CHAPTER 3

Installing and Configuring CiscoWorks on HP-UX

Installation Overview

To install and configure CiscoWorks you will perform the following general tasks:

1. Complete the CiscoWorks Installation Worksheet and the CiscoWorks Configuration Worksheet.
2. Become a superuser.
3. Mount the CiscoWorks CD-ROM from a local or remote drive.
4. Install CiscoWorks by using the CiscoWorks installation script.
5. Configure CiscoWorks by using the CiscoWorks configuration script.
6. Unmount the CiscoWorks CD-ROM.

To complete these tasks, follow the detailed steps in the following sections. After you complete these tasks, continue to Chapter 4, "Validating CiscoWorks Installation on HP-UX," to validate the installation.

Becoming a Superuser

To perform the tasks associated with installing and configuring CiscoWorks, you must log into your system as a superuser. Being a superuser allows you to perform functions restricted from normal users.

Caution If you are a relatively inexperienced UNIX user, limit your activities as superuser to the tasks described in this publication. As superuser, you can adversely affect your operating environment if you are unaware of the effects of the commands you use.

To become a superuser, you must know the root password. In the following examples, the root password is shown as *rootpassword*.

If you are not logged in, enter the following commands to log in as a superuser:

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

Because you are logged in as superuser, the UNIX prompt changes to a # sign:

```
hostname#
```

If you are already logged in, but not as root, enter the following commands to change your login to root:

```
hostname% su
Password: <rootpassword>
```

CiscoWorks Software

The CiscoWorks software is distributed on a CD-ROM. The CD-ROM contains a number of partitions that store the software; some of the partitions are divided into filesets. A *partition* is a portion of a disk. A *fileset* is group of related files. Each partition or fileset contains a specific set of files (Table 3-1).

Table 3-1 Parts of the CiscoWorks Software

Partition Name	Fileset Name	Contents
CWIC		The *ncsinstall* and *ncsconfigure* scripts, which install and configure CiscoWorks
CISCO-WORKS	CW-BIN	The actual CiscoWorks applications
	CW-DOC	The CiscoWorks help and UNIX manual (man) page files
	CW-ETC	The daemons and utilities that support the CiscoWorks applications
	CW-MISC	Software tools that you can use with CiscoWorks, such as *tcl* (a language for writing scripts)
	CW-OV-REGISTER	The CiscoWorks files that support HP OpenView
SYBASE		The Sybase relational database
SHARE-LIBS	LIBXMU	The X11 standard libraries
	CPP-SHARE-LIBS	The C++ runtime libraries

When you install CiscoWorks, you can install just the partitions or filesets you choose.

Caution Avoid exposing the CiscoWorks CD-ROM to direct sunlight because it might damage the contents.

Installing CiscoWorks from a Local CD-ROM Drive

If you are installing CiscoWorks from a local CD-ROM drive, complete the steps in this section. Before you do so, fill out the CiscoWorks Installation Worksheet and the CiscoWorks Configuration Worksheet. See the following sections in Chapter 2, “CiscoWorks Installation Worksheet” and “CiscoWorks Configuration Worksheet” for more information.

Note As you complete the following steps, remember that you can exit the installation script at any time by entering **Ctrl-C**.

To install CiscoWorks from a local CD-ROM drive, perform the following steps:

Step 1 Place the CD-ROM in its caddy and insert the caddy into the CD-ROM drive.

Step 2 Log in as superuser.

For information on how to become a superuser, refer to the section "Becoming a Superuser."

Step 3 Create a */cdrom* directory, if one does not exist, by entering the following command:

```
hostname# mkdir /cdrom
```

Step 4 Mount the CD-ROM by entering the following command:

```
hostname# /etc/mount -rt cdfs /dev/device_filename /cdrom
```

Step 5 Create a directory for the CiscoWorks and Sybase files by entering the following command:

```
hostname# mkdir /usr/nms
```

If you already have a directory named */usr/nms*, you may want to specify another directory for installing CiscoWorks. The installation process will overwrite the contents of the existing */usr/nms* directory.

Step 6 Copy the installation and configuration scripts to the new CiscoWorks directory by entering the following command:

```
hostname# /etc/update -s /cdrom/cw.tar -d /usr/nms CWIC
```

Step 7 Install the CiscoWorks software by entering the following command:

```
hostname# /usr/nms/install/bin/ncsinstall -s /cdrom/cw.tar -d /usr/nms
```

If you do not use any command options, the **ncsinstall** script prompts you for a response. As the **ncsinstall** script runs, answer the questions it displays according to the information you entered on the CiscoWorks Installation Worksheet.

The command options that you can use and their meanings are listed below:

-db *size*	Allow *size* MB for the nms database
-log *size*	Allow *size* MB for the nms database log
-syb *path name*	Install Sybase in *path name*
-nosybase	Do not install Sybase
-data *path name*	Install the nms database in *path name*
-f *filesets*	CiscoWorks software to install

Step 8 Use the configuration script to configure CiscoWorks by entering the following command:

```
hostname# /usr/nms/install/bin/ncsconfigure
```

As the **ncsconfigure** script runs, answer the questions it displays according to the information you entered on the CiscoWorks Configuration Worksheet.

Step 9 Unmount the CD-ROM by entering the following commands:

```
hostname# cd /
hostname# umount /cdrom
```

Step 10 Remove the CD-ROM caddy from the drive and put the CD-ROM away.

This completes the CiscoWorks installation from a local CD-ROM drive. Now you can continue with the instructions in Chapter 4, "Validating CiscoWorks Installation on HP-UX." Once you validate the installation, you will be able to access CiscoWorks on HP OpenView.

Installing CiscoWorks from a Remote CD-ROM Drive

If you are installing CiscoWorks from a remote CD-ROM drive, complete the steps in this section. Before you do so, fill out the CiscoWorks Installation Worksheet and the CiscoWorks Configuration Worksheet. See the following sections in Chapter 2, "CiscoWorks Installation Worksheet" and "CiscoWorks Configuration Worksheet" for more information.

Note As you complete the following steps, remember that you can exit the installation script at any time by entering **Ctrl-C**.

To install CiscoWorks from a remote CD-ROM drive, perform the following steps:

Step 1 Go to the remote workstation.

Step 2 Place the CD-ROM in its caddy and insert the caddy in the CD-ROM drive.

Step 3 Log in as superuser.

For information on how to become a superuser, refer to the section "Becoming a Superuser."

Step 4 Create a */cdrom* directory, if one does not exist by entering the following command:

```
hostname# mkdir /cdrom
```

Step 5 Create a */etc/exports* file, if one does not exist.

Step 6 Add the following line to the */etc/exports* file:

```
/cdrom -ro
```

Step 7 If you just created */etc/exports* (in Step 5), make your workstation an NFS server by entering the following command:

```
hostname# nfsd 8 &
hostname# /usr/etc/rpc.mountd -n
```

Step 8 Mount the CD-ROM by entering the following command:

```
hostname# /etc/mount -rt cdfs /dev/device_filename /cdrom
```

Step 9 If you already had a */etc/exports* file (before Step 5), run **exportfs** by entering the following command:

```
hostname# exportfs -a
```

Step 10 Go to the local workstation.

Step 11 Log in as superuser .

For information on how to become a superuser, refer to the section "Becoming a Superuser."

Step 12 Create a */cdrom* directory, if you do not already have one by entering the following command:

```
hostname# mkdir /cdrom
```

Step 13 Mount the CD-ROM by entering the following command:

```
hostname# mount remote-hostname:/cdrom /cdrom
```

Step 14 Create a directory for the CiscoWorks files by entering the following command:

```
hostname# mkdir /usr/nms
```

If you already have a directory named */usr/nms*, choose another directory name. Otherwise, the installation process will overwrite the contents of the existing */usr/nms* directory.

Step 15 Copy the installation and configuration scripts from the CD-ROM to the new CiscoWorks directory by entering the following command:

```
hostname# /etc/update -s /cdrom/cw.tar -d /usr/nms CWIC
```

Step 16 Install CiscoWorks by entering the following command:

```
hostname# /usr/nms/install/bin/ncsinstall -s /cdrom/cw.tar -d /usr/nms
```

If you do not use any command options, the **ncsinstall** script prompts you for a response. As the **ncsinstall** script runs, answer the questions it displays according to the information you entered on the CiscoWorks Installation Worksheet.

The command options that you can use and their meanings are listed below:

-db *size*	Allow *size* MB for the nms database
-log *size*	Allow *size* MB for the nms database log
-syb *path name*	Install Sybase in *path name*
-nosybase	Do not install Sybase
-data *path name*	Install the nms database in *path name*
-f *filesets*	CiscoWorks software to install.

Step 17 Configure CiscoWorks by entering the following command:

```
hostname# /usr/nms/install/bin/ncsconfigure
```

As the **ncsconfigure** script runs, answer the questions it displays according to the information you entered on the CiscoWorks Configuration Worksheet.

Step 18 Unmount the CD-ROM from the local workstation by entering the following commands:

```
hostname# cd /
hostname# umount /cdrom
```

Step 19 Go to the remote workstation.

Step 20 Unmount the CD-ROM from the remote workstation by entering the following commands:

```
hostname# cd /
hostname# umount /cdrom
```

Step 21 Remove the CD-ROM caddy from the drive and put the CD-ROM away.

This completes the CiscoWorks installation. Now you can continue with the instructions in Chapter 4, “Validating CiscoWorks Installation on HP-UX.” Once you validate the installation, you will be able to access CiscoWorks on HP OpenView.

Setting up TFTP

As part of the CiscoWorks installation, you must configure your workstation so that it can use the Trivial File Transfer Protocol (TFTP). TFTP allows you to transfer configuration files between your workstation and other devices on your network.

You can have the CiscoWorks installation script set up the TFTP boot files and directory, or you can do it yourself, according to the instructions that follow.

Setting up the TFTP Daemon

To set up the TFTP daemon, perform the following steps:

Step 1 Log in as superuser.

For information on how to become a superuser, refer to the section "Becoming a Superuser."

Step 2 Using a text editor, add the following line to the */etc/services* file:

```
tftp    69/udp    # Trivial File Transfer Protocol
```

Step 3 Add the following line to the */etc/inetd.conf* file:

```
tftp    dgram udp wait   root /etc/tftpd    tftpd
```

Step 4 Reconfigure the TFTP daemon by entering the following command:

```
hostname# /etc/inetd -c
```

Step 5 Add the user *tftp* to the */etc/passwd* file with a line similar to the following:

```
tftp:*:510:10:Trivial FTP user:directory name:/bin/false
```

In this line, *directory name* represents the TFTP home directory.

Step 6 Verify that TFTP is enabled by entering the following command:

```
hostname# netstat -a | grep tftp
```

The output should be similar to the following:

```
udp 0 0  *.tftp *.*
```

If there is no output, TFTP is not enabled.

For additional information on TFTP, refer to the UNIX manual pages on **tftp** and **tftpd** commands.

Creating the TFTP Home Directory

The TFTP home directory temporarily holds files that are being transferred between your system and devices on your network.

Creating the TFTP home directory is optional, because the TFTP home directory is accessible to all users. To protect the security of your system, you may choose not to set up this directory on your system. However, without a TFTP home directory, you will be unable to use the CiscoWorks AutoInstall Manager, Configuration Manager, and Software Management applications.

If you want to use the CiscoWorks Software Library Manager or Device Software Manager applications to manage device software, you should allocate at least 4 MB of space for the TFTP home directory.

To create the TFTP home directory, perform the following steps:

Step 1 Log in as superuser.

For information on how to become a superuser, refer to the section "Becoming a Superuser."

Step 2 Create the directory by entering the following command:

```
hostname# mkdir <directory name>
```

Step 3 Change the ownership of the directory to *tftp* by entering the following command:

```
hostname# chown tftp <directory name>
```

For example, on HP-UX the TFTP directory may be */usr/tftp*.

Step 4 Change the group ownership of the directory to *guest* by entering the following command:

```
hostname# chgrp guest <directory name>
```

Step 5 To ensure that the directory gives the user *tftp* read, write, and execute permissions, enter the following command:

```
hostname# chmod 777 <directory name>
```

After you complete these steps, all users accessing the TFTP boot directory will have read, write, and execute permissions.

Reinstalling CiscoWorks

After you install CiscoWorks for the first time, you may need to reinstall it, for example if some files on your workstation become damaged or corrupted. Reinstalling means that you delete some or all of the existing CiscoWorks files and reinstall them from the same version of CiscoWorks.

To reinstall CiscoWorks files from a local CD-ROM drive, perform the following steps:

Step 1 Place the CiscoWorks CD-ROM in its caddy and insert the caddy into the CD-ROM drive.

Step 2 Log in as superuser.

For information on how to become a superuser, refer to the section "Becoming a Superuser."

Step 3 Mount the CD-ROM by entering the following command:

```
hostname# /etc/mount -rt cdfs /dev/device_filename /cdrom
```

Step 4 Move to the */cdrom* directory by entering the following command:

```
hostname# cd /cdrom
```

Step 5 Back up the data in your Sybase database.

If you need specific instructions for backing up your database, refer to your *CiscoWorks User Guide* or contact your service support representative.

Step 6 Shut down the Sybase database by entering the following command:

```
hostname# /usr/nms/etc/shutdown_nms
```

Step 7 To remove the CiscoWorks files you want to replace, enter the following command:

```
hostname# rmfn -l { CWIC | CISCO-WORKS | SYBASE | SHARE-LIBS }
```

The **-l** option specifies which partitions of CiscoWorks files you want to remove. You can enter any of the partition names or any combination of them. The partitions are listed below:

`CWIC`	The installation and configuration scripts
`CISCO-WORKS`	The CiscoWorks software
`SYBASE`	The Sybase database
`SHARE-LIBS`	The X11 standard and C++ runtime libraries

For more information on **rmfn**, refer to the UNIX manual page.

Caution If you specify **-l SYBASE**, you will remove your existing Sybase database. Any information about devices on your network that you have stored in the database will be lost.

Step 8 Reinstall the partitions you want by entering the following command:

```
hostname# /usr/nms/install/bin/ncsinstall -s /cdrom/cw.tar -d /usr/nms
          -f { CWIC | CISCO-WORKS | SYBASE | SHARE-LIBS }
```

The **-f** option specifies which partitions you want to reinstall.

If you specify **-f SYBASE**, you will overwrite your existing Sybase database. Any information about devices on your network that you have stored in the database will be lost.

Step 9 When the installation script asks you for the type of installation, press Return to accept the value *New*.

Step 10 Respond to each of the installation prompts.

You can press Return at any prompt to accept the default. Use **Ctrl-C** to interrupt the installation at any time. After you respond to all of the prompts, a CiscoWorks message confirms that the installation is complete.

Step 11 Configure CiscoWorks by entering the following command:

```
hostname# /usr/nms/install/bin/ncsconfigure
```

As **ncsconfigure** runs, answer the questions it displays according to the information you entered on the CiscoWorks Configuration Worksheet.

This completes the reinstallation process.

Removing Log Files

During the installation process, several log files are created to track the installation process and provide diagnostic information if a problem arises. When you are satisfied that CiscoWorks is properly installed and operating, you can remove these files. To remove these files from your system, enter the following command:

```
hostname# rm /usr/nms/install/log/*.log
```

The log files are described in Table 3-2.

Table 3-2 CiscoWorks Log Files

Log File Name	Contents of the Log File
ncsconfigure.defs	Your responses to the questions asked during the configuration
ncsinstall.log	The installation log messages
load_nms.log	The database loading messages
ncsconfigure.log	The configuration log messages
update.log	Messages logged while extracting files from CD-ROM
dbcc.log	Database consistency check log messages

Modifying Your .Xdefaults File

You can customize certain features of your CiscoWorks and HP OpenView environment by modifying the X Windows *.Xdefaults* file. For example, you can change the colors that windows display or specify certain ways in which CiscoWorks runs in your X Windows environment.

This section provides information on the following topics:

- Customizing CiscoWorks Colors and Fonts
- Editing the .Xdefaults File Entry to Specify the Text Editor
- Enabling Boot File Generation
- Updating the Refresh Interval in the CiscoWorks Log Manager Window
- Resetting the Default Window Size of CiscoWorks Applications

Customizing CiscoWorks Colors and Fonts

You can customize any of the X resources that the CiscoWorks applications use, including colors and fonts. This allows you to customize the colors and fonts in CiscoWorks windows. To use your own colors and fonts for CiscoWorks, perform one of the following procedures:

- Store your resources in the */usr/lib/X11/app-defaults/XCiscoWorks* directory.
- Rename your resource file to *$HOME/XCiscoWorks.*
- Store your resource files in the *$HOME/.Xdefaults* directory.
- Start your CiscoWorks applications with your specified resource options (for example, **-font 9x15bold**).

Editing the .Xdefaults File Entry to Specify the Text Editor

Defining the look of your text editor window requires that you add the following command to the *.Xdefaults* file, substituting the appropriate options:

Step 1 Confirm that X Windows is running.

You can always start an X window by entering the **x11start** command at the UNIX prompt.

Step 2 Use a text editor such as *vi* to open the *.Xdefaults* file by entering the following command:

```
hostname% vi $HOME/.Xdefaults
```

Step 3 Add the following line to the *.Xdefaults* file:

```
command string %s
```

For example, to specify the *vuepad* editor in */usr/vue/bin*, add the following line to the *.Xdefaults* file:

```
*EditorFormat:/usr/vue/bin/vuepad %s
```

Step 4 Save the *.Xdefaults* file using the save command in the text editor.

This completes the process of specifying the text editor.

Enabling Boot File Generation

Enabling boot file generation is a matter of editing the *.Xdefaults* file so that it specifies the *on* state. To specify the *on* state, perform the following steps:

Step 1 Confirm that X Windows is running.

You can always start an X window by entering the **x11start** command at the UNIX prompt.

Step 2 Use a text editor such as *vi* to open the *.Xdefaults* file by entering the following command:

```
hostname% vi $HOME/.Xdefaults
```

Step 3 Add the following line to the *.Xdefaults* file:

```
*Bootfile:on
```

Step 4 Save the *.Xdefaults* file using the save command in the text editor.

This completes the process of enabling boot file generation.

Updating the Refresh Interval in the CiscoWorks Log Manager Window

Your CiscoWorks Log Manager refreshes its window according to a default interval of 900 seconds. You can customize the frequency of this process by modifying the *.Xdefaults* file.

To change the refresh interval of the Log Manager window, perform the following steps:

Step 1 Confirm that X Windows is running.

You can always start an X window by entering the **x11start** command at the UNIX prompt.

Step 2 Use a text editor such as *vi* to open your *.Xdefaults* file by entering the following command:

```
hostname# vi $HOME/.Xdefaults
```

Step 3 Add the following line to your *.Xdefaults* file:

```
XCiscoWorks*refreshInterval:<seconds>
```

For example, if you want to reset the refresh interval to 450 seconds, enter the following line to your *.Xdefaults* file:

```
XCiscoWorks*refreshInterval:450
```

Step 4 Save the *.Xdefaults* file using the save command in the text editor.

This completes the process of updating the refresh interval.

Resetting the Default Window Size of CiscoWorks Applications

When working with CiscoWorks applications, you may notice that the window sizes vary from application to application. The layout of the window and the size of its text and graphics is preset to be large enough to contain all the elements that define the window. However, you can resize the window without obscuring the text.

To reset the default CiscoWorks window size, perform the following steps:

Step 1 Use a text editor such as *vi* to open the *$HOME/XCiscoWorks* file.

Step 2 Add the following line to your *$HOME/XCiscoWorks* file:

```
XCiscoWorks*geometry:500x400+0+0
```

Step 3 Save the *$HOME/XCiscoWorks* file using the save command in the text editor.

Step 4 Enter the following command at the UNIX prompt:

```
xrdb -merge ~/XCiscoWorks
```

This completes the process of resetting the default window size.