Chapter 6
Device Management

This chapter describes the Device Management application and how to use it to build the CiscoWorks database. CiscoWorks uses the database form information in several application functions. The following sections are included in this chapter:

- A brief overview of the CiscoWorks database
- Use of the Sync w/Sybase application as part of your device management
- Use of the Device Management window system, including adding administrations, device, lines, locations, networks, people, and vendors data

Device Management Overview

The Device Management application, also referred to as nmdevman, stores the device information you enter into the Sybase relational database. Keep the Sybase database in CiscoWorks and the SunNet Manager (SNM) database synchronized; otherwise, you might be missing some devices or elements in your network.

Use the Sync w/Sybase application during initial setup of your network map to automatically add or update devices into the CiscoWorks database from the SNM database. Then use Sync w/Sybase or the Device Management application to add devices after your initial setup. Refer to the section “Using Sync w/Sybase” later in this chapter for more information on how to run this application.

CiscoWorks Relational Database

CiscoWorks uses the Sybase relational database management system. In a relational database, stored data is not fixed. The relationships between data items is logical and can be changed dynamically without affecting the way the data is physically stored.

In a more typical flat-file database (like the SNM database), the physical order and extent of the data in each record is defined and cannot be readily changed. You must know ahead of time how you are going to use the data so that the data can be structured for easy access. If you change the way you need to use the data, you will most likely have to restructure and rebuild the entire database—a time-consuming process. Additionally, each unique combination of data elements must also be stored as a separate record, which means a great deal of duplicated data.

A relational database has the following advantages:

- It maintains the database information as the environment changes.
- It can define new reports and new relations between data tables without having to re-construct the entire database.

Because the relationships between data are easily changed, you do not need to know ahead of time every way you will use the data. You can change relationships as your needs for data and the network change. In its simplest form, a relational database can be viewed as a series of tables that are linked together by cross-references. These cross-references are maintained by the system and allow you to change the way you access the data. You can at any time add or modify these cross-references.

Throughout the description of database functions, the words *field* and *record* have the following correlation:

- A field (as in data field) is a single piece of information in a record. Viewing a database in terms of rows and columns, the field is one of the items in a column.
- A record is a series of fields, such as the characteristics of a device, where the device name would be used as the record identifier. A record is also referred to as a row of data.

Figure 6-1 shows an example of a simple relational database. The keywords used in these tables are the ID fields. The relational database manages the keys for you, and assigning an administrative contact, for example, is as easy as pointing and clicking at an already existing entry. When you ask the database to print the device name table, it looks up the real entries corresponding to the keyword ID, and prints them in the right spot.

Figure 6-1 Relational Database Concept

CiscoWorks Applications That Use Database Data

You do not have to enter any or all of the database forms for device management if you do not plan to use the following list of CiscoWorks applications. You can use the Sync w/ Sybase application to create your database entries automatically.

If you plan to use the following CiscoWorks 1.0 applications, be sure you have accessed the necessary database forms and entered the information. If you do not have the necessary information in the database, you will receive error messages.

The following CiscoWorks applications use the database data provided by the Sync w/ Sybase or Device Management applications:

- Configuration Management—Needs data for device scroll window. Devices not in the CiscoWorks database cannot be accessed for configuration data.
- Contacts—Accesses contact data. Device contact information not in the CiscoWorks database cannot be listed.
- Device Monitor—Copies all devices into the Sybase database. Device Monitor uses the database form information or data gathered during the Sync w/Sybase process.
- Device Polling—Needs data for device selection. Devices not in the CiscoWorks database cannot be polled.

- Polling Summary—Needs device data for devices scroll window. Devices not in the CiscoWorks database cannot be polled.
- Sybase DWB (Database WorkBench)—Needs to access device data. Devices not in the CiscoWorks database cannot be referenced in reports.

Since it is easier to use the Sync w/Sybase application to gather device data, that application is discussed first. Use the Device Management application to add custom data that you need to access for troubleshooting, such as contact, administration, or vendor information.

Using Sync w/Sybase

Sync w/Sybase polls the SNM database files and adds and updates devices in the CiscoWorks database. This process is similar to you manually adding the devices to your database using the Device Management database forms and initializing the devices.

The following information is added to your CiscoWorks database for each new or updated device:

- Device name
- Community string
- Domain name
- Software description and version
- Interfaces

If a device is already in your CiscoWorks database, Sync w/Sybase updates any changed information about this device. If a device does not exist in the CiscoWorks database, Sync w/Sybase adds the device. If a device is currently unreachable or has a name that cannot be resolved, it will not be added to the CiscoWorks database. If Sync w/Sybase finds a Cisco device, it sets the SNM properties for that device to include the Cisco agent.

Note: Sync w/Sybase synchronizes or adds devices that exist in the SNM database to the CiscoWorks database. Sync w/Sybase does not add devices from the CiscoWorks database to the SNM database. To add devices created in CiscoWorks, you must manually add them using the **Create** command in SNM.

Access Sync w/Sybase through either the SNM Tools or Glyph menu. The Sync w/Sybase functionality depends on which menu you use to activate the application.

- Tools menu—Adds all devices not yet in the CiscoWorks database from the SNM run-time database.
- Glyph menu—Synchronizes one device at a time from the SNM run-time database to the CiscoWorks database.

Sync w/Sybase Window

Figure 6-2 illustrates the Sync w/Sybase window. Table 6-1 describes the components in this window.

Figure 6-2 Sync w/Sybase Window

Table 6-1 Sync w/Sybase Window Components

Component	Subcomponent	Description
File	Print	Prints a snapshot of the current window.
	Version	Displays the CiscoWorks version information for this application.
	Quit	Exits the current window.
Help		Provides help text on the current window.
Search String field		Locates characters within browser text.
Search Forward		Searches forward for a character string in the text.
Search Backward		Searches backward for a character string in the text.

Adding Devices Using Sync w/Sybase

To add or update devices from SNM to your CiscoWorks database, perform the following steps:

Step 1: From either the Tools or the Glyph menu, pull down to **Sync w/Sybase**.

A Confirmation window appears. See Figure 6-3.

Figure 6-3 Sync w/Sybase Confirmation Window

Step 2: Click on **OK** to continue with the synchronization of SNM's database and the Sybase database Devices table.

A Sync w/Sybase window appears. The synchronization process can take from three minutes to over an hour depending on how large your network is and how many devices you are sychronizing. The application confirms its completion with a date stamp.

Note: You can stop the synchronization process at any time by selecting the File menu and pulling down to **Quit**. The devices copied from the SNM run-time database before quitting will be saved in the Sybase database.

Step 3: To quit this window, select File and pull down to **Quit**.

Device Mgmt Reference Section

This section provides an overview of CiscoWorks device management operations, describing the following:

- Common window features that all Device Management windows share, including:
  - Primary, secondary, and lookup windows
  - Menus and commands used to find, add, modify, and delete data, and to quit the window
- The function of each Device Management window and how each window relates to the CiscoWorks database tables

The device management operation of CiscoWorks software is primarily used to maintain long-term records pertaining to the networks and to collect and store performance data for later evaluation.

The database helps organize the information necessary for device management. It provides the means for system operators to rapidly access online information and for network managers to respond to the long-term needs and growth of the system.

Note: CiscoWorks database software is licensed from Sybase, Inc. for use with CiscoWorks only. The configuration delivered by Cisco Systems under the terms of this license cannot be used for any other purpose; to do so is a violation of the licensing agreement. If you want to use Sybase software for other applications, contact Sybase, Inc. for a full-use license.

The CiscoWorks relational database management system comprises a set of related database tables and a set of user interface windows that can be easily accessed for adding and modifying database information.

Device Management Window-to-Table Relationship

The CiscoWorks device management environment is based on a series of graphical user interface windows. Each window correlates to a table in the database. Where a table contains relationships with other tables, data in those tables can be accessed directly through the Device Management window. Windows simplify the task of creating, maintaining and reviewing database file information.

The CiscoWorks database structure facilitates the creation and maintenance of static and real-time information. Static information includes vendor contacts, administrative contacts, who to call to troubleshoot, particular devices on the network, and network, device, interface, and line addresses.

Refer to Appendix C, “CiscoWorks Database Tables,” for information on the file structure of each database table.

With device management capabilities, you are better able to find and isolate problems to specific devices or interfaces so that the proper repair facilities or personnel can be contacted. You also are able to produce information in various formats to support your troubleshooting requests, and discover problems before they become noticeable by network users. The end result is that your network will be more reliable.

The database window allows you to enter and view data in the database without using keyboard command sequences. As illustrated in Figure 6-1, the window transforms a series of data cells in a database table to data records in separate boxes (called fields) that contain the data you work with, such as the placement of the street address from the data record in the database to the data field box titled street. Notice that other fields are similarly placed in the window.

Device Management Windows

To open any of the database windows, select the Device Management application.

When a menu item is selected, it opens up a window that relates to one or more database relational tables. The window title is synonymous with the primary table that controls the window.

You can enter data into the database using any combination of the following methods:

- Click on the **New** button to enter data into the data fields in the top portion of the primary window.

  The primary window appears when you select any of the Device Mgmt application items. Scroll windows within the primary window display information about related database tables.

- Enter data into a secondary window.

  The secondary window represents a database table that is related to the primary database table. These tables share information. The secondary window appears when you double-click on the appropriate data field in the scroll window, or when you select data in the scroll window and click on the **New**, **Edit**, or **Delete** button.

- Use the pick menu buttons to place data from a lookup window into a primary or secondary window.

  The lookup window contains a list of related data that is already established in the database. The lookup window is opened by pulling down the pick menu on the appropriate data field in a primary window or secondary window. Use lookup windows to add data that exists in the database and speed up the process of data entry.

Note: Your window management program determines the window appearance and control setup. Please keep this difference in mind as you read through this manual.

Time Saver: Whenever you select another record after modifying a record, without clicking **Apply**, the modified record is saved automatically. The autosave process is carried out whenever you attempt to select another record without saving the old one.

Primary Window

A primary window consists of a number of data fields, has at least one scroll window, a menu bar, and control buttons. Figure 6-4 illustrates a primary window.

Figure 6-4 Sample Primary Window

Scroll Windows

Each scroll window in the primary window has **New**, **Edit**, and **Delete** buttons. These buttons let you add, modify, and delete records in the table associated with the scroll window. In Figure 6-4, there are three scroll windows: devices, interfaces, and contacts.

The primary scroll window shares the same title as the primary window. When you select an item in the primary scroll window, the database record fills applicable data fields in the primary window.

In Figure 6-5, selecting *albright-ncd* caused the remainder of the *albright-ncd* record (located in the database) to be displayed in the primary window fields.

Figure 6-5 Scroll Window Within a Primary Window

In Figure 6-6, the interfaces currently assigned to *sanfran* are listed in the interfaces scroll window. Data in the scroll window can be viewed or added, edited, or deleted.

Note: The commas contained between pieces of data in the rows (records) listed in the Interfaces scroll window are used by the database as a separator between fields of data.

Figure 6-6 Scroll-to-Scroll Window Relationship

Figure 6-7 illustrates the fields in a primary window. When you click on a field, that field and all other fields from the same table are highlighted. The highlighted fields are called table groups and are used to identify which data elements belong to a table.

To manually enter data, position the cursor in a field using the mouse (click with the left mouse button) and type data in using the keyboard. To move from field to field use the Tab key, Return key, or the mouse.

Figure 6-7 Data Fields Within a Primary Window

Primary window tables may contain one or more mandatory field requirements. Mandatory fields exist in the structure to ensure minimal information is captured, made available to other tables in the database, and ultimately to the user of the database. Examples of mandatory entries are device names, people names, some basic parts of addresses such as city, state and country, and network names. Mandatory data entry fields are listed with each primary window description.

If you bypass a mandatory data entry field, a message stating “The column XXXX in table xxxx may not be null.” displays when you attempt to save the record, informing you of the data field and table in which the omission occurred.

Click on **OK** to acknowledge the error and close the window. Review and correct entered data. The list of mandatory data fields contained with window descriptions can be helpful.

Secondary Window

When a selection is made in the primary scroll window, related secondary table data is automatically displayed in another related scroll window. A *secondary window* (a window containing secondary table data) is opened by double-clicking inside the frame of the applicable scroll window, or by clicking with the left mouse button on the **New** or **Edit** button.

Figure 6-8 illustrates the Interfaces secondary window that is opened by double-clicking on the *ether1* selection in the Interfaces scroll window. Secondary windows are opened from a primary window to enter and modify data in other related tables. These tables may have their own primary window, such as lines and people.

Figure 6-8 Sample Secondary Window

Lookup Window

A typical lookup window is illustrated in Figure 6-9. Lookup windows are a labor-saving method to view and select data from your database. You can accept data from the lookup window to place the data in a primary or secondary window. You cannot enter data into a lookup window.

Time Saver: By using the lookup window to select data entries, you avoid potential typing errors and speed up the process of data entry.

Lookup windows are opened by selecting the pick menu located next to a data field.

Figure 6-9 Sample Lookup Window

Note: Only one lookup window per primary or secondary window can be open at any time. Also, all activity in the window environment from which the lookup window was opened is suspended until the lookup window is closed.

Once in a lookup window, data is selected by clicking on the data record (the row). Clicking on **Apply** places the data in the primary or secondary window data fields and closes the lookup window. Data is automatically linked to other data in the primary or secondary window.

If you decide not to use any lookup window data, click on **Cancel**. The lookup window closes.

Using Command Buttons

The command buttons used in the Device Management windows are described in this section.

New

The **New** button is used to add, or save, a data record. Data added is immediately listed in scroll windows.

New contains a global save feature that saves relative data links, regardless of the position of the cursor in the window. This ensures that table-to-table relationships are implemented. For example, there is no need to separately open the locations window to link address data to the devices window.

New is always active. The data fields are disabled until a record is selected or you click **New**. One exception to this is the Devices window.

Note: Use care because adding data records to a related table may also result in the creation of a duplicate unwanted record in the primary or other window table. If this occurs, delete the duplicate record.

Add a data record by clicking on the **New** button. **New** operates on data in two ways:

- Adding a record while in a primary scroll window—Click the **New** button before you attempt to add the data in the data fields. You can enter data in the primary window fields directly, by selecting data from a lookup window, or a combination of the two methods. When data entry is finished, add the record to your database by clicking on the **Apply** button. The data is saved to the database and displayed in the scroll window.

- Adding a record while in a secondary scroll window—Click the **New** button before data is selected—it defines the action that will occur when clicking an **Apply** button. Clicking **New** will open a secondary window.

The **New** command is used to save new table records. New records must contain at least one new keyword (keywords are usually people's last names, a device name, or similar reference) or the attempt will be ignored.

For instance, changing a person's last name by adding a letter to the end of the name would be interpreted as a new keyword for purposes of accepting the change and would be saved in the table as an additional record. Keyword, as used here, is synonymous with mandatory data field entry requirements. Use the **Edit** command to save modified records.

Edit

The **Edit** command is button-activated. Use **Edit** to change data fields of a record, saving those changes in the same record.

You can only modify data in the primary window data fields. You can place data from a scroll window, a lookup window, or a secondary window in the data fields. You can also use **Find**, **Next**, and **Previous** options to locate the selection.

Select the data field and click on **Edit**. Then enter the modified data and click on **Apply**.

Edit does not add a record to the database. The existing record is overwritten with the modified record.

Note: The **Edit** command is used to overwrite existing records, not to add new records. Use the **New** command to save new records. If you click on **Edit** and have not modified a record, a message will inform you that a record has not been modified.

Delete

Use the **Delete** button to remove a record from the database. The command physically erases a selected record from the database. It will not erase related records that belong to other tables.

To delete a record, select a record in a scroll window and click on **Delete**.

Device Management Window Overview

This section provides a quick overview of the Device Management windows and their relationship to the database tables.

Figure 6-10 illustrates the Device Management window. Table 6-2 provides a brief overview of the functions of each of the Device Management windows. Although the windows appear on the Device Management window in a different order, they are described in this chapter in the most logical order for adding new records to the database.

Figure 6-10 Device Management Window

Table 6-2 Device Management Window Overview

Device Management Window	Description
Devices	Defines the device name, domain name, community string, and device type. Devices are routers, bridges, hosts, and so on. It also defines the interfaces and contacts located in the devices.
Networks	Provides information to position and identify devices within networks. This information establishes links between individuals and locations in the People table, as well as information in the Administrations table.
Administrations	Provides a table for names of management or support personnel for networks and devices. Administrations data builds upon information about individuals and locations from the People table.
Vendors	Supplies information about vendors of devices, software, and so on. The vendors table builds upon information from the People table. Vendor table data is integral to both the networks and devices database tables.
People	Provides names of contacts for vendors and device or network support personnel. Data includes name, phone number, mail address, street address, and so on.
Lines	Contains line identities used in the network. Tables such as devices and interfaces rely on this information. Because lines are controlled by people, there must be a link between lines and contacts. A line can have several contacts linked to it.
Locations	Contains addresses of device contacts, vendors, and networks.

Refer to the subsequent section, “Adding Data to the Database,” for a description of the suggested order in which to access each window to begin building your database.

Device Manager Security

If you have set up authority checking for Device Management, each time you or another user tries to access Device Management, a username and password are requested. If you have previously used the Tools menu Login application to log into CiscoWorks, you will not see a user identification window. If you have not used the Login application, each time you access Device Management, CiscoWorks prompts you for a user login and password. This login controls access to data stored in the database. If your user login does not have Sybase account permission, you will not have access to Device Management. For example, the username *user* has open permissions for all CiscoWorks applications.

Adding Data to the Database

The following sequence describes the order for accessing and entering data through the Device Management windows.

Note: This is a suggested database build sequence. It is not mandatory to enter data in this sequence.

To add a device to the database, perform the following steps:

Step 1: Define all of the devices in the network using the Devices window (or Sync w/ Sybase). Devices could be any number of elements, the most common being routers, bridges, and hosts. Refer to the section "Devices Window" later in this chapter for instructions.

You can access the Lines window through the Devices window during this sequence of database construction. You can also access the Lines window directly from the Device Management window.

Step 2: Enter the network name, administrator's name, and type of network in the Networks window. The networks database table builds upon information in the People and Administrations windows. Refer to the section "Networks Window" later in this chapter for instructions.

Step 3: Provide names of management or support personnel for devices and networks in the Administrations window. Refer to the section "Administrations Window" later in this chapter for instructions.

Step 4: Enter data in the Vendors window. This information is used by the networks and devices database tables. Enter data such as vendor name, address, and contact into the vendors window. Refer to the section "Vendors Window" later in this chapter for instructions.

Step 5: Establish a base of the names and addresses of contacts using the People Window. This information is used by most of the other database tables. Enter the names and addresses of people who are vendor contacts, administrators, and troubleshooters in the People window. Refer to the section "People Window" later in this chapter for instructions.

You can access the Locations window through the People window during this sequence of database construction. However, you can only modify existing locations information from the People window. To add new location information, you must access the Locations window directly from the Device Management window.

Error Messages

For information on Device Management window error messages, refer to Appendix B, "Troubleshooting CiscoWorks Errors."

Devices Window

Devices can be any SNMP or IP equipment in your network. Examples include gateways, routers, servers, and workstations.

Device information is critical to the needs of the network manager. Through access to this information, the manager can isolate traffic routing problems, redefine router characteristics using remote configuration, locate your network inventory, keep track of revisions or releases, and allocate resources on the network.

You should define each device's domain, interfaces, characteristics, vendor, serial number, revision level, and contacts for its management and service. If you choose not to use the database forms, you can use the Sync w/Sybase application, which adds devices from the SNM database to the CiscoWorks database.

Caution: If you use Sync w/Sybase, only those fields SNM uses such as device name, domain, and community string, will be automatically entered. You need to enter contacts, vendors, and other database information in manually.

You can enter or view information for a specific device using the Devices window.

Figure 6-11 illustrates the Devices window. Table 6-3 describes the components in this window.

Figure 6-11 Devices Window

Table 6-3 Devices Window Components

Component	Subcomponent	Description
File	Print	Prints a snapshot of the current window.
	Version	Displays the CiscoWorks version information for this application.
	Quit	Exits the current window.
Edit	Clear	Erases data appearing in the window data fields. Clear does not affect the window format or the database tables.
	Find	Locates data in the database.
	Next	Finds the next data record in the database.
	Previous	Finds the previous data record in the database.
Security	Privileges	Displays the current user's security privileges.
	Change User	Enables you to change your username in order to access the application.
Help		Provides help text on the current window.
Data fields		Data is used to create the data record in the database.
Devices scroll window		Selects the device that correlates to the data fields in the top portion of the Devices window
Interfaces scroll window		Displays the selected device's interfaces.
Contacts scroll window		Displays the selected device's contacts.
New		Adds a new data record.
Edit		Changes data fields of a record.
Delete		Removes a record from the database.
Apply		Updates changes to the database.
Initialize		Gathers data from a device for the database.

Data Fields

Selecting any one of the data fields in a window causes all of the data fields in that record to be highlighted and acted on as a group. This is also referred to as table groups. Table 6-4 lists the categories of the data fields and describes which fields are required, which are automatically assigned a variable (such as *unassigned*) after the Initialize process, and which are left blank if unentered.

Table 6-4 Devices Window Data Fields

Field Categories	Data Fields	Field Designation
Devices fields	Device Name	Required
	Community	Blank
	Device Domain	Required
	Device Type	Set to zero[1]
	Serial Number	Blank
	Software Desc	Blank
	Software Ver	Blank
	Hardware Desc	Blank
	Hardware Ver	Blank
Locations fields	Location	Set to unassigned[1]
Vendors fields	Vendor Name	Set to unassigned[1]
Administrations fields	Admin Name	Set to unassigned[1]

[1]You must use the Initialize option to assign a default to these fields.

Initialize Process

The initialize process automatically collects information about network devices, minimizing the amount of data you must enter manually into the database table.

When you click on **Initialize** in the Device window, the initialize process starts. This process polls the network, obtaining the MIB object information listed in Table 6-5. The collected data is placed in appropriate data fields.

Table 6-5 MIB Objects Used by the Initialize Process

Object	Data Gathered	Data Fields Filled In
sysDescr	A description of the device software.	Data appears in the Software Desc field of the devices secondary Interfaces window.
ipAdEntAddr	The Internet Protocol address of each interface table field.	Data appears in the Interfaces field of the Devices window.
ipAdEntNetMask	Provides the IP subnet mask number for the interface.	Data appears in the Interface window in the Subnet Mask field.
ifType	The type of interface associated with the device. Data is placed in the Interface Type field of the Interfaces table.[1]	Data appears in the Interface Type field of the devices secondary Interfaces window.
ifDescr	The interface description. Data is placed in the Interface Desc field of the Interfaces table. The Interfaces table is part of the Devices table.	Data appears in the Interface Desc field of the devices secondary Interfaces window.
ifPhysAddress	The interface hardware address. Data is placed in theHardware Addr field of the Interfaces table.	Data appears in the Hardware Addr field of the devices secondary Interfaces window.
ifSpeed	Provides the speed of the interface.	Data appears in the Interface Speed field of the Interfaces window.
locIfDescrip	Provides a description of the user configurable interface.	Data appears in the Interface description field.

[1]Refer to RFC 1213 for detailed information on interface types.

Refer to “Creating Polling Tables Using Device Polling” in Chapter 4 for information on how to select additional MIB objects for polling the network. Refer to Appendix A, “MIB Files and Objects” for details on how to modify or add MIB objects in the MIB file.

Time Saver: If you do not want to enter device management information, you can use the Sync w/Sybase application. This application compares the SNM database with the CiscoWorks database. If a device does not exist in CiscoWorks but does exist in SNM, Sync w/Sybase application adds these devices to the CiscoWorks relational database. For more information, refer to “Using Sync w/Sybase” earlier in this chapter.

Building Devices Data

This section describes the steps to run the Initialize process, to enter data in the device scroll window, as well as its other scroll windows: interfaces and contacts. It is recommended that you use this method to add individual or small groups of devices. If you have a large number of device to add, you might want to use the Sync w/Sybase application.

Before you initialize a device, check to see that you have followed these guidelines. The sequence is explained in the following sections.

- Data is entered into *only* the device name, community, and device domain fields (optional).
- The domain name entered in the Domain Name field must match the domain name in your */etc/hosts* file or in the domain name server (DNS).
- The community string must be valid.

The following sequence provides an overview of how to enter data into the Devices window:

Step 1: Run the Initialize process.

Step 2: Enter device identification information (type, serial, version).

Step 3: Identify the device location.

Step 4: Identify the device vendor.

Step 5: Identify responsible administration group.

Step 6: Assign lines to the device interfaces.

Step 7: Assign contacts for the device.

Adding a Device Using the Initialize Command

To run the Initialize process, perform the following steps:

Step 1: In the SNM Console, select the Tools menu and pull down to **Device Mgmt**.

The User Identification window appears if you have not used the Login application and have authority checking in Security Mgr turned on.

Step 2: Enter a user login that has Sybase account permissions. For example, enter the Sybase account name *user* and enter the password for the account.

The Device Management window appears. See Figure 6-10.

Step 3: Select the **Devices** button.

The Devices window appears. See Figure 6-11. The Devices window data entry fields appear grayed out.

Note: If the labels of the data fields are highlighted (instead of being grayed-out), then click the **Initialize** button directly without clicking the **New** button first. This implies that you only need to click **New**, then **Initialize** the first time.

Step 4: Click on the **New** button to activate the data fields and allow data entry.

Step 5: Enter the device name in the device name field.

If the host name of a device is the same as its IP address, do not enter the domain name along with the IP address in the Device Name field. For example, if the host name of a device is *130.104.23.5* and its domain name is *cisco.com*, you would enter only the IP address portion of the host name in the Device Name field.

If you include the domain name with the IP address in the Device Name field and click on the **Initialize** button, the information you entered will not be initialized correctly.

However, if the device has a host name that is different from its IP address—for example, its host name is *alfred*, its IP address is *130.104.23.5*, and it belongs to the domain *cisco.com*—you would enter both the host name and the domain name (for example, *alfred.cisco.com*) in the Device Name field.

Step 6: Enter the community string for the device in the Community field.

A new field called *Write Community* has been added to the Device window in CiscoWorks Release 1.0(2) and later. This field enables you to specify the ReadWrite (RW) community string for a device. In order to specify the RW community string in this field, you must have Write Password privilege assigned to your username in the Security Manager application. See the "Using Security Manager Tools" chapter for information on restricting permissions to CiscoWorks applications.

Step 7: Enter the domain in which the device is located in the Device Domain field.

Step 8: Select the **Initialize** button.

The **Initialize** button remains highlighted while the data collection is in process. As soon as the button returns to its normal state, the process is finished. The SNMP MIB object information collected is placed in the Device Type and Software Desc fields of the devices window. Data is also placed in several fields of the secondary Interfaces window. Refer to Table 6-3.

Step 9: Select the File menu and pull down to **Quit** to exit this window.

Adding a Device Without the Initialize Command

If you try to add a device manually (without the initialize command), you may receive the error message `"The column xxxx in table devices may not be null."` This means you did not enter data into mandatory data fields. You must enter data directly in the location, vendors, and administrations windows first. Then come back to the devices window and fill in the location, vendor name, and admin name fields. Finally, select the **Apply** button under the text fields to add the device to the database.

You can also add devices that exist in the SNM database but do not yet exist in the CiscoWorks database by using the Sync w/Sybase application. Refer to "Using Sync w/ Sybase" for instructions on this application.

Entering Data in the Data Fields

If you used the Initialize process, the Device Name, Community String, and Software Descr fields have data in them.

To enter data in the remaining data fields, perform the following steps:

Step 1: If you have not already done so, enter the device domain in the Device Domain field.

Step 2: If the vendor name exists in the database, enter the vendor name directly into the Vendor Name field, or pull down the pick menu. The pick menu opens a vendors lookup window. If you open the lookup window, select the vendor from the window list and click on **OK**. This closes the lookup window and links the vendor to the device.

If the vendor information needed is not in the database, open the Vendors primary window, construct the needed data, and then return to the Devices window and enter the data in the Vendor Name field.

Step 3: If administration information exists in the database, enter the administrator's name directly into the Admin Name field, use the pick menu to enter that data in the admin name field. If you open the lookup window, select the administration name from the list and click on **OK**. This closes the lookup window and links the administration data to the device name.

If the administration information needed is not in the database, open the administrations primary window, construct the needed data, and then return to the Devices window and enter the data in the Admin Name field.

Step 4: If the location data exists in the database, identify the location of the device. Use the pick menu to select a location for the device. The data is automatically entered into the Devices window.

If the location needed is not in the database, open the locations primary window, construct the needed data, and then return to the devices window and enter the data in the locations field.

Step 5: Click on the **Apply** button in the Devices scroll window.

This applies the data to the devices window and to the database. You cannot use the **New** button because the **Initialize** command automatically added data when it completed its data collection.

Time Saver: If you forget to click **Apply** after modifying a record, the modified record is saved automatically. The Device Mgmt application has an autosave process that is carried out whenever you attempt to select another record without saving the old one.

Step 6: Select the File menu and pull down to **Quit** to exit this window.

Entering Interface Information

To enter interface information such as the interface type and name that is associated with the device, perform the following steps:

Step 1: From the Devices window, select the device name in the Devices scroll window.

Step 2: Click on the **New** button under the Interfaces scroll window.

This opens the secondary Interfaces window. See Figure 6-12.

Figure 6-12 Secondary Interfaces Window

If any data is available, for example, from the **Initialize** command, it will be in the data fields, otherwise the fields will default to zero (0). The initialize command places data in the Interface Type, Interface Desc, Hardware Addr, Protocol Type, and Protocol Addr fields.

Step 3: Enter data in the appropriate field and then click on **Apply**.

Refer to "Table Groups" and the subsequent following paragraphs for a description of the type of data you should enter in these fields.

The data entered is listed in the Interfaces scroll window and linked to the device name.

Step 4: Repeat this process for each device interface.

Step 5: Select the File menu and pull down to **Quit** to exit this window.

Table Groups

The secondary Interfaces window consists of three table groups: interfaces and lines. The fields associated with each are described in Table 6-6.

Table 6-6 Interfaces Window Table Groups

Table Groups	Fields	
Interfaces	Interface Type[1] Interface Speed Interface Name Interface Address Interface Description Subnet Mask Hardware Address	
Lines	Line type:	0 indicates no designation (default setting). 1 indicates Ethernet thin wire. 2 indicates Ethernet thick wire. 3 indicates Ethernet twisted pair. 4 indicates a serial line.
	Line description	
If_Addresses	Protocol type Protocol address	

[1]Interface types that are not captured by the Initialize process should be selected from RFC 1156.

To add more than one protocol to an interface, open the interfaces window again. Overwrite the data and click on **Apply**. Repeat this process until you have entered all protocols.

Contacts Window

Each device should have at least one contact. Contact information is critical to the network manager. Use the contact information if you need to troubleshoot a problem or contact the responsible person for a device.

Figure 6-13 illustrates the Contacts window.

Figure 6-13 Contacts Window

To add a contact, perform the following steps:

Step 1: From the Devices window, select the device name in the Devices scroll window.

Step 2: Click on the **New** button under the Contacts scroll window.

The Contacts window appears. See Figure 6-13.

Step 3: Enter device contact name and address data. Click on **Apply**.

The window closes and the data record is listed in the Contacts scroll window.

Note: If contacts and locations data is already loaded in the database, pull down the pick menu. The pick menu opens a contacts lookup window. Select the needed data from the lookup window and click on **Apply**.

Step 4: Repeat this process for each contact you want to associate with the device.

Step 5: Select the File menu and pull down to **Quit** to exit this window.

You can also modify and delete contacts from the Devices window using the **Edit** and **Delete** buttons.

Updating Devices Data

This section provides information on how to update data in the Devices, Interfaces and Contacts tables. You can add, modify, or delete device data when updating your database.

If you are adding a completely new device, follow the instructions in “Adding Data to the Database” earlier in this chapter.

Devices Window Data Fields

To mmodify a device and enter data that is not yet available in the database, perform the following steps:

Step 1: From the Devices window, click on the device name in the Devices scroll window. See Figure 6-14.

The data fields in the upper portion of the devices window automatically fill in with applicable data.

Figure 6-14 Devices Scroll Window in Devices Window

Step 2: Select the desired data fields and enter the changes.

Step 3: Click on **Apply**.

To use data that is already available in the database by selecting existing data from a lookup window, perform the following steps:

Step 1: Pull down one of the pick menus (Location, Vendor Name, or Admin Name).

The pick menu opens a lookup window.

Step 2: Select the data and click on **OK**. This closes the lookup window and links the data to the device.

Step 3: Select the desired data in the lookup window and click on **OK**.

Step 4: Click on the **Apply** button.

Administrations Lookup Window

To open an Administrations lookup window and update data in the devices window, perform the following steps:

Step 1: Pull down the pick menu on the Admin Name field of the Devices window.

The Admins lookup window appears.

Step 2: Click on an administration name in the lookup window.

Step 3: Click on the **OK** button to enter the name in the devices window field and close the lookup window.

Step 4: Click on **Apply** in the Devices window.

For example, in Figure 6-15, the administration name *backbone29* has been selected. *DC conf net manager* is a description of the Admin field of the Devices window.

Figure 6-15 Administrations Lookup Window

Device Contacts Window

To update device contact information, perform the following steps:

Step 1: From the Devices window, select a device name in the Devices scroll window.

Step 2: Double-click on an existing item in the Contacts scroll window to open the Contacts window.

Step 3: Use the pick menu for the Last Name or Location fields to open a lookup window.

A Contacts lookup window opens.

Step 4: Enter data in the contacts window and click on **OK**.

You can modify the device contact's name and address information.

Figure 6-16illustrates a Contacts window that was opened and data fields filled using **Find**. Then the **OK** button was used to link the data to the device. The data displays in the contacts scroll window of the devices window.

Figure 6-16 Contacts Window

Networks Window

Network information is critical to the needs of the network manager. Through access to this information, the manager can define a network, assist in identifying and isolating sources of difficulties, and provide the ability to quickly identify the administrative support for the networks.

Figure 6-17 illustrates the Networks window. Table 6-7 describes the components in this window.

Figure 6-17 Networks Window

Table 6-7 Networks Window Components

Component	Subcomponent	Description
File	Print	Prints a snapshot of the current window.
	Version	Displays the CiscoWorks version information for this application.
	Quit	Exits the current window.
Edit	Clear	Erases data appearing in the window data fields. Clear does not affect the window format or the database tables.
	Find	Locates data in the database.
	Next	Finds the next data record in the database.
	Previous	Finds the previous data record in the database.
Security	Privileges	Displays the current user's security privileges.
	Change User	Enables you to change your username in order to access this application.
Help		Provides help text on the current window.
Network data fields		Used to create Network data records.
Apply		Updates changes into the database.
Networks scroll window		Displays network name data.
Net Numbers scroll window		Displays network type, name, and mask data.
New		Adds a new data record.
Edit		Changes data fields of a record.
Delete		Removes a record from the database.

Table Groups

The secondary Networks window consists of two table groups described in Table 6-8.

Table 6-8 Networks Window Table Groups

Table Groups	Fields
Networks	Network name[1]
Administrations	Administration name[1] Administration description

[1]These fields are mandatory. You must enter data into these fields.

Building Network Data

Before you build your network data, prepare a list of the network names you are going to enter. If possible, record all of the network information: network type, network number, and network mask.

To add network data, perform the following steps:

Step 1: Open the Networks window from the Device Management window.

Step 2: Click on the applicable fields and enter a network name, administration name, and administration description.

If data you require is already in the database, pull down the pick menu in the Admin Name field. This opens the Administrations lookup window. Select data from the lookup window and click on **OK** to place the data into the Networks window.

Step 3: Click on the **Apply** button in the Network scroll window.

This saves the data to the database and lists the added data in the scroll window.

Step 4: To open a new Net Numbers window, select the network name in the Networks scroll window and then click on the **New** button.

The Net Numbers window appears. See Figure 6-18.

Figure 6-18 Net Numbers Window

Step 5: Enter the data in the data fields and click on **Apply**.

The data is listed in the net numbers scroll window and linked to the network name. **Apply** also updates the database.

Note: Net Type is an assignment you create for your networks. Currently, there is no standard to be applied. You can use any numeric. Use a default value of zero (0) if you elect not to assign types.

Step 6: To view existing network numbers, select the name of the network in the Networks scroll window.

This displays related data in the net numbers scroll window.

Step 7: To quit, pull down the File menu and select **Quit**.

Updating Networks Data

This section provides information on how to update data in the networks database table. The most expedient method for updating your records is by using lookup windows to place existing records in the networks table. You can accept data from the lookup window and it will be placed in the appropriate data fields of the devices table. However, you cannot modify data in the lookup window.

You can also modify data using the Networks scroll window. Both methods are described in this section.

Updating Network Numbers

To update network numbers through the secondary Net Numbers window, perform the following steps:

Step 1: Click on a network name in the Networks scroll window.

Step 2: Click on the **New** or **Edit** button in the Net Numbers scroll window.

This opens the Net Numbers window.

Step 3: Enter data directly into the Net Numbers window.

Step 4: Click on **Apply**.

Updating Administrations

To change or add administration data to the network designation, enter data directly into data fields in the Networks window and click on **Apply** in the networks scroll window.

To open the Administrations lookup window and select from the existing data, perform the following steps:

Step 1: Pull down on the pick menu in the Admin Name data field in the Networks window.

Step 2: Click on a name in the lookup window, then click on the **OK** button to enter the name and description in the networks window fields and close the lookup window.

Step 3: Click on **Apply** in the Networks scroll window to link the administration name to the database.

Note: Network numbers should be assigned to the network name before linking the administration name.

Administrations Window

The Administrations window is critical to the needs of the network manager. Through access to this information, the manager can identify administration contacts for lines, devices, and networks.

Figure 6-19 illustrates the Administrations window. Table 6-9 describes the components in this window.

Figure 6-19 Admins Window

Table 6-9 Admins Window Components

Component	Subcomponent	Description
File	Print	Prints a snapshot of the current window.
	Version	Displays the CiscoWorks version information for this application.
	Quit	Exits the current window.
Edit	Clear	Erases data appearing in the window data fields. Clear does not affect the window format or the database tables.
	Find	Locates data in the database.
	Next	Finds the next data record in the database.
	Previous	Finds the previous data record in the database.
Security	Privileges	Displays the current user's security privileges.
	Change User	Enables you to change your username in order to access this application.
Help		Provides help text on the current window.
Admins scroll window		Displays administrations data.
Admin Contacts scroll window		Displays contact data.
Apply		Updates changes into the database.
New		Adds a new data record.
Edit		Changes data fields of a record.
Delete		Removes a record from the database.

Table Groups

The secondary Administrations window consists of the two table groups described in Table 6-10.

Table 6-10 Admins Window Table Groups

Table Groups	Fields
Administrations	Administration name[1] Administration description
Administrations contacts	

[1]This is a mandatory field. You must enter data in this field.

The Administrations table references the Contacts, People, and Locations tables.

Building Administration Data

Before you build administration data, prepare a list of the administration names and descriptions, as well as names of individuals who are administrators. If the people you are going to link to an administration entity are already in the People table, you should correlate names to administration.

To add administration information, perform the following steps:

Step 1: Select the **Admins** button in the Device Management window.

The Admins window appears. The window will be blank.

Step 2: Click on the **New** button.

This sets up a new window ready to accept new data.The data fields are grayed out until the **New** button is selected.

Step 3: Click on the Admin Name field and enter an administration name.

Step 4: Click on the Admin Desc field and enter descriptive data to identify its function.

Step 5: Click on the **Apply** button.

This saves the data in the database and lists the added data in the scroll window.

Step 6: Select the administration name in the Admins scroll window.

Step 7: Click on the **New** button in the Admin Contacts scroll window.

This opens the secondary Admin Contacts window.

Step 8: Enter the administration contact name and address. Click on **Apply**.

The window closes and the data record is listed in the Admin Contacts scroll window. You can have any number of contacts.

Step 9: Repeat steps 6, 7, and 8 for each contact.

If names and locations already exist in the database, use the lookup window to enter the data.

Step 10: Save this information to the database by pulling down the File menu to **Quit**.

Updating Administration Data

This section describes how to modify administration data. You can also add administrations data using the procedure described earlier in “Building Administrations Data.”

To modify data, perform the following steps:

Step 1: Select the administration name in the Admins scroll window.

This fills the data fields in the window.

Step 2: Click on the Admin Desc field and type in a description or type over the existing description.

Step 3: Click on the **Apply** button.

The existing administrations record is retained, but in modified form.

Step 4: Exit the window by pulling down the File menu to **Quit**.

Time Saver: If it is not visible in the scroll window, a quick way to find administration data is to enter the administration name in the Admin Name field, then use the **Find** command located in the Edit menu.

To modify administration contacts data, perform the following steps:

Step 1: Select the administration name in the Admins scroll window.

If the contact name you want is visible in the Admin Contacts scroll window, select it. If not, you can scroll through the names or locate the one you want using **Find**.

Step 2: Click on **Edit** under the Admin Contacts scroll window.

The Admin Contacts secondary window opens with the contact selected in the data fields.

Step 3: Modify the data by overwriting the applicable data fields or use a lookup window to find data.

Step 4: Click on **Apply**.

The Admin Contacts window closes, modifications are accepted in the database, and the modified record is listed in the Admin Contacts scroll window.

To add new contacts, follow the same process, however click on the **New** instead of the **Edit** button.

Note: You cannot delete data in the Admin Contacts secondary window.

In Figure 6-19, data is gathered from a lookup window. The data is linked to the administration entity and the contact data is displayed as a record in the Admin Contacts scroll window.

Figure 6-20 Admin Contacts and People Lookup Windows

Vendors Window

Vendor information is critical to the needs of the network manager. Through access to this information, the manager can easily locate and quickly call upon a vendor to assist in responding to crisis situations as well as for normal servicing, updating of equipment, transmission links, and other needs.

The vendors table holds the names and locations of any entity you want to classify as a vendor. This can range from a company supplying physical equipment, such as Cisco Systems, to network consultants and service-only firms.

Create the vendor table by entering vendor identification and address information into the database. Select and link contacts at these vendors (application engineers, sales, marketing, and support people) with the People table. These are the important contacts that will help keep network equipment current and serviced.

Figure 6-21 illustrates the Vendors window. Table 6-11 describes the components in this window.

Figure 6-21 Vendors Window

Table 6-11 Vendors Window Components

Component	Subcomponent	Description
File	Print	Prints a snapshot of the current window.
	Version	Displays the CiscoWorks version information for this application.
	Quit	Exits the current window.
Edit	Clear	Erases data appearing in the window data fields. Clear does not affect the window format or the database tables.
	Find	Locates data in the database.
	Next	Finds the next data record in the database.
	Previous	Finds the previous data record in the database.
Security	Privileges	Displays the current user's security privileges.
	Change User	Enables you to change your username in order to access this application.
Help		Provides help text on the current window.
Vendors scroll window		Displays vendor data.
Vendor Contacts scroll window		Displays vendor contacts data.
Apply		Updates changes into the database.
New		Adds a new data record.
Edit		Changes data fields of a record.
Delete		Removes a record from the database.

Table Groups

The secondary Vendors window consists of two table groups: vendors and locations. The fields associated with each are described in Table 6-12.

Table 6-12 Vendors Window Table Groups

Table Groups	Fields
Vendors table	Vendor name[1]
Location	Street City State/Province Postal/Zip code Country

[1]This field is mandatory. You must enter data into this field.

Building Vendors Data

You may want to assemble vendor names (company names), people's names, title or function, telephone numbers and addresses in a list or group to speed the entry process.

To add vendor data, perform the following steps:

Step 1: Open the Vendors window from the Device Management window.

The Vendors window appears.

Step 2: Click on the **New** button in the Vendors scroll window.

Step 3: Click on the Vendor Name field and enter a vendor name.

Step 4: Click on the locations fields and enter address information.

Step 5: Click on the **Apply** button in the Vendors scroll window.

This saves the data to the database and lists the added data in the scroll window.

Step 6: To link the vendor with an individual known as the vendor contact, select the vendor name in the Vendors scroll window.

Note: You can do this at the time you enter a vendor. You do not have to wait until all vendors have been entered.

Step 7: Click on the **New** button under the Vendor Contacts scroll window.

This opens the Vendor Contacts secondary window.

Step 8: Enter the vendor contact name and address. Click on **Apply**.

The window closes and data is listed in the Vendor Contacts scroll window.

Time Saver: In the Vendor Contacts window, if names and locations already exist in the database, use a lookup window to access and select rather than retyping the data.

Step 9: To quit, select the File menu and pull down to **Quit**.

Updating Vendors Data

You can make changes and additions any time using the method as described earlier in "Building Vendors Data" or follow the alternative methods described here.

For instance, you may want to add a vendor address signifying a branch office to an existing vendor.

To modify vendor data, perform the following steps:

Step 1: Select the vendor name in the Vendors scroll window.

This fills the locations fields for the vendor.

Step 2: Type over the data in the locations fields and click on the **Apply** button in the Vendors scroll window.

The modified vendor and address record appear in the scroll window.

Note: A vendor address is not the same as a contacts location (address). These two addresses are treated separately.

To add an address or change contacts information for a vendor, perform the following steps:

Step 1: Select the vendor name in the Vendors scroll window.

If the contact name you want is visible in the vendor contacts scroll window, select the contact. If not, you can scroll through the names or locate the one you want using **Find**.

Step 2: Click on the **Edit** button under the Vendor Contacts scroll window.

The Vendor Contacts secondary window opens with the contact you selected displayed in the data fields.

Step 3: Modify the data by overwriting data or use lookup windows to find replacement data. When done, click on **OK**.

The Vendor Contacts window closes, modifications are accepted in the database, and the modified or added record is listed in the Vendor Contacts scroll window.

In Figure 6-22, the Vendor Contacts window fields are filled in using the **Find** command under the Edit menu.

After modifications or additions are made, use the **OK** button to close the window. Data is linked to the vendor that was selected and the contact data is displayed as a record in the Vendor Contacts scroll window.

Figure 6-22 Vendor Contacts Window

People Window

The People table contains name, title, phone number, and other relevant information for individuals responsible for the administration and support of the network and network equipment. For instance, network administrators, equipment vendors, Cisco contacts, network engineers (troubleshooters in particular), key management contacts, and any other person that could be of assistance in operations and maintenance. See Figure 6-23.

The CiscoWorks database links the names, telephone numbers, and other people-specific data to their addresses. This linkage allows you to find essential contacts easily and quickly when the need arises, such as names and addresses of troubleshooters, vendors, device administrators, or simply an e-mail address or telephone number.

Figure 6-23 illustrates the People window. Table 6-13 describes the components in the window.

Figure 6-23 People Window

Table 6-13 People Window Components

Component	Subcomponent	Description
File	Print	Prints a snapshot of the current window.
	Version	Displays the CiscoWorks version information for this application.
	Quit	Exits the current window.
Edit	Clear	Erases data appearing in the window data fields. Clear does not affect the window format or the database tables.
	Find	Locates data in the database.
	Next	Finds the next data record in the database.
	Previous	Finds the previous data record in the database.
Security	Privileges	Displays the current user's security privileges.
	Change User	Enables you to change your username in order to access this application.
Help		Provides help text on the current window.
People data fields		Used to create people data records.
People scroll window		Displays people data.
Phones scroll window		Displays phone data.
Apply		Updates changes into the database.
New		Adds a new data record.
Edit		Changes data fields of a record.
Delete		Removes a record from the database.

Table Groups

The secondary People window consists of three table groups: people, locations, and phones. The fields associated with each are described in Table 6-14.

Table 6-14 People Window Table Groups

Table Groups	Fields
People	Last name[1] First name[1] Middle name Phone number E-mail address Title NIC ID[2]
Locations	Location[1] Street[1] City[1] State/Province[1] Zip/Postal Code[1] Country[1]
Phones	Phone_number Phone_desc

[1]These are mandatory fields. You must enter data in these fields.
[2]The NIC ID is an identifier assigned to individuals by the NIC. If known, enter the assigned code for individuals having this identification.

Building People Data

If you have not done so already, you should assemble all of the people's names, titles or functions, telephone numbers and addresses in a list or group to speed the entry process.

To add people data, perform the following steps:

Step 1: Open the People window.

The window will be blank.

Step 2: Click on **New** under the People scroll window.

Step 3: Click on the applicable fields and enter a name and address from the keyboard.

Time Saver: If an address is available in the database, you can use the Locations lookup window to find and select the address in the Locations table.

Step 4: Click on the **Apply** button.

This saves the data to the database and lists the added data in the People scroll window. You may need to select the Edit menu and pull down to **Clear**, if the window does not display your changes in the scroll window.

Step 5: To quit, select the File menu and pull down to **Quit**.

Updating People Data

You can make changes and additions any time using the method as described earlier in "Building People Data" or follow the alternative methods described here.

To add another individual as a contact for an existing address, perform the following steps:

Step 1: Use the **Find** command to obtain the name and address of a known person.

Step 2: Modify the name and other applicable fields. Click on the **New** button rather than the **Edit** button.

This creates a new record as opposed to modifying the existing record. If the address is the same, it is linked automatically.

Step 3: To link the new contact to an existing address, pull down on the pick menu on the locations field.

This opens the Locations lookup window.

Step 4: Select the location and click on **OK**.

The data is retained in the fields of the People window and the lookup window closes.

Step 5: If the contact and address are entered together as a first-time entry, click on the **New** button in the scroll window. This links the location and individual.

If the address is being added to an existing name, click on **Edit**.

The selection process is illustrated in Figure 6-24.

Figure 6-24 Locations Lookup Window

To add a new address (you cannot modify an existing address), perform the following steps:

Step 1: Click on **New** under the People scroll window.

Step 2: Enter the individual's name (or select the name in the scroll window).

Step 3: Enter location data directly in the locations fields of the People window.

Step 4: Click on **Apply** in the People scroll window to apply your changes.

The individual and the location data entered are saved and linked in the database. The location data entered will be available through the Locations window.

Whenever you select another record after modifying a record, without clicking **Apply**, the modified record is saved automatically. The autosave process is carried out whenever you attempt to select another record without saving the old one.

To review names in the database, browse through the People scroll window. If you want to see specific details about an individual, select the individual's record. The data is separated and fills the People window data fields.

Locations Window

Locations is the reservoir for addresses of people, the location of network devices, and any other network associated matter. There is no requirement or recommendation that address data be entered in the Locations table through the Locations window. You can add location data from People, Vendors, Administrations, Lines, and Devices windows. However, location data can be modified only in the Locations window. See Figure 6-25.

Figure 6-25 illustrates the Locations window. Table 6-15 describes the components in the window.

Figure 6-25 Locations Window

Table 6-15 Locations Window Components

Component	Subcomponent	Description
File	Print	Prints a snapshot of the current window.
	Version	Displays the CiscoWorks version information for this application.
	Quit	Exits the current window.
Edit	Clear	Erases data appearing in the window data fields. Clear does not affect the window format or the database tables.
	Find	Locates data in the database.
	Next	Finds the next data record in the database.
	Previous	Finds the previous data record in the database.
Security	Privileges	Displays the current user's security privileges.
	Change User	Enables you to change your username in order to access this application.
Help		Provides help text on the current window.
People data fields		Used to create people data records.
People scroll window		Displays people data.
Phones scroll window		Displays phones data.
Apply		Updates changes into the database.
New		Adds a new data record.
Edit		Changes data fields of a record.
Delete		Removes a record from the database.

Table Groups

The secondary Locations window consists of one table group: locations. The fields associated with each are described in Table 6-16.

Table 6-16 Locations Window Table Group

Table Groups	Fields
Location[1]	Street City State/Province Postal/Zip Code Country

[1]You must enter data in at least one of the data fields.

Building Locations Data

To speed the entry process, assemble all address information you need before starting data entry. The information in this table is used by the people, vendor contacts, lines, devices, and administrations tables to designate their specific locations.

To add locations data, perform the following steps:

Step 1: Open the Locations window in the Device Management window.

Step 2: Click on the **New** button.

This clears the data fields and enables new data to be entered.

Step 3: Click on the applicable data fields and enter address information from the keyboard.

Step 4: Proceed through all addresses in a similar manner.

Step 5: To quit, select the File menu and pull down to **Quit**.

Updating Locations Data

You can make changes and additions any time using the method as described earlier in "Building Locations Data" or follow the alternative methods described here.

To add a location that has the same street address as an existing record in the Locations table, perform the following steps:

Step 1: Scroll through the list in the Locations scroll window to find the location record and select a record.

The selected record fills the data fields.

Step 2: Modify the location data and click the **Apply** button.

Step 3: To find data, search through the scroll window or use the **Find** command to locate the record.

Step 4: Select the record and make changes in the data fields of the window. Click on **Apply** to save the modified record.

The modified record is listed in the scroll window.

Step 5: To quit, select the File menu and pull down to **Quit**.

Lines Window

The Lines table holds line identities used in the network. Tables such as devices and interfaces rely on this information. Because lines are controlled by people, there must be a link between lines and contacts for troubleshooting. A line can have several contacts linked to it.

Figure 6-26 illustrates the Lines window. Table 6-17 describes the components in this window.

Figure 6-26 Lines Window

Table 6-17 Lines Window Components

Component	Subcomponent	Description
File	Print	Prints a snapshot of the current window.
	Version	Displays the CiscoWorks version information for this application.
	Quit	Exits the current window.
Edit	Clear	Erases data appearing in the window data fields. Clear does not affect the window format or the database tables.
	Find	Locates data in the database.
	Next	Finds the next data record in the database.
	Previous	Finds the previous data record in the database.
Security	Privileges	Displays the current user's security privileges.
	Change User	Enables you to change your username in order to access this application.
Help		Provides help text on the current window.
Lines data fields		Used to create lines data records.
Line scroll window		Displays lines data.
Line Contacts scroll window		Displays line contacts data.
Apply		Updates changes into the database.
New		Adds a new data record.
Edit		Changes data fields of a record.
Delete		Removes a record from the database.

Table Groups

The secondary Lines window consists of one table group, lines. The fields associated with this group are described in Table 6-18.

Table 6-18 Lines Window Table Groups

Table Groups	Fields	
Lines	Line type[1]	
		0 indicates no designation (default setting).
		1 indicates Ethernet thin wire.
		2 indicates Ethernet thick wire.
		3 indicates Ethernet twisted pair.
		4 indicates a serial line.
	Line description	

[1]Line type is used to identify the line medium and can be any numeric designation. Currently, there is no established standard or Cisco Systems predefined assignments. Examples of typical line type assignments are listed above.If you do not want to use line types, use a default of 0 in this field.

Building Lines Data

Assemble all of the line name designations and associated type identifiers. Along with this data, identify the contacts you want to list for activities such as troubleshooting and administration. Make a list or assemble a group to speed the entry process.

To add lines data, perform the following steps:

Step 1: Open the Lines window.

Step 2: Click on the **New** button.

This clears the data fields and enables new data to be entered.

Step 3: Click on the Line Type or Line Desc fields and enter data from the keyboard.

If a needed line description or type is available in the database, you can double-click on either field to open the Lines lookup window and select from existing data.

Step 4: Click on the **Apply** button to apply the changes to the database.

Step 5: To associate a line contact (individual) to a line, select the line in the Lines scroll window and click on the **New** button in the Line Contacts scroll window.

This opens the Line Contacts secondary window.

Step 6: Enter the name and other data for contact identity and click on **OK**.

The individual is listed in the Line Contacts scroll window and is the linked to the selected line. The Line Contacts secondary window closes.

If you want to add another contact, repeat this process.

Step 7: Click on the **Apply** button.

This saves the data entered to the database and lists the added data in the Lines scroll window.

Step 8: To quit, select the File menu and pull down to **Quit**.

Updating Lines Data

You can make changes and additions any time using the method described earlier in "Building Lines Data" or follow the alternative methods described here.

To modify a line type or description, perform the following steps:

Step 1: Locate the line to be modified in the scroll window or use the **Find** command.

Step 2: Type over the line data in the Line Type or Line Desc fields.

Step 3: Click on **Apply** in the Lines window.

The line record is listed in the scroll window in modified form.

Step 4: To quit, select the File menu and pull down to **Quit**.

To add a line contact through the secondary Line Contacts window, perform the following steps:

Step 1: Click on **New** under the Line Contacts scroll window to open the line contacts window.

Step 2: Enter the name of the individual you want to add as a contact and click on **Apply**, or pull down the pick menu on the Last Name field.

- Select the address for the individual you want to add as a contact from the lookup window and press **OK** to close the lookup window.
- Click on **Apply** in the Line Contacts window.

This creates a new record and lists it in the Line Contacts scroll window of the primary Lines window.

Step 3: To quit, select the File menu and pull down to **Quit**.

To modify a line contact, perform the following steps:

Step 1: Select the line in the Lines scroll window.

If the contact name you want is listed in the Line Contacts scroll window, select the contact. If not, scroll through the names or locate the one you want using **Find.**

Step 2: Click on **Edit** in the Line Contacts scroll window or double-click on the Line Contacts entry in the scroll window.

The Line Contacts window opens with the contact selected in the data fields.

Step 3: Modify the data by overwriting People table fields.

Step 4: Click on **Apply**.

The Line Contacts window closes, modifications are accepted in the database, and the modified record is listed in the Line Contacts scroll window.

Step 5: To quit, select the File menu and pull down to **Quit**.

In Figure 6-27, the Line Contacts lookup window fields are filled using the **Find** command under the Edit menu. Information about John J. Doe was selected from the lookup window. Clicking on the **Apply** button in the Line Contacts window linked the data to the line selected.

Figure 6-27 Line Contacts Window

If you do not want to modify any data, click on the **Cancel** button. Data fields in the window that were changed revert to their original state, data selected in the window is ignored, and the lookup or secondary window is closed.