

Cisco Enterprise Accounting Installation and Configuration Instructions

This instruction book provides information about installing and running Cisco Enterprise Accounting (CEA) on your Sun SPARC workstation and PC.

CEA is an end-user application that monitors, costs, and reports on ISDN network usage. For more information about using CEA, see the *Cisco Enterprise Accounting Getting Started Guide*.

Cisco documentation and additional literature are available in a CD-ROM package, which ships with your product. The Documentation CD-ROM, a member of the Cisco Connection Family, is updated monthly. Therefore, it might be more up to date than printed documentation. To order additional copies of the Documentation CD-ROM, contact your local sales representative or call customer service. The CD-ROM package is available as a single package or as an annual subscription. You can also access Cisco documentation on the World Wide Web at <http://www.cisco.com>, <http://www-china.cisco.com>, or <http://www-europe.cisco.com>.

System Requirements

This section describes Cisco Enterprise Accounting (CEA) software and hardware requirements.

Software

You must install the following software in order to run CEA:

IBM PC-compatible Pentium

- Microsoft (MS) Windows 95 (TCP/IP enabled)

Sun SPARC Workstation

- SunOS 4.1.4
- X11R5
- OpenWindows 3.0
- SunNet Manager 2.2.2 with patches or 2.2.3

If SunNet Manager 2.2.2 is used, CEA requires that patches 101953-0, 102469-0, and 102747-0 are installed in the SunNet Manager home directory. These patches are contained in the files *101953-0.tar.Z*, *102469-0.tar.Z*, and *102747-0.tar.Z* and can be obtained via anonymous

FTP to zippy.telcom.arizona.edu in the `/pub/snm/patches/SunOS4.1.x/SNM2.2.x` directory. Instructions for installing the patches are contained in the files `101953-0.readme`, `102469-0.readme`, and `102747-0.readme`, available at the same location.

Supported Cisco IOS Versions and Routers

Each Cisco ISDN router must run Cisco IOS 11.0(7) or later to support the Cisco-call-history MIB required for Cisco Enterprise Accounting.

Refer to the *Cisco Enterprise Accounting Release Notes* (on Cisco Connection Online or the Cisco Connection Documentation CD) for details on routers and Cisco IOS version information.

Hardware

The minimum hardware requirements for running CEA include the following:

IBM PC-compatible Pentium

- 90 MHz clock minimum
- 16 MB of RAM
- 2 GB minimum hard drive space

- SVGA color monitor and graphics adapter
- RS-232 serial port
- CD-ROM drive
- Mouse or mouse-compatible pointing device

Sun SPARC Workstation

- 6 GB minimum hard drive space
- 32 MB of RAM
- CD-ROM drive

Network Connections

The Sun SPARC workstation used as the data collection engine should be on the same subnetwork as the IBM PC-compatible Pentium running the Windows application. The name and IP address of the workstation should be listed in the *C:\Windows\hosts* file.

Install the Cisco Enterprise Accounting Data Collection Engine

Perform the following procedure to install the Cisco Enterprise Accounting (CEA) data collection engine on a Sun SPARC 20 workstation:

- 1** Insert the CEA UNIX CD-ROM into your CD-ROM drive.
- 2** Become the superuser by entering **su** and the root password at the command prompt, or log in as **root**. The command prompt changes to the pound sign (#).
- 3** If the */cdrom* directory does not already exist, enter the following command to create it:

```
mkdir /cdrom
```

- 4** Mount the CD-ROM drive.

```
/etc/mount -rt hsfs /dev/device_name /cdrom
```
- 5** Change the directory to the CD-ROM drive directory.

```
cd /cdrom
```

6 Type **install_cea** at the command line.

Make sure to include the **./** in the **./install_cea** command.

When prompted, enter the directory where the software should be installed. This directory must be readable and writable by the CEA administrator. If the executables already exist in the same directory, the script will ask permission to overwrite them. The installation script will create a */svr* directory in the destination directory.

7 To unmount the CD, enter the following commands:

```
cd /
```

```
umount /cdrom
```

```
eject /cdrom
```

Configure the Sun SPARC Workstation

Before starting Cisco Enterprise Accounting (CEA), the SPARC workstation must be properly configured. The following tasks must be done before running CEA:

- Set the Environment Variables
- Configure the *cea_hosts.cnf* File

- Update the /etc/hosts File
- Configure SunNet Manager

Set the Environment Variables

Set the user's environment variables listed in Table 1 to the desired directories. These environment variables should be set in the login profile file, such as a *.cshrc* or *.profile* file, for the CEA user. In order for these variables to work, log out and log back in.

Table 1 Environment Variables

Variable	Explanation
\$CEAHOME	Specify the location of the CEA software.
\$SNMHOME	Specify the location of the SNM software.
\$SNMDBDIR	Specify the location of the SNM database.
\$HELPPATH	Specify the location of the SNM help files.
\$MANPATH	Add <i>\$CEAHOME/svr/man</i> and <i>\$SNMHOME/man</i> to \$MANPATH.
\$PATH	Add the location of the CEA <i>svr/bin</i> executables to \$PATH.

For example, to set `$SNMHOME` to `/var/snm`, type the following command:

```
setenv SNMHOME /var/snm
```

To add the location of the CEA *svr/bin* executables to your `PATH`, type the following command:

```
setenv PATH ${PATH}:${CEAHOME}/svr/bin
```

Configure the `cea_hosts.cnf` File

The `$CEAHOME/svr/data/cea_hosts.cnf` file identifies the routers CEA monitors.

Include one line in the file for each router. Each entry consists of fields separated by blanks or tabs. Blank lines and those starting with a pound sign (#) are ignored. Do not include peer (remote) hostnames in this file.

The command syntax is:

```
hostname nwaddr [collector method poll com log]
```

Table 2 lists the fields and field descriptions.

Table 2 Cna_hosts.cnf Fields

Variable	Explanation
<i>hostname</i>	Fully-qualified hostname of router.
<i>nwaddr</i>	IP address of router using dotted-decimal notation.
<i>collector</i>	(Optional) Type of data collector to be used: <ul style="list-style-type: none">• E = Cisco Enterprise MIB (default).
<i>method</i>	(Optional) Method to be used for collecting call data: <ul style="list-style-type: none">• P = Poll (default).
<i>poll</i>	(Optional) Poll interval for call data collection in minutes. The default is 10 minutes, with a minimum is 5 minutes.
<i>com</i>	(Optional) Community string for SNMP GET. The default is <i>public</i> .
<i>log</i>	(Optional) Enable or disable detailed logging for collector: <ul style="list-style-type: none">• D = detailed logging disabled (default). Major events are still logged.• E = detailed logging enabled

For example, to poll the router called `server1` every ten minutes, include the following line in your `cea_hosts.cnf` file:

```
server1 171.68.1.1 E P 10 public D
```

Update the `/etc/hosts` File

Each router identified in the `cea_hosts.cnf` file must be included in the local `/etc/hosts` file. Check the `/etc/hosts` file to verify that all routers are present.

Configure SunNet Manager

Create SNM Database for the CEA Administrator

The CEA administrator must create a SunNet Manager (SNM) database.

Note If the CEA administrator already has an SNM database, skip the tasks in this section.

Make sure that you are logged in as the user who will be running CEA, and that the \$SNMHOME and \$SNMDBDIR environment variables have been set.

- 1 Change to the SNM home directory.

```
cd $SNMHOME
```

- 2 Start SunNet Manager.

```
snm
```

- 3 Select the **Basic Start** option.

- 4 Select **Quit** from the window.

db.<user> will be saved in \$SNMDBDIR, where *<user>* is the user who started SNM.

Copy Cisco MIB Schema Files into \$SNMHOME/agents

CEA data collection uses SNMP to gather data from the Cisco ISDN MIB. You must load SNM with the Cisco MIB schemas.

- 1 Extract the Cisco MIB schemas from the *snm-mibs.tar* file located in the *\$CEAHOME/svr/snmpatch* directory into *\$SNMHOME/agents*.

```
cd $SNMHOME/agents
```

```
uncompress $CEAHOME/svr/snmpatch/snm-mibs.tar.Z
```

```
tar xvf $CEAHOME/svr/snmpatch/snm-mibs.tar
```

- 2 Check that the *.schema*, *.oid*, and *.trap* files all have public read and write permissions once they have been moved to the *\$SNMHOME/agents* directory.

Load MIB Schemas into SNM Database

- 1 Start SunNet Manager.

```
snm
```

- 2 Select **File** from the Home Window.

- 3 Under the File menu, select **Save>Management Database** to save the current working database.

Caution Do not skip this step or your current database will be lost.

- 4 Exit SNM.

- 5 Restart SNM with the **-i** option and the name of the saved database.

```
snm -i my.saved.db
```

This causes SNM to reinitialize the database, reloading its schema files in the process.

- 6 Exit SNM.

SNM is now configured to recognize the traps and MIBs required by the CEA Data Collector.

Add IP Address of the Routers to the SNM Database

All routers to be monitored must appear in the SNM database owned by the user who will run the CEA server.

Note The routers must be listed in the SNM database by IP addresses, not hostnames.

Adding routers to SNM can be done manually by following the instructions provided with SNM. However, the IP addresses of the routers are automatically added during CEA startup if you set `$CEAAUTOVIEW` to the name of an SNM view.

Note If the IP address are added automatically during CEA startup, information associated with routers in other existing SNM databases may be changed.

To instruct CEA to add elements automatically to the view named “cea,” type the following before starting CEA:

setenv CEAAUTOVIEW cea

If `$CEAAUTOVIEW` is set, CEA will attempt to update the SNM database when reading the `cea_hosts.cnf` file.

Configure the Routers

Configure the routers with a read community string which matches the value configured in the *cea_hosts.cnf* file. Perform these steps on each monitored router:

- 1 To set up the community string for read only access, enter the following global configuration command:

```
snmp-server community community-string ro
```

- 2 Remove any access lists which filter SNMP traffic.
- 3 Save the configuration.

```
copy running-config startup-config
```

Install Cisco Enterprise Accounting on a PC

The Cisco Enterprise Accounting (CEA) installation program installs all the required files.

If you already have a previous version of CEA installed on your machine, manually remove the application before installing the current version.

To install CEA, complete the following steps:

- 1 Insert the CEA Windows CD-ROM into your CD-ROM drive.
- 2 In the Program Manager window, select **Start>Run**, or select **Start>Control Panel>Add/Remove Programs** and click **Install**.
- 3 Enter the letter that indicates the CD-ROM drive followed by a colon (:), a backslash (\), and **setupCEA.exe**. For example:

d:\setupCEA.exe

The Welcome dialog boxes appear. Click **Next** on these two screens; you will see the Licence Agreement screen. Read this screen and select the **Yes** button if you accept the stated terms and agreements.

- 4 Provide the requested information in all the screens. Accept the default suggestions.

The setup program will decompresses and install all the needed files and ask if you want to restart the system.

- 5 To use CEA, click **Restart** to restart your computer.

Note You must restart your system before using the CEA application. CEA will not run properly until the system has been restarted.

You now have a Cisco Enterprise Accounting program group in your Program Manager window.

Start Cisco Enterprise Accounting on Sun SPARC Workstation

To start the Cisco Enterprise Accounting (CEA) data collection engine, enter the following command:

cea_startds

Errors can be seen in the *\$CEAHOME/svr/log/cea_ds_logfile* file. To check the status of the data collection engine, use the **cea_chkds** command.

To exit the CEA data collection engine, enter the following command:

cea_killds

Start Cisco Enterprise Accounting on the PC

The Program Manager window for Cisco Enterprise Accounting (CEA) contains the following icons:

- Cisco Enterprise Accounting
- Cisco Enterprise Accounting Setup
- Database Recovery Tool
- Port Monitor
- Utilities

Start Cisco Enterprise Accounting

In order to run CEA applications, complete the following tasks:

- 1** Double-click on the Cisco Enterprise Accounting icon in the Cisco Enterprise Accounting Program Manager group.

The Main Window will appear.

- 2** Select the **Recording Setup** command in the Settings Menu to set up the recording information. Provide the information requested on the two screens. When you are done, click **Finish**.
- 3** Select the **Device and Costing Setup** command in the Settings menu to enter the information used for costing calls. When you are done, click **Finish**.

Start the Port Monitor

In order to begin the recording processes, you must start the Port Monitor application.

- 1** Select **Start>Programs>Cisco Enterprise Accounting>Port Monitor**. This starts the recording process and opens the Port Monitor screen. Once this application is running, do not exit or close Port Monitor.
- 2** Verify that Port Monitor is recording. The word “Yes” should appear in the “Data” column. If this column says “no,” refer to the “Troubleshoot a Recording Problem” section in the “Maintenance and Troubleshooting Procedures” chapter of the *Cisco Enterprise Accounting Getting Started Guide*.

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