CHAPTER 2

# Installing VlanDirector

This chapter describes how to install VlanDirector. Verify that your system and network meet the requirements listed in this section before you start the installation. Then continue to the installation procedure appropriate for your system.

- System and network requirements for running VlanDirector
- Instructions for mounting and unmounting the CDROM drive
- Instructions for installing VlanDirector on a Sun SPARCstation
- Instructions for installing VlanDirector on an HP system
- Instructions for removing VlanDirector and CiscoView
- Guidelines for setting up community string files

## System Requirements for VlanDirector

Before you install VlanDirector, make sure that your system meets the requirements listed in Table 2-1.

**Table 2-1 Hardware and Software System Requirements for VlanDirector**

| Category | Sun OS Requirements | HP-UX Requirements |
|---|---|---|
| **HARDWARE** | Sun SPARCstation 4 or greater | HP-9000 System |
| | Color monitor | Color monitor |
| **SOFTWARE** | | |
| **Operating Systems** | SunOS 4.1.3_U1, or SunOS 4.1.4 | HP-UX, A.09.03, A.09.04, A09.05 |
| **Available Disk Space** | 24 MB if CiscoView 3.0 is not installed; 8 MB if CiscoView 3.0 is installed | 86 MB if CiscoView 3.0 is not installed; 13 MB if CiscoView is installed. |
| **RAM** | 32 MB | 32 MB |
| **Windowing Systems** | X11R4 or X11R5<br>OpenWindows 3.0, 3.3, or later; or Motif Window Manager | X11R4 or X11R5<br>HP Vue or Motif Window Manager |
| **Network Management Software (not required)[1]** | SunNet Manager 2.2.2<br>HP OpenView 3.3 | HP OpenView 3.3 |

1. VlanDirector can run standalone; you do not need a network management platform to run it.

**Note** If you are installing VlanDirector on an NFS-mounted drive, you will need root authority on the NFS partition. You can install VlanDirector on a local disk or a network-mounted disk to which you have root access.

Make sure that you have the required disk space for your VlanDirector database. Table 2-2 shows the estimated disk space required for various components.

**Table 2-2 Disk Space Required for Various Components**

| Component | Disk Space |
|---|---|
| **Base** | 350 K |
| **Each switch** | 5 K |
| **Each module per switch** | 20 K |
| **Each VLAN** | 2 K |

The following formula shows how to calculate space for a sample network. The sample network contains 100 switches with 3 modules per switch and 500 VLANs.

```
350K + (100 X 5K) + (300 X 20) + (500 X 2) = 7850K
```

This space is required for each configuration or known network stored per network.

# Network Requirements

Before you install the software, perform the following procedure to verify that your network is set up correctly:

**Step 1** Ensure that the Cisco Discovery Protocol (CDP) is enabled on all switches in the network. To ensure that CDP is enabled, use the following command line interface (CLI) command on all switches:

```
set cdp enable all
```

**Step 2** If a switch is interconnected with Fast Ethernet links and configured to carry more than one VLAN, verify that ISL is enabled on both sides of the trunk. Refer to the *Catalyst 5000 Series Configuration Guide and Command Reference* for information on how to enable ISL.

**Step 3** Verify that you can communicate with each switch over VLAN 1 (the default VLAN) by pinging each device.

**Step 4** Verify that all interconnected switches are running a minimum of system software version 1.2.

**Step 5** If your community strings for the devices differ from the default, verify that the format of the community string file you are using is correct. See “Specifying Community Strings for VlanDirector” later in this chapter.

# Mounting from a Local CD-ROM

Before mounting the CD-ROM, place the VlanDirector CD-ROM into the CD-ROM drive.

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

**Step 1** Become superuser by entering **su** and the root password at the system prompt (#):

**Step 2** If the */cdrom* directory does not already exist, enter the following command to create the */cdrom* directory:

```
mkdir /cdrom
```

**Step 3** Mount the CD-ROM.

On a Sun workstation, enter the following:

```
mount -rt hsfs /dev/sr0 /cdrom
```

On an HP system, enter the following, replacing <device name> with the name of your device:

```
mount -t cdfs -o ro /dev/<device name> /cdrom
```

For example, you might enter **dsk/c201d2s0** as your device name.

Continue with the appropriate installation procedure for your network.

# Mounting from a Remote CD-ROM

Before mounting the CD-ROM, place the VlanDirector CD-ROM into the CD-ROM drive.

To mount the CD-ROM from a remote CD-ROM drive, perform the following steps on the *remote* machine where the CD-ROM drive is located:

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**Note** If you are running SunOS 5.*x*, refer to your Sun documentation for the appropriate commands to export a disk.

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**Step 1** Become superuser by entering **su** and the root password at the command prompt.

**Step 2** If the */cdrom* directory does not already exist, enter the following command to create the */cdrom* directory:

```
mkdir /cdrom
```

**Step 3** If the */etc/exports* file does not exist, create it.

**Step 4** Edit the */etc/exports* file to include the following line:

```
/cdrom -ro
```

**Step 5** If */etc/exports* does not exist, enter the following commands to reboot your machine to become an NFS server:

```
nfsd 8 &
rpc.mountd -n
```

To verify that you have exported the disk, enter the following command:

```
/usr/etc/showmount -e host_name
```

**Step 6** Mount the CD-ROM.

On a Sun workstation, enter the following:

```
/etc/mount -rt hsfs /dev/sr0 /cdrom
```

On an HP system, enter the following, replacing <device name> with the name of your device:

```
/etc/mount -t cdfs -o -ro /dev/<device name> /cdrom
```

For example, you might enter **dsk/c201d2s0** as your device name.

**Step 7** Enter the following command to run **exportfs**:

```
exportfs -a
```

Perform the following steps on the *local* machine:

**Step 1** Become superuser by entering **su** and the root password at the command prompt.

**Step 2** If the */cdrom* directory does not already exist, enter the following command to create the */cdrom* directory:

```
mkdir /cdrom
```

**Step 3** Mount the CD-ROM.

On a Sun workstation, enter the following:

```
/etc/mount -rt hsfs /dev/sr0 /cdrom
```

On an HP system, enter the following, replacing <device name> with the name of your device:

```
/etc/mount -t cdfs -o -ro /dev/<device name> /cdrom
```

For example, you might enter **dsk/c201d2s0** as your device name.

# Installing VlanDirector on a Sun Workstation

Follow this procedure if you are installing VlanDirector or a Sun workstation. If you are installing VlanDirector on an HP system, continue to Installing VlanDirector on an HP System.

This section describes how to install VlanDirector on a Sun workstation. The procedure is the same whether you are using SunNet Manager or HP OpenView network management software on the Sun workstation, or installing VlanDirector on a Sun workstation without SunNet Manager or HP OpenView.

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**Note** Before installing VlanDirector, enter the following command to remove the */usr /tmp/unbundled* directory, if it exists:

```
# rm -rf /usr/tmp/unbundled
```

---

**Step 1** To install the files from the CD-ROM drive, enter the following commands at the system prompt:

```
# cd /cdrom
# ./extract_unbundled
```

Make sure you include the dot, slash (**./**) in the **extract_unbundled** command.

The screen displays product information and prompts you as follows:

```
Do you want to continue (y|n)? [y]
```

**Step 2** Enter **y** or press **Return** to continue with the installation.

Copyright information about the product and the terms of the Cisco licensing agreement are displayed, followed by the prompt:

```
Do you agree to the terms of this copyright (y/n)?
```

**Step 3** Enter **y** to continue with the installation.

The screen displays information about where the files will be installed, by default, and allows you to modify the default destination for VlanDirector. The default destination is */usr/vlan.* The system prompts as follows:

```
Should product be installed in /usr/vlan (y:n)? [y]
```

**Step 4** Enter **y** or press **Return** in response to the prompt to continue with the installation. The default location is typically used.

The system prompts as follows:

```
/usr/vlan is not a valid directory, create it (y|n)? [y]
```

If your system does not already have CiscoView installed, continue to Step 6.

Otherwise, enter **y** or Press **Return** to continue with the installation.

**Step 5** If your system already has CiscoView installed, the system prompts as follows:

```
CiscoView [Ver] is installed
Use existing version (y|n)? [y]
```

VlanDirector is shipped with a licensed user version of CiscoView. If you enter **y** (for Yes) at this prompt, the installation script responds that the existing version of CiscoView on your system has all the files necessary to reinstall CiscoView. If you enter **n** (for No) at this prompt, CiscoView will be reinstalled.

**Step 6** Enter **y** or press **Return** to accept the default.

The system prompts as follows:

```
Enter hostname or IP address of switch [none]
```

**Step 7** Enter the host name or IP address of a Catalyst 5000 switch as the seed switch or starting device for the discovery process.

It is strongly recommended that you enter the host name or address of a switch at this prompt. If you specify the default value None, the installation will continue, but without a default discovery value.

The system prompts as follows:

```
Should secure X binaries be used? (y|n) [n]
```

**Step 8** Enter **n** or Press **Return** to accept the default and continue with the installation.

The default value is typically No.

The system prompts as follows:

```
Enter database owner? [ <real user ID>]
```

**Step 9** Press **Return** to accept the default value, unless you want to change the group ID of the database.

The system prompts as follows:

```
Should data files be installed in /usr/vlan/etc/vview (y|n)? [y]
```

**Step 10** Enter **y** or press **Return** to accept the default value, unless you want the modifiable files to be located in another directory. If so, specify the directory path.

The system prompts as follows:

```
Use this owner and group (y|n)? [y]
```

This applies to all files other than the writable files that were referred to in previous prompts.

**Step 11** Enter **y** or press **Return** to accept the default. Typically the default is acceptable.

The system prompts as follows:

```
Are these settings correct (y|n)? [y]
```

**Step 12** Enter **y** or press **Return** to start the installation.

Prior to installation, you can review your previous responses. You can press Ctrl-C at any time to terminate the installation.

As the installation proceeds, the filenames are listed on the screen as they are installed. The installation process takes approximately 5 to 10 minutes, depending on the system speed.

After the installation has been completed, a message similar to the following is shown on the screen:

```
========SOFTWARE INSTALLATION COMPLETED=============
```

**Step 13** Edit and check the */tmp/ciscoinstall.log* file for warnings and errors.

Continue to "Unmounting the CD-ROM."

# Installing VlanDirector on an HP System

Follow this procedure to install VlanDirector 1.0 on an HP system. Enter all commands as superuser at the root prompt (#):

**Step 1** Create a directory into which you will install VlanDirector:

```
mkdir /usr/vlan
```

**Step 2** Enter the following command to begin the installation procedure:

```
/etc/update -s /cdrom/vl.tar -d /usr/vlan VLIC
```

A list of files is displayed on the screen, followed by system information.

**Step 3** Enter the following commands to proceed with the installation:

```
cd /usr/vlan/install/bin
./vlinstall -s /cdrom/vl.tar
```

Copyright information about the product and the terms of the Cisco licensing agreement are displayed, followed by the prompt:

```
Do you agree to the terms of this copyright (y/n)?
```

**Step 4** Enter **y** to continue with the installation.

The screen displays information about where the files will be installed, by default, and allows you to modify the default destination for VlanDirector. The default destination is */usr/vlan.* The system prompts as follows:

```
Should product be installed in /usr/vlan (y:n)? [y]
```

If your system does not already have CiscoView installed, continue to Step 6.

**Step 5** Enter **y** or press **Return** in response to the prompt to continue with the installation.

If your system already has CiscoView installed, the system prompts as follows:

```
CiscoView <version number> is installed
Use existing version (y:n)? [y]
```

VlanDirector is shipped with a licensed user version of CiscoView. If you enter **y** (for Yes) at this prompt, the installation procedure recommends that the existing version of CiscoView on your system has all the files necessary to reinstall CiscoView. If you enter **n** (for No) at this prompt, CiscoView will be reinstalled.

**Step 6** Enter **y** or press Return to continue with the installation.

The system prompts as follows:

```
Enter hostname or IP address of switch [none]
```

**Step 7** Enter the host name or IP address of a Catalyst 5000 switch as the seed switch or starting device for the discovery process.

It is strongly recommended that you enter the host name or address of a switch at this prompt. If you specify the default value None, the installation will continue, but you will not have a default discovery value.

The system prompts as follows:

```
Should xauth enabled binaries be used? (y|n) [n]
```

**Step 8** Enter **n** or Press **Return** to accept the default and continue with the installation.

The default value is typically No.

The system prompts as follows:

```
Enter database owner? [<bin>]
```

**Step 9** Press **Return** to accept the default value and continue with the installation.

The system prompts as follows:

```
Enter database group [<bin>]
```

**Step 10** Press **Return** to accept the default value, unless you want to change the group ID of the database.

The system prompts as follows:

```
HP OpenView is installed. Do you wish to add to it? (y/n)? [y]
```

**Step 11** Press **Return** to accept the default value and continue with the installation.

The system prompts as follows:

```
Please confirm the directory where HP Openview is installed ?
[/usr/OV]
```

**Step 12** Press **Return** to accept the default location and continue with the installation.

The system prompts as follows:

```
Should data files be installed in /usr/vlan/etc/vview (y|n)? [y]
```

**Step 13** Enter **y** or Press **Return** to accept the default value, unless you want the modifiable files to be located in another directory. If so, specify the directory path.

The system prompts as follows:

```
Use this owner and group (y|n)? [y]
```

This applies to all files other than the writable files that were referred to in previous prompts.

**Step 14** Enter **y** or Press **Return** to accept the default. Typically the default is acceptable.

The system prompts as follows:

```
Are these settings correct (y|n)? [y]
```

**Step 15** Enter **y** or Press **Return** to complete the installation.

Prior to installation, you can review your previous responses. You can press Ctrl-C at any time to terminate the installation.

As the installation proceeds, the filenames are listed on the screen as they are installed. The installation process takes approximately 5 to 10 minutes, depending on the system speed.

After the installation has been completed, a message similar to the following is shown on the screen:

```
========SOFTWARE INSTALLATION COMPLETED=============
```

**Step 16** Check the */tmp/ciscoinstall.log* file for warnings and errors.

Continue to "Unmounting the CD-ROM."

# Unmounting the CD-ROM

After you have completed the installation, unmount the CD-ROM. To unmount and eject the CD-ROM from your local machine, enter the following commands as superuser at the root system prompt (#):

On a Sun system, enter the following commands:

```
cd /
umount /cdrom
eject /cdrom
```

On an HP system, enter the following commands:

```
cd /
umount /cdrom
```

Remove the CD-ROM and store it in a safe place.

---

**Note** A complete log of the installation can be found in the */tmp/ciscoinstall.log* file. Save this file to help you troubleshoot future installation problems.

---

# Removing VlanDirector from a Sun Workstation

If you encounter problems during the installation, reinstall VlanDirector. Before reinstalling VlanDirector, it is recommended that you remove it first. To remove VlanDirector from a Sun workstation, follow these steps, entering all commands as superuser at the root prompt (#):

To remove a previous version of VlanDirector and CiscoView, enter the following commands:

**Note** If you have CiscoWorks 3.0 installed with CiscoView 3.0, and you remove CiscoView, CiscoWorks will also be removed.

```
cd /var/sadm/csco
./rmprod ciscoview
./rmprod vlandirector
rm -rf <root of initial install tree>
```

(where the initial install tree refers to the tree created when you first installed VlanDirector. The default tree is */usr/vlan*.)

```
rm -rf /usr/tmp/unbundled
```

**Note** A complete log of the installation can be found in the */tmp/ciscoinstall.log* file. Save this file to help you troubleshoot installation problems.

# Removing VlanDirector from an HP System

This section describes how to remove VlanDirector and CiscoView from a HP system.

## Removing VlanDirector from an HP System

To remove VlanDirector from an HP system, enter the following commands at the root system prompt (#), where */usr/vlan* indicates the directory in which VlanDirector is installed:

```
rmfn -l VLIC
rmfn -l VLAN-DIRECTOR
cd </usr/vlan>
```

```
rm -r*
```

## Removing CiscoView from an HP System

To remove CiscoView, enter the following commands at the system prompt, where */usr/vlan* indicates the directory in which CiscoView is installed.:

```
rmfn -l CVIC
rmfn -l CISCO-VIEW
rmfn -l CV-HPOV
cd /usr/vlan
rm -r*
```

# Specifying Community Strings for VlanDirector

VlanDirector uses the following default community strings when launched:

- "public" as the default read community string
- "private" as the write community string

To start VlanDirector with a specified community string file name, use the following command syntax:

**vdirector -csf <community string filename>**

The community string file that you specify must adhere to the following standard community string file format:

<switch name or IP address> <read community string> <write community string>

One or more spaces or tabs in the device name field indicate that the specified string or strings apply to all switches on the network. If a file includes multiple entries for the same device, VlanDirector uses the last entry in the file.

Below are examples of community string files.

In these examples, the diamond (<> ) indicates one or more spaces or tabs.

**Example 1**

In this example, the read string is “jane” and the write string is “joe.” These values are used for all devices for which no other entry is provided.

```
< >          jane     < >    joe
```

**Example 2**

In this example, the read and write string is “jane”. The second line is a comment string, which is ignored. A line consisting of only white space is a comment and is also ignored.

```
< >          jane
# this is a comment string
```

**Example 3**

In this example, for the switch named “jewel,” “ruby” is the read community string, and “jade” is the write community string. For all other switches, “jane” is the read community string, and “joe” is the write community string.

```
jewel       ruby  <>     jade
<>          jane    <>    joe
```

The community string file can contain a line for each device, if necessary.

Continue to “Getting Started with VlanDirector.”