Preparing to Install CiscoWorks

Before you install, configure, and validate CiscoWorks, make sure you have the following:

- Root user authority
- Hardware prerequisites for CiscoWorks
- Software prerequisites for CiscoWorks
- Information necessary for installation and configuration

Becoming the Root User

The user named *root* can perform functions restricted from normal users. To install and configure CiscoWorks, you must know the root user's password and log in to your system as the root user or become the root user by use of the **su** command.

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

If you are not logged in, enter the following commands to log in as the root user:

```
login: root
Password: rootpassword
hostname#
```

The prompt changes to a pound sign (#), indicating that you are logged in as the root user.

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

```
hostname% su
Password: rootpassword
```

The AIX prompt changes to a pound sign (#), indicating that you are logged in as the root user:

```
hostname#
```

Hardware Requirements Checklist

CiscoWorks requires the following hardware:

- IBM RISC System/6000 workstation, Model 340 or higher

- Color monitor

- PostScript-compatible printer (for printing window images)

- CD-ROM drive on the host system, or CD-ROM drive on an accessible remote host

Software Requirements Checklist

CiscoWorks requires the following software products, conditions, and preparation. Details and verification methods for each requirement are outlined in the paragraphs following this list.

- AIX version—either of the following

    — IBM AIX Version 3, Release 2.5, with program temporary fixes (PTFs) 45257, 41600, 38605, and 43714

    — IBM AIX Version 4, Release 1

- NetView for AIX—Version 3.1 or 4.1.*x*

- System software—X Window System Version 11, Release 5; Motif Version 1, Release 2

- Hard disk space—5 MB or more in the root directory, 250 MB or more in the */usr* directory, plus 120 MB or more in the directory where the Sybase databases will reside (typically */usr*).

- RAM size—64 MB or more.

- Swap space size—128 MB or more.

- Preparation for remote installation—Verify root access to the remote host, and check the */etc/hosts* and *.rhost* files.

- TFTP configuration for device configuration management—Perform this task before *or* after installation, configuration, and validation.

Verifying AIX Version

To ascertain the operating system level, log in as the root user and enter

```
hostname% oslevel
```

Output similar to the following appears:

```
Processing.....Please Wait.
<>3250
```

This output indicates Version 3, Release 2.5.

Verifying System Software

To ascertain the version of NetView for AIX, log in as the root user and enter:

```
hostname% lslpp -L nv6000.base.obj
```

Output similar to the following appears:

```
Processing.....Please Wait.
nv6000.base.obj 3.1.0.0
   No Maintenance Level Applied.
```

This output indicates Version 3.1

Software Requirements for Certain CiscoWorks Applications

Several CiscoWorks applications require the managed Cisco devices to be running specific versions of the Cisco Internetwork Operating System (Cisco IOS) software. See Table 2-1.

Table 2-1   Software and Hardware Requirements for Particular CiscoWorks Applications and Cisco Devices

CiscoWorks Application	Cisco Device Type Supported	Hardware or Software Requirement
AutoInstall Manager	Any Cisco device running Software Release 9.1(7) or later	Neighbor router running Software Release 8.3 or later
		New router running Software Release 9.1(7) or later
CiscoConnect		AIX sendmail daemon
CiscoView	Cisco 4000, 4500	Software Release 9.21 through 10.3
	Cisco 2505, 2507	Cisco IOS Release 10.0(6) through 10.3
	Cisco 2501, 2502, 2503, 2504, 2509, 2511, 2512, 2513, 2514, 2515, 2516	Cisco IOS Release 10.2(1.3) through 10.3
	Cisco 7000 series (7000, 7010) and Cisco 7500 series (7505, 7507, 7513)	Software Release 9.21 through 11.0(2)
	Catalyst 5000, 1600, and 1200 series	Catalyst software version 1.0 or later
	Catalyst 3000 and Kalpana EPS 2015 switches, CiscoPro CPW16, CPW2115, and CPW500 switches	none
	WS-C1400 series and WS-C1100 series workgroup concentrators	none
	Cisco LightStream100 (previously known as A100 Hyperswitch)	Cisco IOS Software Release 1.2(0) or later
Configuration Management		Software Release 8.2 through Cisco IOS Release 10.0
Device Polling		Supports MIB I and II, and Cisco MIB variables, through Cisco IOS Release 10.3
Environmental Monitor	Cisco 7000	Software Release 9.0 or Cisco IOS Release 10.0, with ENVM card Revision 4 and Microcode version 2.0 or later
	Cisco AGS+	

CiscoWorks Application	Cisco Device Type Supported	Hardware or Software Requirement
Software Library Manager Software Inventory Manager Device Software Manager	**Devices with Flash Memory:**	
	Cisco AGS+	Software Release 9.1(7.5) or later, or 9.1(8) or later
	Cisco 4000	Software Release 9.14(3.4) or later, or 9.14(4) or later
	Cisco 7000	Software Release 9.17(5.2) or later, or 9.17(6) or later
	Cisco 7000 routers on which you want to perform microcode upgrades	Software Release 9.17(5.2) or later, or 9.21(0.32) or later
	Any collection of Cisco 3000, Cisco 4000, Cisco 7000, or AGS+ routers	Software Release 9.21(0.26) or later, 9.21(1) or later, or 9.1(8) or later
	Devices with Run-from-Flash Images:	
	Cisco 2500	Software Release 9.21 or later

Verifying Hard Disk Space

CiscoWorks requires 5 MB of disk space in the root directory and 250 MB of disk space in the */usr* directory, and Sybase 10 requires 120 MB (typically in the */usr* directory).

To find out how much disk space is available on your system, enter the following at the command prompt:

```
hostname% df -I
```

Output similar to the following appears:

```
Filesystem    Total KB     used     free %used Mounted on
/dev/hd4         16384    10008     6376   61% /
/dev/hd9var      32768     3756    29012   11% /var
/dev/hd2       1003520   871324   132196   86% /usr
/dev/hd3         16384      732    15652    4% /tmp
/dev/hd1          4096      240     3856    5% /home
/dev/hd10        16384      544    15840    3% /usr/sys
/dev/lv00      2002944   586868  1416076   29% /disk
```

The amount of disk space available in each filesystem is displayed. Note that 1,000 KB equal 1 MB. If you do not have sufficient space in the filesystem mounted on the */usr* directory, you must create a filesystem mounted on the */usr/nms* directory.

Caution   CiscoWorks can be installed only in the */usr/nms* directory. If you create a filesystem, its mount point must be */usr/nms*. If */usr/nms* already exists on your system, you must back up all the data in that directory before installing CiscoWorks. Installation of CiscoWorks overwrites any existing data.

The following overview summarizes the steps you follow to create a filesystem:

Step 1   Create an empty filesystem.

Step 2   Verify the integrity of the empty filesystem.

Step 3   Create a mount point directory.

Step 4   Configure the filesystem table and edit the */etc/filesystems* file.

Step 5   Mount the new filesystem.

For more information, refer to your IBM documentation or the manual (man) pages for the **mkfs**, **fsck**, **mkdir**, and **mount** commands. If you are unfamiliar with repartitioning disks or creating filesystems, contact a knowledgeable system administrator.

⚠️ **Caution**   If you use Network File System (NFS) to mount a remote file system, the Sybase system and its databases must reside and be configured in entirety on one host.

Verifying RAM Size

CiscoWorks requires a minimum of 64 MB of RAM. To find out how much RAM is available on your system, make sure you are logged in as the root user. (Refer to the section "Becoming the Root User" in this chapter.) Enter the following command at the AIX prompt:

```
hostname# lscfg | grep mem
```

Output similar to the following appears:

```
+ mem0                00-0B              32 MB Memory Card
+ mem1                00-0C              32 MB Memory Card
```

If your workstation does not have at least 64 MB of RAM, upgrade its memory.

Verifying Swap Space Size

CiscoWorks typically requires 128 MB of swap space on the AIX system.

Swap space requirements of CiscoWorks depend on such factors as the applications you run, the number of applications you run concurrently, and the number of network devices you manage with CiscoWorks. As a result, you might have to increase the swap space beyond the general minimum requirement.

To find out how much swap space is available on your system, make sure you are logged in as the root user. (Refer to the section "Becoming the Root User" in this chapter.) Enter the following command at the prompt:

```
hostname# lsps -a
```

Output similar to the following appears:

```
Page Space   Physical Volume   Volume Group   Size   %Used   Active   Auto   Type
paging00     hdisk1            external       160MB    17      yes     no     lv
hd6          hdisk0            rootvg          80MB    41      yes     yes    lv
```

Add the numbers in the *Size* column to determine your system's total swap space. In the previous example, the system's swap space is 240 MB.

If the swap space on your system is less than 128 MB, expand the swap space by following the instructions in your IBM documentation.

Preparing for Remote Installation

Before installing software from a CD-ROM drive on a remote host:

- Be sure you have the root user's password for that system. If you do not have root access to the remote system, contact the system administrator of the remote system.

- Be sure the remote host's Internet Protocol (IP) address and name are listed in the local */etc/hosts* file.

- Depending on the convention used at your site for specifying trusted hosts and users, each host's *.rhosts* file lists trusted host names, or trusted host name *and* trusted usernames. Be sure the local host name, or the local host and the *root* username, appears in the remote system's *.rhosts* file. For details on the *.rhosts* file, refer to the man page for the *.rhosts* file.

If the */etc/hosts* and *.rhosts* files in your network are maintained and distributed by a system administrator, ask the administrator to make necessary changes in the master files.

Gathering Information before Installation and Configuration

Before you install and configure CiscoWorks, determine the following information. Write your results in the worksheet shown in Figure 2-1.

- Whether you will install SYBASE SQL Server Release 10.0 software from the CiscoWorks CD-ROM— If Sybase 10 is already on your host, you need not install it again.

- CiscoWorks base product configuration information—Fields with default values may be accepted with those defaults.

  — CiscoWorks product group name. Decide in advance whether to override the default CiscoWorks group *cscworks*. This is the name to be listed in the */etc/group* file and to which intended users of CiscoWorks will be assigned.

  — CiscoWorks product user name. Decide in advance whether to override the default CiscoWorks username *cscworks*. This is the AIX username assigned to the CiscoWorks application itself.

  — Usernames for the CiscoWorks product group. Decide in advance which existing AIX users (as listed in */etc/password*) will be members of the CiscoWorks group. Users in the CiscoWorks group are able to use CiscoWorks.

  — Name of the system log facility for collecting CiscoWorks and Cisco router messages. CiscoWorks utilizes the AIX *syslogd* daemon to collect messages from itself and from managed devices, and forwards them to the NetView event monitoring window. The daemon's default collection facility is *local7* because Cisco routers use that facility. If you choose to override *local7* with a facility in the range *local0* through *local6*, only CiscoWorks messages are logged.

  The facility name you choose is stored in the *$NMSROOT/etc/nms.rc* file. After first-time configuration, you can change the facility by using the System Management Interface Tool (SMIT) or by editing the *$NMSROOT/etc/nms.rc* file.

  — Name of the log file for CiscoWorks and Cisco router messages. Decide whether you will override the log file name used by the CiscoWorks log daemon to collect CiscoWorks and Cisco router messages via the AIX *syslogd* process. The default log file name is */var/log/nmslog*.

— Whether to prevent other applications from using the system log facility. During CiscoWorks configuration, you are asked whether to remove existing *syslog.conf* entries. Doing so prevents applications other than CiscoWorks from using the facility named in the preceding item (such as *local7*). If you do not prevent other applications from using the named facility, messages from other applications might appear in the log file.

- CiscoConnect configuration information—Fields with default values may be accepted with those defaults.

  — Obtain the SmartNet contract number from your CiscoWorks paperwork.

  — Decide the exact form of your organization's name to be used by CiscoConnect in communications with the Cisco Technical Assistance Center (TAC).

  — Decide whether to override the default TCP port number 22854.

  — Determine whether your host uses an e-mail aliases file other than the default */etc/aliases*.

  — Decide whether to override the default username that CiscoConnect uses for e-mail with the Cisco TAC. The default is *ciscoconnect-client*.

- SYBASE SQL Server configuration information—Read one set of the following requirements depending on your situation:

  — If this is the installation of a new Sybase 10 database management system, decide whether to override any of the following *defaults* for the new server to be configured: polldb database size of 40 MB, polldb data device location */usr/nms/sybase10/data*, and polldb log device location */usr/nms/sybase10/data*.

  — If you will utilize an existing Sybase 10 data server (and not install Sybase 10 from the distribution CD-ROM), ascertain the following for the existing Sybase 10 server: home directory, server name, and system administrator's password.

    In addition, decide whether to override any of the following *defaults* for the new server to be configured: CiscoWorks network management database name *nms*, CiscoWorks polldb database name *polldb*, polldb database size of 40 MB, polldb data device location */usr/nms/sybase10/data*, and polldb log device location */usr/nms/sybase10/data*.

  — If this installation is an upgrade from CiscoWorks 2.1 to CiscoWorks 3.0, and data managed by the old Sybase 4.9 system must be upgraded to be managed by the Sybase 10 installed with CiscoWorks 3.0, determine whether Sybase 4.9 has any characteristics other than the following *defaults*: home directory */usr/nms/sybase*, server name *SYBASE*, system administrator's password *(nonexistent)*, and CiscoWorks network management database name *nms*.

    Also decide whether to override any of the following *defaults* for the new server to be configured: polldb database size of 40 MB, polldb data device location */usr/nms/sybase10/data*, and polldb log device location */usr/nms/sybase10/data*.

- TACACS information—CiscoWorks provides support for the Terminal Access Controller Access Control System (TACACS). TACACS is an authentication protocol that requires users (and CiscoWorks itself) to supply a username and password to access Cisco devices.

  — Determine whether TACACS is enabled on the Cisco devices to be managed by CiscoWorks. If so, find out the TACACS username and password to be used by CiscoWorks for accessing those devices.

  — Determine whether the routers to be accessed by CiscoWorks are operating in extended TACACS mode. If so, obtain the password for the extended TACACS *$enable$* account.

  — Determine whether this AIX host is a TACACS server.

Figure 2-1   Installation and Configuration Worksheet

Install Sybase 10 with CiscoWorks 3.0?	☐ yes	☐ no

CONFIGURING CiscoWorks 3.0

CiscoWorks product group name?	☐ cscworks	☐ other _____
CiscoWorks product username?	☐ cscworks	☐ other _____
Names of individuals in CiscoWorks group?	Username _____	Username _____
System log facility?	☐ local	☐ other _____
Log file for messages?	☐ /var/log/nmslog	☐ other _____
Prevent other applications from using log facility?	☐ cscworks	☐ other _____

CONFIGURING CiscoConnect

SmartNet™ contract number?	Contract # _____	
Organization name?	Name _____	
TCP Port number?	☐ 22854	☐ other _____
Location of aliases file?	☐ /etc/aliases	☐ other _____
E-mail name for automatic communication?	☐ ciscoconnect-client	☐ other _____

CONFIGURING Sybase SQL Server
If Sybase 10 is newly installed:

CiscoWorks polldb database size?	☐ 40 MB	☐ other _____
CiscoWorks polldb data device location?	☐ /usr/nms/sybase10/data	☐ other _____
CiscoWorks polldb log device location?	☐ /usr/nms/sybase10/data	☐ other _____

If an existing Sybase 10 SQL server will be used:

Sybase 10 server home directory?	Directory _____	
Sybase 10 server name?	Name _____	
Sybase 10 server system administrator's password?	Password _____	
CiscoWorks network management database name?	☐ nms	☐ other _____
CiscoWorks polldb database name?	☐ polldb	☐ other _____
CiscoWorks polldb database size?	☐ 40 MB	☐ other _____
CiscoWorks polldb data device location?	☐ /usr/nms/sybase10/data	☐ other _____
CiscoWorks polldb log device location?	☐ /usr/nms/sybase10/data	☐ other _____

If upgrading Sybase 4.9 data to Sybase 10:

Sybase 4.9 server home directory?	☐ /usr/nms	☐ other _____
Sybase 4.9 server name?	☐ SYBASE	☐ other _____
Sybase 4.9 server system administartor's password?	☐ *non-existent*	☐ other _____
CiscoWorks network management database name?	☐ nms	☐ other _____
CiscoWorks polldb database size?	☐ 40 MB	☐ other _____
CiscoWorks polldb data device location?	☐ /usr/nms/sybase10/data	☐ other _____
CiscoWorks polldb log device location?	☐ /usr/nms/sybase10/data	☐ other _____

CONFIGURING TACACS

TACACS enable on managed Cisco devices?	☐ yes	☐ no
If yes, TACACS username and password?	Username _____	Password _____
If yes, extended TACACS enabled?	☐ yes	☐ no
If yes, extended TACACS pasword?	Password _____	
This AIX host is TACACS server?	☐ yes	☐ no

NM809