devices. You can display configuration and performance information for the device, its cards, and its ports. You can use this information to monitor network performance, quickly access vital device information, and troubleshoot minor network problems.
Tools>CW - Configuration Management	**Administer>Cisco Devices>CW - Configuration Management**	Access configuration files of local and remote Cisco Systems devices to analyze or edit them as necessary. Compare the contents of two configuration files in the database, or compare the configuration currently running on a device with the configuration that represents the last **Database to Device** command you performed.
Tools>CW - Configuration Snap-In Manager	**Administer>Cisco Devices>CW - Configuration Snap-In Manager**	Create and execute selected or custom UNIX commands on a device or group of devices at any time with Global Command Scheduler.
Glyph Tools>CW - Contacts	**Monitor>Description>CW - Contacts**	Obtain information about the contact for a specific device, including the complete name, phone number, e-mail address, title, location, and address of the person responsible for the operation of the device.
Tools>CW - Device Management	**Administer>Cisco Devices>CW - Device Management**	Create and maintain a database that holds a complete inventory of your network—hardware, software, release levels of operation components, individuals responsible for maintaining the devices, and associated locations. Enter or change data in the database tables for network devices, networks, interfaces, contacts, vendors, and so on.
Tools>CW - Device Monitor	**SunNet Manager only**	Monitor your network devices for information about environmental and interface statistics. Specify how often CiscoWorks should check this information.

SunNet Manager Menu Location	HP OpenView Menu Location	Tasks
Tools>CW - Device Polling	**Monitor>CW - Device Polling**	Probe and extract information about the condition of your networks using a polling feature. The information acquired is stored in the database for further evaluation and analysis. Compare the relative performance and status of devices and interfaces on the network.
Glyph Tools>CW - Device Software Manager	**Administer>CiscoWorks Software Images>CW - Device Software Manager**	Automate the upgrade of a system software or microcode image on a Cisco device.
Tools>CW - Domain Manager	**Administer>CiscoWorks Security>CW - Domain Manager**	Create groups of devices (called domains) that CiscoWorks applications can use to accomplish network management tasks such as security, configuration, and device polling.
Glyph Tools>CW - Environmental Monitor	**Monitor>CW - Environmental Monitor**	View the environmental status of Cisco AGS+ and Cisco 7000 routers including temperature and voltage statistics. This function is available on AGS+ routers running System Software Release 9.0 or later with an environmental monitor card running ENVM Microcode Version 2.0 or later.
Tools>CW - Global Command Manager	**Administer>CiscoWorks System>CW - Global Command Manager**	Create, store, and execute system commands on a device or group of devices at any time with Global Command Scheduler.
Tools>CW - Global Command Scheduler	**Administer>CiscoWorks System>CW - Global Command Scheduler**	Schedule commands or other jobs at regularly scheduled times using the crontab utility.
Glyph Tools>CW - Health Monitor	**Monitor>CW - Health Monitor**	View information about the status of a device, including buffers, CPU load, available memory, and protocols and interfaces being used. Enables you to display the Show Commands and Real-Time Graphs windows from the Health Monitor window.
Tools>CW - Login	**Misc>CW - Login**	Perform a generic login for all CiscoWorks applications that require user authentication so that you do not have to log in to each application separately.
Tools>CW - Logout	**Misc>CW - Logout**	Log out of secured CiscoWorks applications to ensure security for those applications with authority checking turned on.
Tools>CW - Path Tool **OR** **Glyph Tools>CW - Path Tool**	**Diagnose>Network Connectivity>CW - Path Tool**	View and analyze the path between two devices. Perform analysis on the path to collect utilization and error data. Display the devices encountered between the source and the destination device, the link speeds connecting these SNMP devices, and the interface names.
Tools>CW - Polling Summary	**Monitor>CW - Polling Summary**	Summarize the polling setup completed within Device Polling. Browse data, and stop and start polling.
Tools>CW - Process Manager	**Administer>CiscoWorks System>CW - Process Manager**	Start, stop, and view status of CiscoWorks-related processes including Polling (nmpolld), CiscoConnect (httpd), System Log (syslogd), Sybase Server (dataserver), and TACACS (xtacacsd) daemons.

SunNet Manager Menu Location	HP OpenView Menu Location	Tasks
Glyph Tools>CW - Real-Time Graphs	**Monitor>CW - Real-Time Graphs**	View device information such as the router health (buffer space, CPU load, environment, free memory, and security); interface health (bits per second, bytes, errors, packets per second, packets, and queues); and protocol traffic (IP, ICMP, SNMP, TCP, UDP, AppleTalk, DECnet IV, Novell, VINES, and XNS) using a grapher utility.
Tools>CW - SA Password	**Administer>CW - Security>CW - SA Password**	Log in to the Sybase database account so you can perform system administrator tasks.
Tools>CW - Security Manager	**Administer>Security>CW - Security Manager**	Create authority checking procedures to protect selected CiscoWorks applications and network devices from unauthorized individuals by requiring a login to use protected applications. This protection ensures that only users with a valid account and password can perform tasks such as configuring a router, deleting database device information, or defining polling procedures.
Glyph Tools>CW - Show Commands	**Diagnose>CW - Show Commands**	View device data about any SNMP device, including Cisco routers and communication servers. This data includes the software version, buffers, selected device interfaces, traffic mix, IP accounting checkpoint, ARP, and IP route. Emulates the EXEC **show** commands for Cisco routers.
Tools>CW - Software Inventory Manager	**Administer> CiscoWorks Software Images>CW - Software Inventory Manager**	Update the Sybase database to include current device software and hardware status. Sort device information according to platform and software image, and invoke Device Software Manager to update specific devices.
Tools>CW - Software Library Manager	**Administer>CiscoWorks Software Images>CW - Software Library Manager**	Maintains a master storage area that contains a list of all available Cisco system software. These Cisco IOS software images are retrieved by the user with a variety of methods.
Tools>CW - Sync w/Sybase **or** **Glyph Tools>CW - Sync w/Sybase**	**Misc>CW - Sync w/Sybase**	Synchronize the NMS and Sybase databases. CiscoWorks maintains data in the Sybase database, whereas each NMS maintains its own database. Sync w/Sybase ensures that device data from the NMS database is in the Sybase database (Sync w/Platform) and vice versa. Generally, synchronize the databases whenever new devices are added to your network. Use **Sync Selected** to add individual devices.
Tools>Sybase ESQR	**Misc>Sybase ESQR**	Use Sybase ESQR utilities to run and print reports on any table created with the Device Polling application.
Tools>CW - TACACS Manager	**Administer>Security>CW - TACACS Manager**	Maintain the TACACS password file on UNIX hosts that act as TACACS servers. Create and update TACACS accounts and computer-generated passwords.
Tools>CW - Toolbox	**Misc>CW - Toolbox**	Allows you to start CiscoWorks applications directly, without using the menus on your network management platform. Click on an application's icon in the Toolbox window to start the application. You can also display help for each application from the Toolbox.
Glyph Tools> Workgroup Director	**Monitor>Workgroup Director**	Monitors the status of any Cisco concentrator, switch, or network adapter card.

SunNet Manager Post-Installation Tasks

Perform the following tasks before using the CiscoWorks application on SunNet Manager (SNM):

1. Run the SNM Discover tool to create an SNM database and a network map with network devices. For more information, refer to "Running the SNM Discover Command," later in this chapter. For detailed information, refer to the *SunNet Manager 2.2 User's Guide*.
2. Create other network maps and submaps, and add appropriate devices. Refer to the section "Adding Cisco Devices to Your SNM Network Map," later in this chapter.
3. Use the SNM **Change Type** command to change appropriate SNM devices to Cisco devices. Refer to the section "Identifying Cisco Devices for CiscoWorks on Your SNM Map," later in this chapter.
4. Use the CiscoWorks Sync w/Sybase application to synchronize the SNM database with the Sybase database. Refer to the section "Synchronizing the NMS Database with Sybase," later in this chapter.
5. Check out the expanded CiscoWorks online help. Refer to the section "CiscoWorks Online Help," earlier in this chapter.

Before performing any of these tasks, you must become familiar with the SNM Console window and learn how to access its menu items.

HP OpenView Post-Installation Tasks

Perform the following tasks before using any CiscoWorks application on HP OpenView:

1. Run the HP OpenView **Manage Objects** command to discover IP devices on your network map. Refer to the section "HP OpenView Processes That Affect CiscoWorks," later in this chapter. For detailed information, refer to the *HP OpenView User's Guide*.
2. Create other network maps and submaps, and add the appropriate devices as your needs dictate. Refer to the section "Adding Cisco Devices to Your HP OpenView Network Map," later in this chapter.
3. Use the HP OpenView **Change Symbol Type** command to change appropriate generic devices to Cisco devices. Refer to the section "Identifying Cisco Devices for CiscoWorks on HP OpenView," later in this chapter.
4. Use the CiscoWorks Sync w/Sybase application to synchronize the HP OpenView database with the Sybase database. Refer to the section "Synchronizing the NMS Database with Sybase," later in this chapter.
5. Check out the expanded CiscoWorks online help. Refer to the section "CiscoWorks Online Help," earlier in this chapter.

Before performing any of these tasks, you must become familiar with the HP OpenView Console window and learn how to access its menu items.

Overview of CiscoWorks on Your Network Management Platform

CiscoWorks is integrated with the SNM or HP OpenView network management platform.

Note To understand the relationship between your NMS and CiscoWorks, you must become familiar with certain NMS features. If you use SNM, refer to your SNM documentation for the SNM **Create**, **Discover**, and **Change Type** commands to ensure that your platform is set up properly. If you use HP OpenView, refer to your HP OpenView documentation for the HP OpenView **Open/List Maps**, **Manage Objects**, and **Change Symbol Type** commands to ensure that your platform is set up properly.

During installation and configuration, CiscoWorks adds customized schema files with Cisco-specific device types (such as the Cisco AGS+) to the platform's schema files directory. CiscoWorks also adds its applications to the NMS menus.

Note Familiarize yourself with the user interface conventions used by Motif or your preferred windowing system. CiscoWorks supports Motif standards for all its graphical user-interface components, such as using the mouse, opening windows and menus, and manipulating windows and icons. They are not covered within this guide.

It is important to understand the NMS environment and how to use your platform software in conjunction with CiscoWorks. To answer your NMS network management questions, refer to the NMS platform documentation.

Getting Started with CiscoWorks on SunNet Manager

The following sections provide detailed information on SNM post-installation tasks, and an overview of how CiscoWorks functions on the SNM network management platform:

- Starting CiscoWorks on SNM
- CiscoWorks Use of SNM Utilities
- SNM Processes That Affect CiscoWorks
- Running the SNM Discover Command
- Adding Cisco Devices to Your SNM Network Map
- Identifying Cisco Devices for CiscoWorks on Your SNM Map

Starting CiscoWorks on SNM

This section briefly explains two ways to start the SNM Console to run CiscoWorks. For a more detailed description and options, refer to the *SunNet Manager 2.2 User's Guide*.

You can use several different commands to start the SNM Console. However, you must be running Open Windows.

Note Do not use the following commands until you install SNM in the default installation directory.

Starting CiscoWorks without the Database

Perform the following tasks to start CiscoWorks when there is no database present:

Step 1 To start the SNM Console initially or when you want to bring up the last map file, enter the following:

```
% snm
```

If problems occur, your *$PATH* environment variable might not include a path to the SNM executables. You can enter a fully qualified path. In the following example, */usr/snm/bin* is the path to the executables:

On SunOS:

```
% /usr/snm/bin/snm
```

On Solaris:

```
% /opt/SUNWconn/snm/bin/snm
```

If you don't want to start SNM with a network map, or want to load a specific map with the startup command, skip to the following section, "Starting CiscoWorks with the Database."

Step 2 Select **File>Load** to load an ASCII-format database map file into the SNM Console.

Starting CiscoWorks with the Database

To start CiscoWorks when the database is present, select one of the following methods:

- To start SNM without a database map file (which clears the run-time database), enter the following:

  ```
  % snm -i
  ```

Caution The **-i** option starts the SNM Console and removes the current run-time database. If you have a run-time database and want to preserve it, do not use the **-i** option, or you will lose this data.

- To start SNM with a specified map file (*map_name* is an ASCII database file), enter the following:

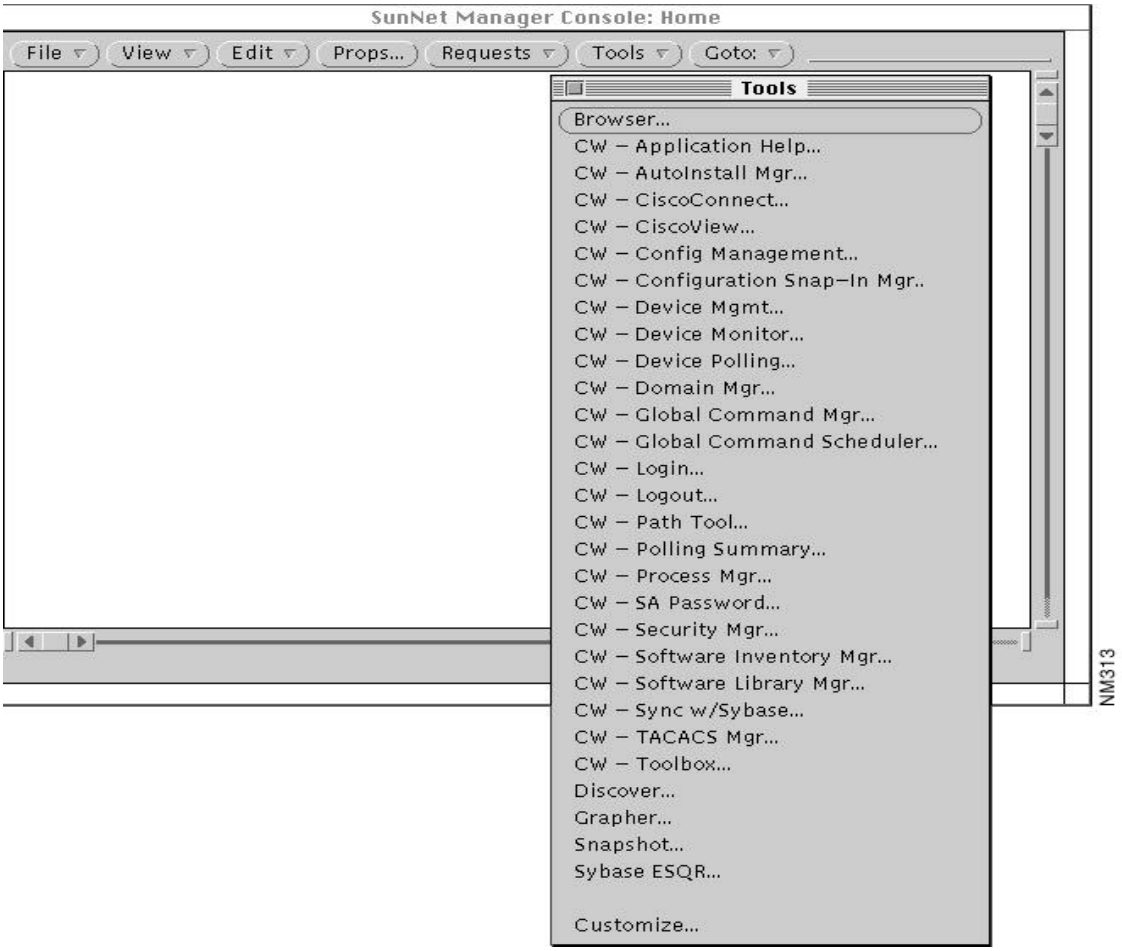
  ```
  % snm map_name
  ```

For more information on starting the SNM Console or troubleshooting startup problems, refer to the *SunNet Manager 2.2 User's Guide*.

Opening CiscoWorks Applications from SNM

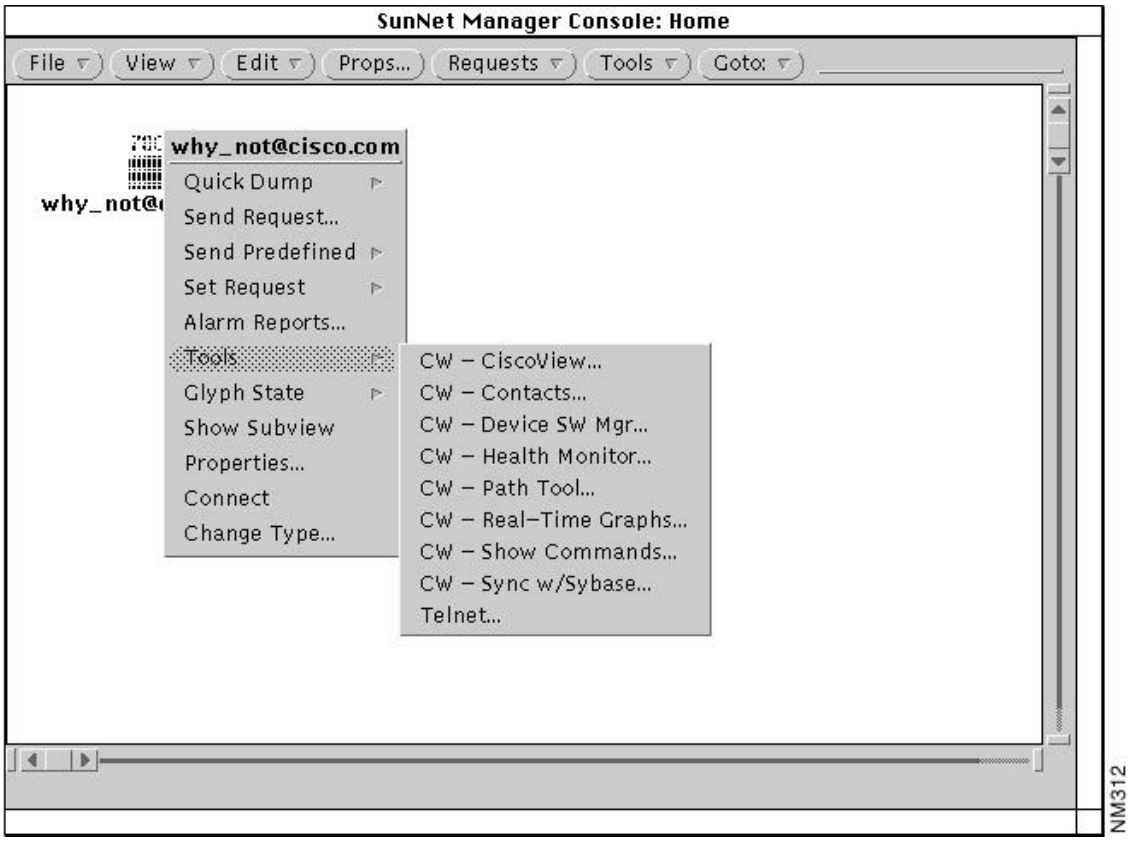
On the SNM platform, you run CiscoWorks applications either from the **Tools** menu or the Glyphs menu. Figure 5-1 shows the CiscoWorks applications that are available on the **Tools** menu.

Figure 5-1 CiscoWorks Applications on the SunNet Manager Tools Menu



SNM also has a menu that becomes available when you click on an icon. To display the menu, select an icon, place the pointer anywhere in the window pane, and press the MENU mouse button. On SNM, icons are called *glyphs*, and the menu that becomes available is called the **Glyph** menu (Figure 5-2).

Figure 5-2 CiscoWorks Applications on the Glyph Menu



CiscoWorks Use of SNM Utilities

CiscoWorks uses two SNM utilities: the Results Browser and the Grapher. Following is a brief description of each and how it is used by CiscoWorks:

- Results Browser—The SNM Results Browser retrieves, organizes, and views network management data. The Results Browser is used in several CiscoWorks applications, including Polling Summary.

  For example, Polling Summary uses the Results Browser to display query reports on polled device groups. You can display report data or send this data to the SNM Grapher.

- Grapher—The SNM Grapher presents real-time or logged network data in graphical format. The Grapher is used by Health Monitor and Real-Time Graphs to display data in graphical format. You can change the properties of your graph with SNM to reflect your customized colors; delta, absolute, or cumulative graphing formats; and so on.

For more detailed information on the Results Browser and Grapher, refer to your SNM documentation.

SNM Processes That Affect CiscoWorks

Some SNM processes affect how CiscoWorks runs, depending on their configuration in SNM. As you continue to work with SNM processes and CiscoWorks, consider the following conditions in which the two environments coexist:

- In SNM, you can customize the operation of the SNM Console and other SNM utilities (such as the Results Browser and Results Grapher), or you can accept the default configuration. For example, one option is to specify how device errors are indicated on the screen, either by visual or audible signals. To set this type of configuration, refer to your *SunNet Manager 2.2 User's Guide*.

  One important option to consider is customizing your system to automatically receive information about device status. To set this option, open the Console Properties window and enable the SNM Automatic Management feature, as described in the *SunNet Manager 2.2 Reference Guide*.

- In SNM, you can use the SNM Discover utility to automatically create your map (referred to by SNM as a *run-time database*). You also can manually add devices (referred to by Sun as *components*) to your map.

  The **Change Type** command on the **Glyph** menu is especially important. **Change Type** enables you to change the device type. You may need to use this command if you use the Discover utility, and SNM incorrectly classifies the element type of a device. You must classify device types accurately according to their specific product names or product types, because availability and correct operation of many CiscoWorks applications depend on the correct classification of the device type.

- To create a true network map (which includes different hierarchical views, devices, connections, and buses), refer to the *SunNet Manager 2.2 User's Guide*. You also can use the **Create** command or CiscoWorks Device Management, AutoInstall Manager, or Sync w/Sybase applications to add new devices to your network map.

- For a brief overview on how to use the SNM **Discover** command, refer to the section "Running the SNM Discover Command," later in this chapter. For a detailed description of Discover, refer to your *SunNet Manager 2.2 Reference Guide*.

Running the SNM Discover Command

Most CiscoWorks applications require a database of network devices. They also require a network map that contains these network devices.

You can use the **Discover** command to find the devices in the primary network to which your system is attached. Use the **Discover** command to create a view (map) of your network and a run-time database for SNM. On SunOS, if you did not install the SNM software in the */usr/snm* directory, you must set the environment variable for *$SNMHOME* as described in the *SunNet Manager 2.2 User's Guide*.

Note The amount of time that the **Discover** command takes to find all the devices on your network depends on the size of your subnet and the number of devices attached to it.

To run the **Discover** command, perform the following steps:

Step 1 Display the SNM Console by entering the following command:

On SunOS:

```
% /usr/snm/bin/snm
```

On Solaris:

```
% /opt/SUNWconn/snm/bin/snm
```

The SNM Console window appears.

Step 2 Select **Tools>Discover**.

The SNM Discover Program window appears, prompting you to enter the superuser password.

Step 3 Enter your superuser password.

The **Discover** command begins to construct views of the network. When the process is complete, networks appear in the form of cloud glyphs, and devices appear in the form of router glyphs.

Step 4 To save the database of devices that you created, select **File>Save**.

For detailed information on how to run the **Discover** command, refer to the *SunNet Manager 2.2 User's Guide*. To add devices to your network map after CiscoWorks installation, you can use Device Management, AutoInstall Manager, or Sync w/Sybase applications. For more information on adding devices after a CiscoWorks installation, refer to the CiscoWorks online help sections on "Device Management," "AutoInstall Manager," or "Sync w/Sybase."

Adding Cisco Devices to Your SNM Network Map

To add a Cisco 7000 to your SNM network map, perform the following steps:

Step 1 Display your network map.

Step 2 Select **Edit>Add Object**.

The Add Object Palette appears.

Step 3 Click on the Cisco Router icon to display the Symbol Subclasses for Cisco Routers.

Step 4 Using the left mouse button or its equivalent, click on the 7000 symbol; then move your mouse to the network map and click the left mouse button again.

The Cisco 7000 symbol is copied into the map and the Add Object window appears.

Step 5 Fill in the required information in the Add Object window; then click on **OK** to record information about the object you just added.

Identifying Cisco Devices for CiscoWorks on Your SNM Map

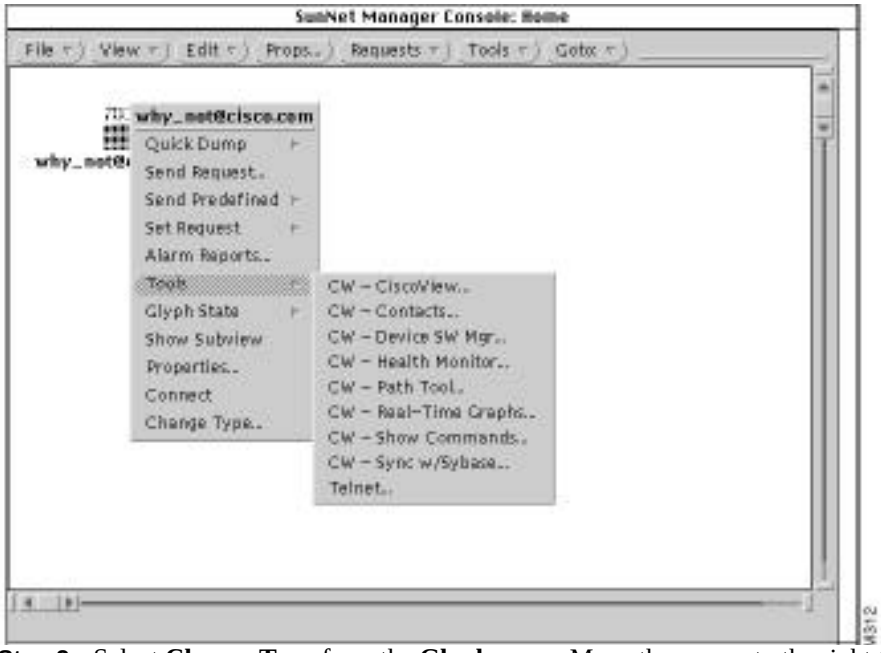
Network devices located by the **Discover** command exist as generic devices. You must identify them as Cisco devices to take advantage of CiscoWorks functionality.

To change a device status from generic to that of a Cisco device, perform the following steps:

Step 1 Use the mouse to point to a Cisco device in the SNM Console window; then press the right mouse button or its equivalent.

The Glyph menu for the device appears, as shown in Figure 5-3.

Figure 5-3 Glyph Menu



Step 2 Select **Change Type** from the **Glyph** menu. Move the mouse to the right to display the popup menu, which lists device names and types.

Step 3 Select the device type that matches the one selected in your network map.

For example, if the selected device in your network map is an AGS+, select **Cisco-AGS+** from the pull-down menu. The device now appears as a Cisco device.

Step 4 Repeat Steps 1 through 3 to identify other devices in the network map.

Step 5 Confirm that the selected devices have the correct Simple Network Management Protocol (SNMP) community strings. Select **Tools>Properties** to view the SNM Properties Sheet window.

Getting Started with CiscoWorks on HP OpenView

The following sections provide detailed information on HP OpenView post-installation tasks, and an overview of how CiscoWorks functions on the HP OpenView network management platform:

- Starting CiscoWorks on HP OpenView
- Learning about Other CiscoWorks Applications on Your NMS
- CiscoWorks Use of HP OpenView Tools
- HP OpenView Processes That Affect CiscoWorks
- Running the Manage Objects Command on HP OpenView
- Adding Cisco Devices to Your HP OpenView Network Map
- Identifying Cisco Devices for CiscoWorks on HP OpenView
- Synchronizing the NMS Database with Sybase

Starting CiscoWorks on HP OpenView

This section briefly explains two ways to start the HP OpenView Console to run CiscoWorks. You can use several commands to start the HP OpenView Console. However, you must be running an X windows manager, such as Motif.

Note Do not use the following commands until you install HP OpenView in the default installation directory.

Starting CiscoWorks without the Database

Perform the following tasks to start CiscoWorks when there is no database present:

Step 1 To start the HP OpenView Console initially (when no database is present) or when you want to bring up the last map file, enter the following:

```
% ovw
```

If problems occur, your *PATH* environment variable might not include a path to the HP OpenView executables. You can enter a fully qualified path. In the following example, */usr/OV/bin* is the path to the executables:

HP-UX 9.x and HPOV 3.3

```
% /usr/OV/bin/ovw
```

HP-UX 9.x/10.x and HPOV 4.0

```
% $OV_BIN/ovw
```

If you don't want to start HP OpenView with a network map, or you want to load a specific map with the startup command, skip to the following section, "Starting CiscoWorks with the Database."

Step 2 Select **File>Open/List Maps** to load a database map file into the HP OpenView Console.

Starting CiscoWorks with the Database

To start CiscoWorks when the database is present, select one of the following methods:

- To start the Console without a database map file (which clears the run-time database), enter the following:

  ```
  % ovw -i
  ```

Caution The **-i** option starts the HP OpenView Console and removes the current run-time database. If you have a run-time database and want to preserve it, do not use the **-i** option, or you will lose this data.

- To start the Console with a specified map file (*map_name* is an ASCII database file), enter the following:

  ```
  % ovw -map map_name
  ```

For more information on starting the HP OpenView Console or troubleshooting startup problems, refer to the *HP OpenView 3.3 User's Guide or* the *HP OpenView 4.0 User's Guide*.

Opening CiscoWorks Applications from HP OpenView

CiscoWorks is fully integrated with HP OpenView, so you can access CiscoWorks applications directly from the main window of the HP OpenView platform. (See Figure 5-4 and Figure 5-5.)

Figure 5-4 HP OpenView 3.0 Main Window

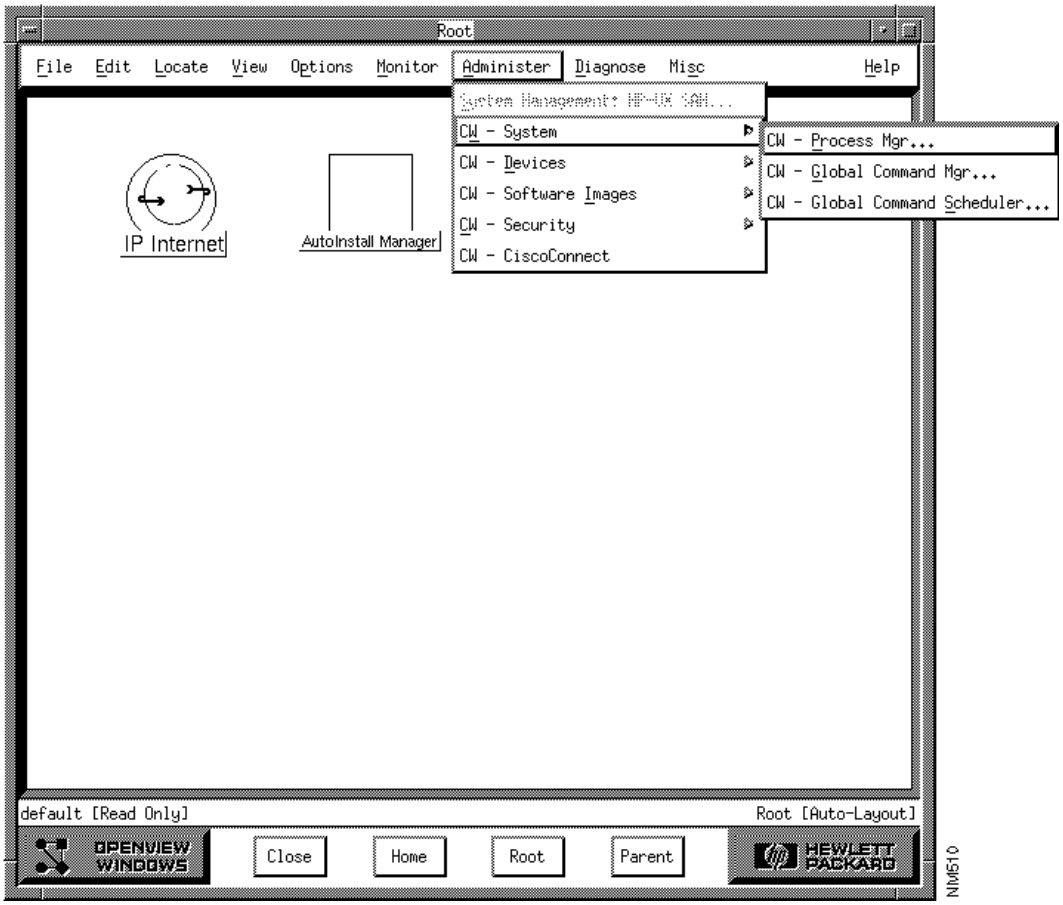


Figure 5-5 HP OpenView 4.0 Main Window

CiscoWorks applications are available from HP OpenView main menus. For example, to open the Process Manager application, select **Administer>CW - System>CW - Process Mgr**.

Running Device-Dependent CiscoWorks Applications on HP OpenView

HP OpenView does not use glyphs or a Glyph menu. To access device-dependent applications, perform the following steps:

Step 1 Select a device in your network map or submap.

Step 2 Select the specified CiscoWorks application from the appropriate menu.

Learning about Other CiscoWorks Applications on Your NMS

This section briefly outlines the steps you must complete on your NMS before continuing with CiscoWorks tasks. For instructions on using specific CiscoWorks applications, refer to the appropriate sections in this section, or to the CiscoWorks online help system.

Follow these steps to learn about CiscoWorks applications that use the Sybase database:

Step 1 Start SunNet Manager or HP OpenView.

Refer to the sections "Starting CiscoWorks on SNM" or "Starting CiscoWorks on HP OpenView," earlier in this chapter, to learn how to start your NMS.

Step 2 Access Security Manager to turn on authentication checking and provide users and groups access privileges to CiscoWorks applications.

For more information, refer to the CiscoWorks online help section on setting up domains and securing applications in Security Manager.

Step 3 Set up your NMS database using the utilities provided with your NMS software.

For information on the SNM **Discover** command, refer to the section "Running the SNM Discover Command," or to the SNM documentation. For information on the HP OpenView **Manage Objects** command, refer to the section "HP OpenView Processes That Affect CiscoWorks," or to the HP OpenView documentation.

Step 4 Use Sync w/Sybase to synchronize your NMS database devices with the CiscoWorks Sybase database.

If you are adding individual devices, use the Device Management, AutoInstall Manager, or Sync w/Sybase applications to add device data to the Sybase database. For information on AutoInstall Manager, Sync w/Sybase, and Device Management, refer to the appropriate CiscoWorks online help sections.

Note Sync w/Sybase synchronizes, or adds, devices in your NMS database to the CiscoWorks database. The **Sync w/NMS** command, located within Sync w/Sybase, allows you to add devices from the CiscoWorks database to the NMS database. Alternatively, you can manually add devices created in CiscoWorks by using the **Create** command in HP OpenView or the **Initialize** command in Device Management.

Step 5 Use the CiscoWorks applications and NMS utilities to help you monitor and manage your network activity.

Table 5-2 lists the general network management tasks and their responsible software applications. Use this table to determine which documentation set (CiscoWorks or your NMS) to use if you have questions or need information. The X indicates that this information is located in the NMS manual set for the utility or application.

Table 5-2 CiscoWorks Versus HP OpenView Task Descriptions

Task	NMS Software	CiscoWorks Software
Start NMS software	X	
Use the **Create** or **Manage Objects** command	X	
Traverse your network map (NMS database)	X	
Create or find devices or device properties	X	AutoInstall Manager, Device Mgmt, and Sync w/Sybase
Modify or change device or device properties	X	Device Mgmt, Sync w/Sybase

Task	NMS Software	CiscoWorks Software
Move or connect devices	X	
Copy or delete devices	X	Device Mgmt, Domain Manager
Save your network map (run-time database)	X	
Modify a graph display	X	
Print graphs, windows, or text files	X	
Change the symbol type	X	
Check the cause of an event	X	
Change how symbol type changes propagate	X	
View or change the status of requests	X	
View error and traps	X	
Manage SNMP devices	X	All CiscoWorks applications

CiscoWorks Use of HP OpenView Tools

CiscoWorks uses one HP OpenView application, **xnmgraph**, which presents real-time or logged network data in graphical format. The **xnmgraph** application is used in the Health Monitor and Real-Time Graphs applications to display data in graphical format. You can change the graph properties either with the popup menu on the graph window or by editing the X resources in the */usr/OV/appdefaults/xnm* file for HPOV 3.3 and *$APP_DEFS/XNm* for HPOV 4.0.

For more detailed information on **xnmgraph**, refer to your HP OpenView documentation.

HP OpenView Processes That Affect CiscoWorks

Some HP OpenView processes affect how CiscoWorks runs, depending on their configuration in OpenView. As you continue to work with OpenView processes and CiscoWorks, consider the following conditions in which the two environments coexist:

- In HP OpenView, you can customize the operation of the HP OpenView Console and other HP OpenView tools.
- In HP OpenView, an IP Internet map is automatically created for you, providing data on all IP devices connected to your NMS system. To automatically discover newly added or modified IP devices, use **Manage Objects**. You can also manually add devices (referred to by HP OpenView as *objects*) to your map.

  The **Change Symbol Type** command on the HP OpenView symbol popup menu is especially important. Use this command to change device symbol types. You may need to use this command if you used the **Manage Objects** command, and HP OpenView assigned an incorrect symbol to the device. You must classify device types accurately according to their specific product names or product types, because the availability and correct operation of many CiscoWorks applications depend on the correct classification of the device type.
- To create a true network map (which includes different submaps, devices, connections, and buses), refer to the *HP OpenView User's Guide.*You also can use the **New Map** command, or the CiscoWorks Device Management, AutoInstall Manager, or Sync w/Sybase applications to add new devices to your network map.

Running the Manage Objects Command on HP OpenView

CiscoWorks applications require a database of network devices and a network map that contains these devices. HP OpenView automatically displays a default map, called IP Map, which shows all the IP devices connected to the local HP OpenView system. The **Manage Objects** command enables you to find the devices in the primary network to which your system is attached. Use this command to view your network and a run-time database for HP OpenView.

Note The amount of time the **Manage Objects** command takes to find devices on your network depends on the size of your subnet and the number of devices attached to it.

To run the **Manage Objects** command, perform the following steps:

Step 1 Display the HP OpenView Console by entering the following command:

```
% ovw
```

The HP OpenView Console window appears.

Step 2 Click on the IP Internet default map to to pen it.

Step 3 Click on a device symbol to select it.

Step 4 Select **Options>Manage Objects**.

Manage Objects begins to construct views of the network. When the process is complete, you see a representation of the subnetwork joined to the selected device. Subnetworks appear in the form of lines connecting the selected device symbol to other device symbols.

Step 5 Select **File>Save Map As** to save the database of devices that you created.

For detailed information on how to run the **Manage Objects** command, refer to the *HP OpenView User's Guide*. To add devices to a network map after CiscoWorks installation, you can use the Device Management, AutoInstall Manager, or Sync w/Sybase applications. For more information on adding devices after CiscoWorks installation, refer to the next section, "Adding Cisco Devices to Your HP OpenView Network Map."

Adding Cisco Devices to Your HP OpenView Network Map

To add a Cisco device to your new network map, perform the following steps:

Step 1 Display your network map.

Refer to your HP OpenView documentation for instructions on how to use your network map.

Step 2 Select **Edit>Add Object**.

The Add Object Palette appears.

Step 3 Click on the Cisco router icon to display the Symbol Subclasses for Cisco Routers.

Step 4 Using the left mouse button or its equivalent, click on a Cisco device symbol; then move your mouse to the network map and click the left mouse button again.

The Cisco device symbol is copied into the map and the Add Object window appears.

Step 5 Complete the Add Object window; then click on **OK** to record information about the object you just added.

Identifying Cisco Devices for CiscoWorks on HP OpenView

Network devices that are discovered by the **Manage Objects** command may exist as generic devices. You must identify them as Cisco devices to take advantage of CiscoWorks functionality.

To change device status from generic to that of a Cisco device, perform the following steps:

Step 1 Use the mouse to point to a Cisco device in the HP OpenView Console window.

Step 2 Press the right mouse button or its equivalent.

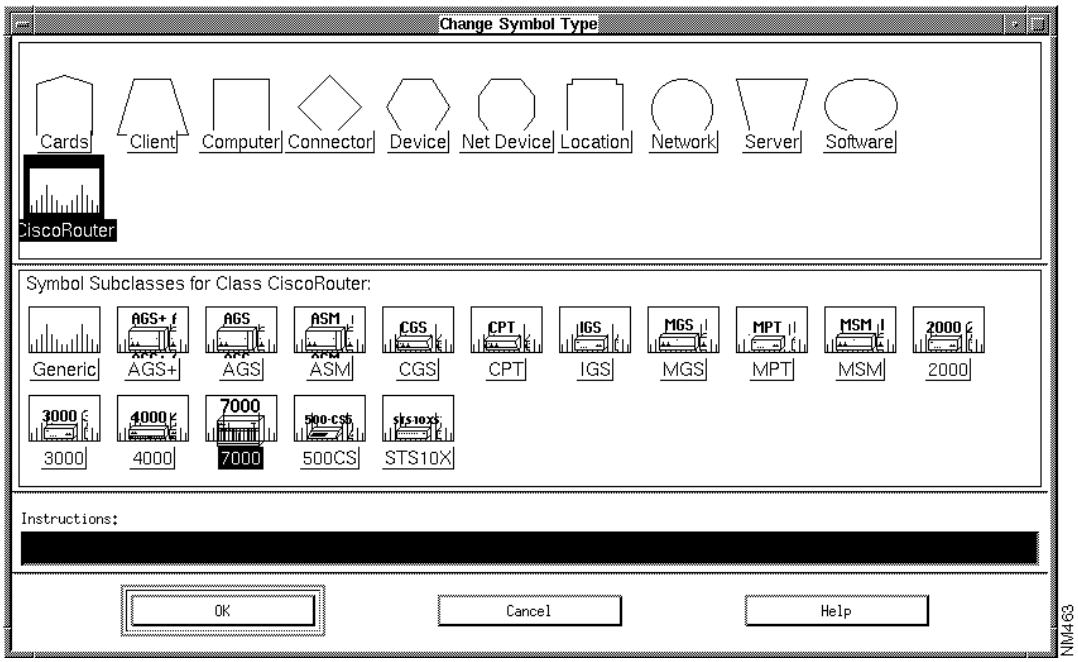
The symbol popup menu for the device appears, as shown in Figure 5-6.

Figure 5-6 Symbol Popup Menu

Step 3 Select **Change Symbol Type** from the **Symbol Popup** menu.

The Change Symbol Type window appears, as shown in Figure 5-7.

Figure 5-7 Change Symbol Type



Step 4 Select a symbol class that corresponds to the device selected in the map. For example, if the selected device in your network map is a Cisco 7000, select Cisco Router (because Cisco 7000 is a class of Cisco Router).

The Change Symbol Type window expands to display the Symbol Subclasses for Class Cisco Router.

Step 5 Select a symbol subclass for the specified symbol. For example, if the selected device in your network map is a Cisco 7000, select the 7000 symbol.

Step 6 Repeat Steps 1 through 5 to identify other devices in the network map.

Step 7 Confirm that the selected devices have the correct SNMP community strings by viewing the SNMP Configuration window. Select **Options>SNMP Configuration** from the HP OpenView menu bar.

Synchronizing the NMS Database with Sybase

CiscoWorks uses two separate databases:

- The NMS database, or *nms*, stores information about Cisco network devices, configuration details, and other data needed by each application. This is the database that Sync w/Sybase uses.
- The polling database, or *polldb*, stores dynamic polling information from your Cisco devices. The information stored in this database is deleted frequently, based on the thresholds you set up during installation.

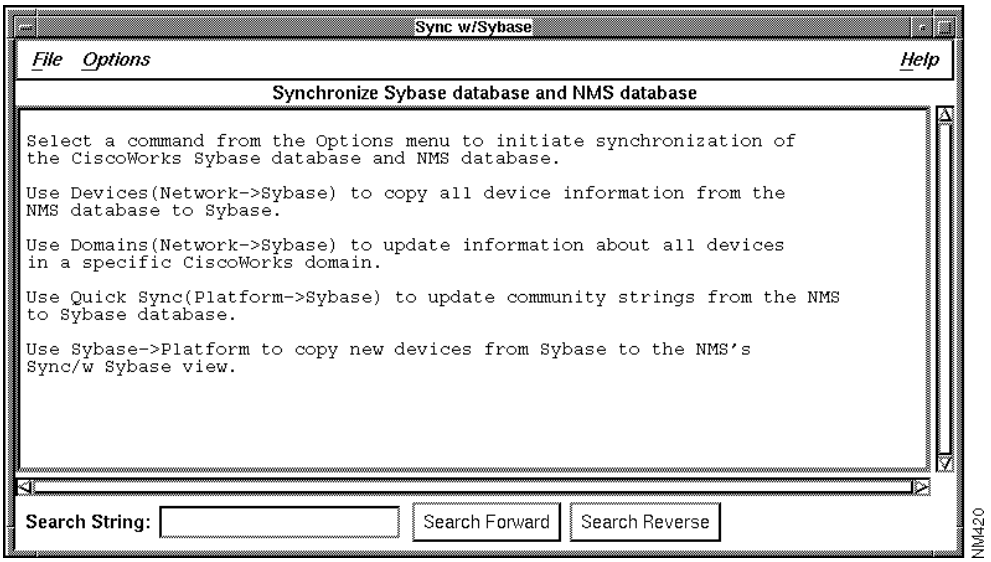
The NMS run-time database is a third database that interacts with the CiscoWorks databases. This platform database stores information about the network. By synchronizing the Sybase database with the NMS database of the network platform, you build a complete resource of information.

Your NMS platform maintains a run-time database of devices that you create using NMS utilities. In order to use CiscoWorks applications, you must list devices in the Sybase database. Sync w/Sybase performs the following functions to enable you to use CiscoWorks applications:

- Adds entries for your network devices to the NMS database.
- On SunNet Manager (SNM), it turns on the Cisco agent in the Properties sheet for Cisco devices.
- Confirms that the device lists in the NMS platform and Sybase databases match one another.

Use Sync w/Sybase to synchronize database information. The Sync w/Sybase application appears in the CiscoWorks menu and device popup menus. Run Sync w/Sybase if you just initialized your NMS and want to fully synchronize both databases. Run Sync w/Sybase from the device menu if you want to synchronize one or more specific devices. In both cases, the Sync w/Sybase window, from which you can select other options, displays. (See Figure 5-8.)

Figure 5-8 Sync w/Sybase



Depending on the number of database records and the information contained in each, database synchronization can be time-consuming.

Timesaver First-time CiscoWorks users should run the Device (**Network>Sybase**) option to synchronize all device information. If you are a first-time user and want the quickest method of synchronizing, use **Quick Sync**, which synchronizes all the devices, with the warning that device information will not be complete. If you use **Quick Sync**, you may want to return to Sync w/Sybase when you have more time to use the Device (**Network>Sybase**) option to fill in the incomplete device information.

To adjust for synchronization time and to meet special needs, select one of the following commands from the **Options** menu of the Sync w/Sybase window:

- **Devices (Network>Sybase)**

  Copies the complete number and contents of database records from your NMS database to Sybase. These records might include information about the hardware platforms, community strings, and so forth. Allows you to choose the NMS device records that you want to add to

Sybase. To select contiguous items, hold down the **Shift** key and click on additional device names, or drag through a range of names. To select noncontiguous items, hold down the **Control** key and select individual device names. With the device name(s) selected, click on **Sync**.

- **Domains (Network>Sybase)**

  Updates device records for the selected domain in the Sybase database. With the domain name selected, click on **Sync**.

- **Quick Sync (NMS>Sybase)**

  Creates entries in the Sybase table only for the devices listed in your NMS, but excludes specific information such as inventory details or hardware platforms. Use this command if you need the databases to quickly recognize the devices contained in each. Later, if you decide that you want the complete device information available from your NMS platform, you can copy it with another command from the **Options** menu of Sync w/Sybase, or enter the information via the CiscoWorks Device Management application.

- **Sybase>NMS**

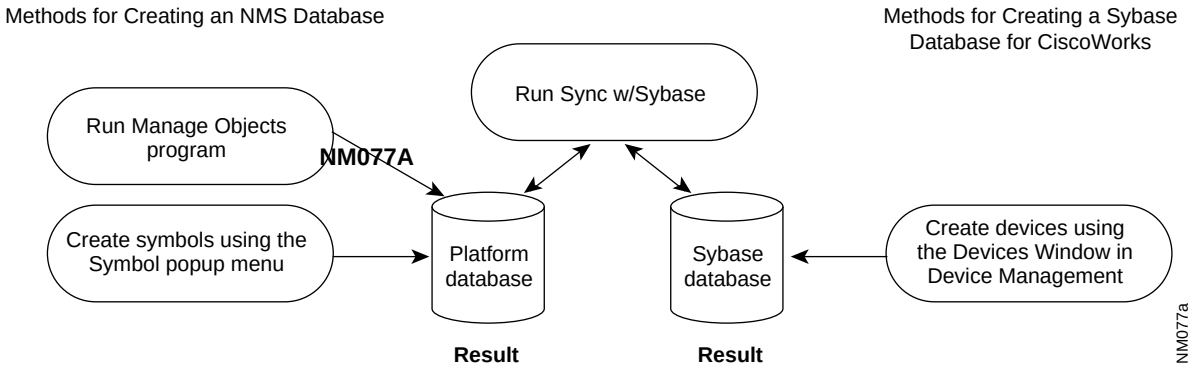
  Copies only the Sybase device records that did not yet exist in HP OpenView into the HP OpenView database. This is the inverse process of **Devices (Network>Sybase)**. When you use Device Management or AutoInstall Manager to add a device to Sybase, the device name is not recognized by HP OpenView until you use **Sybase>NMS**. The device name is also not recognized if you add it to Sybase but do not add the symbol to HP OpenView. However, if you delete a device from HP OpenView, it remains as a record in Sybase until you manually delete it. A network symbol (circle) appears in your network map that lists the device records added from this process.

- **Timeout Interval**

  Displays a dialog box where you can specify how much time can elapse before synchronization terminates and declares the device unreachable. You can also specify the default timeout using the X Resource timeout Interval in your *.Xdefaults* file. The resource name is synchTimeout.

Figure 5-9 illustrates the relationship between the HP OpenView and CiscoWorks databases. Although you can add device names directly to either database, you must run Sync w/Sybase to confirm that the information about a particular device is correct in both places.

Figure 5-9 Database Creation for Your NMS Platform and CiscoWorks



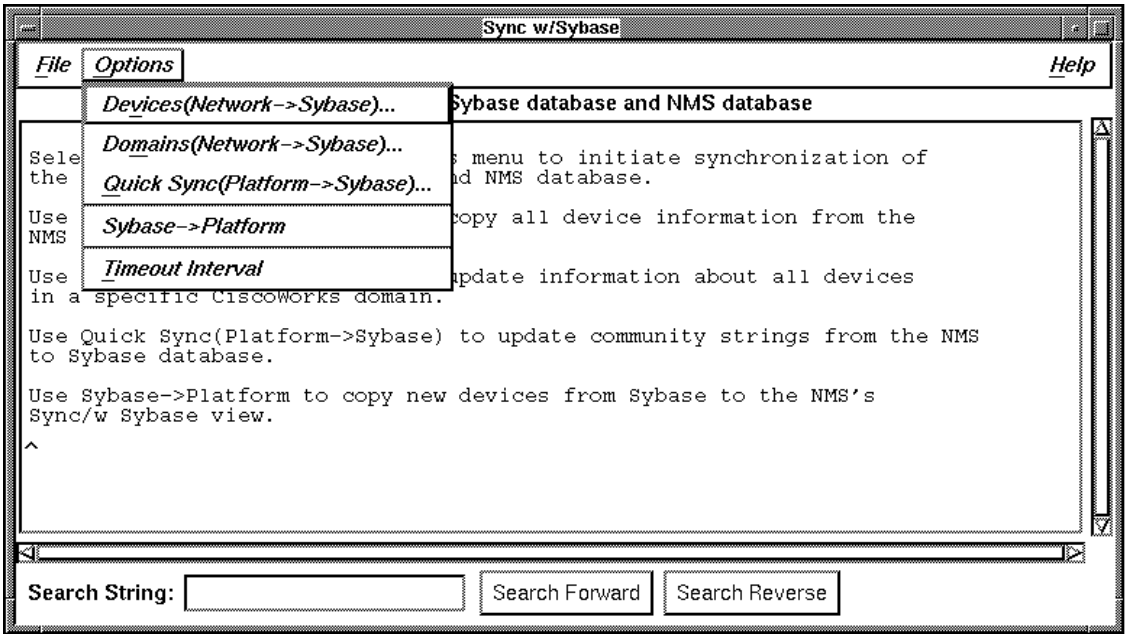
For more detailed information about the database and the Sync w/Sybase and Sync with NMS applications, refer to the CiscoWorks online help on “Sync w/Sybase.” For more information about the AutoInstall Manager application, refer to the CiscoWorks online help on “AutoInstall Manager.”

When you have finished creating a run-time database with network devices, follow these steps to run the Sync w/Sybase application:

Step 1 Select **Misc>Sync w/Sybase**.

The Sync w/Sybase window appears. (See Figure 5-10.)

Figure 5-10 Sync w/Sybase Window



The synchronization process takes from 3 minutes to over an hour, depending on the size of your network and the number of devices you are synchronizing.

Select **File>Exit** to stop the synchronization process at any time. The devices synchronized up to this point are saved in the Sybase database.

Step 2 Select **File>Exit** to exit this window.

Setting Environment Variables

To use your NMS and CiscoWorks, you must make sure that the environment variables explained in Table 4-1 are set correctly. Refer to the section "Verifying Changes to the .cshrc File," in the "Validating CiscoWorks Installation" chapter.

Normally, these environment variables are set during the CiscoWorks installation process.

Quick Tutorial on Using a CiscoWorks Application

This section provides an overview of how to use a CiscoWorks application. It uses the Path Tool application as an example. For a detailed explanation of all CiscoWorks applications, refer to the CiscoWorks online help.

To use the Path Tool application, you must have at least two network devices in the Sybase database. Use Sync w/Sybase to add network devices to the Sybase database.

Displaying the Path between Two Devices

The Path Tool application enables you to display the routing path between a source device and a destination device.

To graphically display the path between two devices, perform the following steps:

Step 1 On SunOS and Solaris:

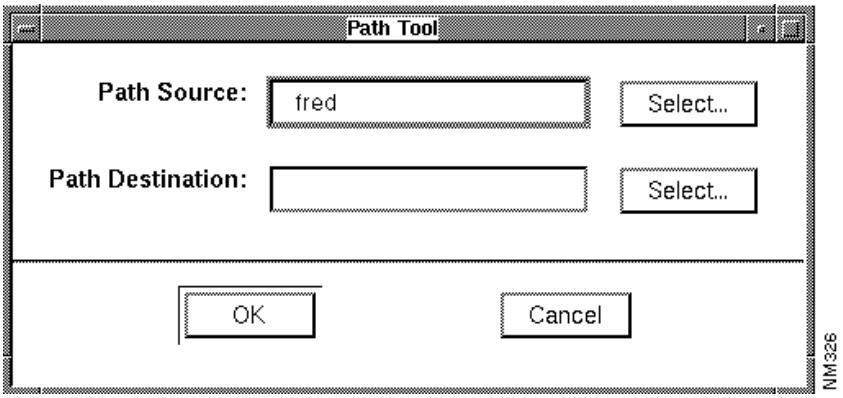
In the SNM Console window, click on an SNMP device and then display the **Glyph** menu. Next, select **Tools>Path Tool** from the **Glyph** menu.

On HP-UX:

In the HP OpenView Console window, click on an SNMP device and select **Diagnose>Network Connectivity>CW - Path Tool**.

A window similar to that in Figure 5-11 appears. The information about the source device is completed.

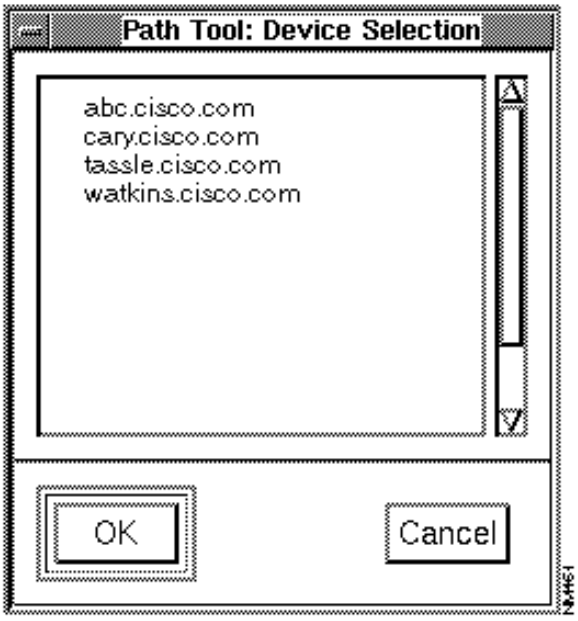
Figure 5-11 Path Tool Window



Step 2 To select the destination device, click on **Select** next to the Path Destination field or enter the complete device name in the Path Destination field.

If you click on **Select**, the Device Selection window appears listing the devices in the SNM database. It is similar to the window shown in Figure 5-12.

Figure 5-12 Device Selection Window



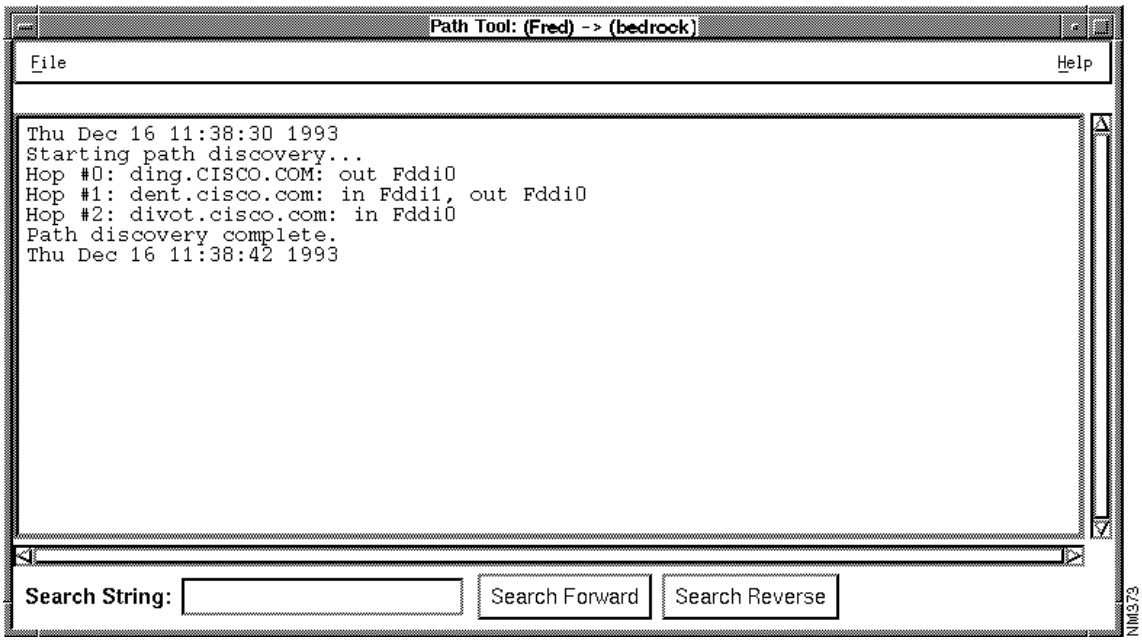
Step 3 Click on the device that you want to specify as the destination and click on **OK**.

After the connection has been established, the device name appears in the Path Destination field in the Path Tool window.

Step 4 Click on **OK** in the Path Tool window to display the Path Tool Hops window.

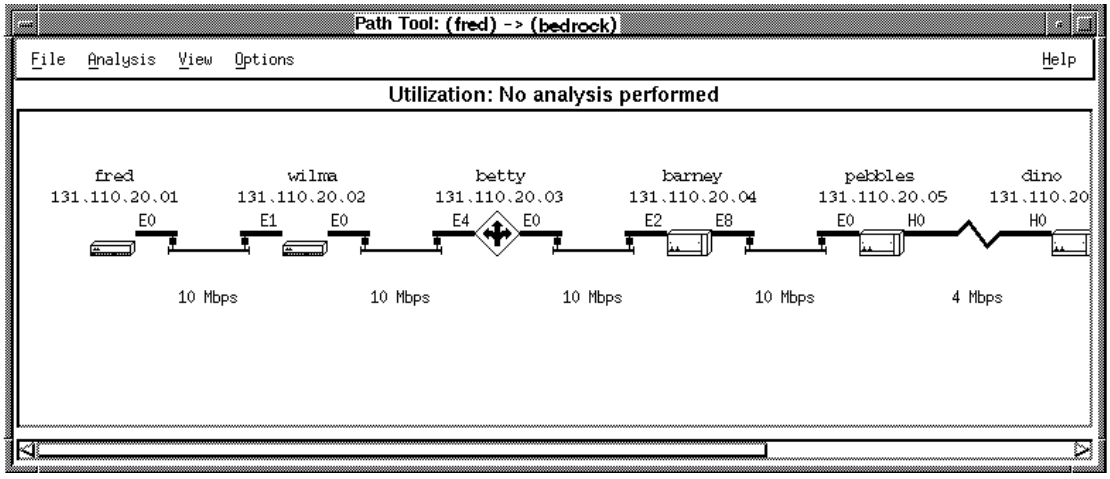
A browser window appears (similar to the window shown in Figure 5-13), displaying the progress of the Path Tool as it makes each network hop from the source to the destination device.

Figure 5-13 Path Tool Window with Text



After the connection is established, another Path Tool window appears (similar to the window shown in Figure 5-14), graphically displaying the path between the source and destination devices you specified.

Figure 5-14 Path Tool Window with a Graphic Display



Step 5 Select **File>Exit** to close the window.

For more information on how to use the Path Tool, refer to the online help for Path Tool.

Security Options

If you use the Security Manager application to protect specific applications, all users must enter a valid username and password to access applications. For a detailed description of which CiscoWorks applications you can protect, refer to the CiscoWorks online help section on setting up domains and securing applications.

Each CiscoWorks application has varying levels of access privileges. Users are granted inherent privileges to certain applications (such as the ability to display devices) based solely on their group-domain associations. The CiscoWorks administrator governing Security Manager can grant further levels of "application-specific" privileges (such as add or change database information) to selected groups.

CiscoWorks Login and Logout Functions

When security is enabled, if you previously used the **Login** command to log in to CiscoWorks, a user identification window does not appear. If you do not use the **Login** command, CiscoWorks prompts you for a username and password each time you run a secured application. This login controls access to the application.

If you use Security Manager to secure your CiscoWorks applications, you can use **Login** and **Logout**. For more information on logging in and out, refer to the CiscoWorks online help section on **Login** and **Logout**.

Timesaver By using **Login**, you need to log in only once. If you do not use **Login**, CiscoWorks requires user identification information (a username and password) each time you attempt to start a secured application.