



## Mounting and Unmounting the CD-ROM

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This appendix describes how to mount and unmount the CD One CD-ROM on a HP-UX 11.0 system. It contains general information only. For more detailed instructions, consult your HP-UX documentation.

You can install CD One from a CD-ROM mounted on the CD One server system or from a CD-ROM mounted on a remote HP-UX system.

The native HP-UX mount command does not support CD-ROM filesystem formats that conform to the ISO 9660 Rockridge extensions standard. All CiscoWorks2000 installation CDs use this format. To mount CW2000 CD-ROMs, you must use Portable Filesystem (PFS), which allows access to CD-ROM filesystems that use the ISO 9660 Rockridge extension format.



### Note

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You *must* use this CD-ROM mounting procedure to successfully install the product. If you use the standard UNIX mount command to mount the CD-ROM, the software installation will fail.

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This appendix contains:

- Prerequisites for Mounting the CD-ROM
- Mounting a Local CD-ROM Drive
- Unmounting the CD-ROM Drive
- Accessing the CD-ROM from a Remote Machine
- Unexporting the CD-ROM Filesystem

# Prerequisites for Mounting the CD-ROM

The following are prerequisites for mounting the CD-ROM:

- You must install patch number PHCO\_16438 or any superseding patch from HP *before* running PFS on an HP-UX 11.0 system.
- NFS client and server must be running.
- The system hostname and IP address must resolve correctly.
- You must have network loopback and networking in general configured before running PFS on HP-UX.

The command `netstat -rn` shows the network routing tables; the entry `lo0` is for the loopback interface.



## Note

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To verify or set up any of these prerequisites, you must 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 (#).

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## Verify or Install the Patch

Verify the correct patch is installed and configured on the system by entering:

```
# swlist -l fileset -a state | grep -i phco_16438
```

Output similar to the following is displayed:

```
PHCO_16438
PHCO_16438.PHCO_16438 configured
```

This indicates that the patch is installed and is in a configured state.

If the patch is shown to be in the “installed” state, configure the patch by entering:

```
# swconfig PHCO_16438
```

If the patch is shown to be “corrupt” or “transient,” reinstall it by using the `swinstall` GUI and selecting both `reinstall` lines under `Options`.



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**Note** Both reinstall lines *must* be checked or the patch will not be reinstalled.

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## Verify NFS Client and Server Are Running

Both NFS and mountd must be running to mount the CD-ROM.

Verify NFS and mountd are running by entering:

```
# rpcinfo -p
```

Output similar to the following is displayed:

program	vers	proto	port	
100000	2	tcp	111	rpcbind
100000	2	udp	111	rpcbind
100024	1	udp	789	status
100024	1	tcp	791	status
100021	1	tcp	795	nlockmgr
100021	1	udp	1035	nlockmgr
100021	3	tcp	799	nlockmgr
100021	3	udp	1036	nlockmgr
100020	1	udp	1037	llockmgr
100020	1	tcp	804	llockmgr
100021	2	tcp	807	nlockmgr
100068	2	udp	1040	cmsd
100068	3	udp	1040	cmsd
100068	4	udp	1040	cmsd
100068	5	udp	1040	cmsd
100083	1	tcp	1036	ttldbserver
100005	1	udp	831	mountd
100005	1	tcp	833	mountd
100003	2	udp	2049	nfs

If nfs or mountd is missing, do the following:

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**Step 1** Verify the `/etc/rc.config.d/nfsconf` file:

```
# more /etc/rc.config.d/nfsconf
```

Look for the following:

```
NFS_CLIENT=1
NFS_SERVER=1
NUM_NFSD=4
START_MOUNTD=1
```

If the values are different, edit the file and ensure that `nfs` and `mountd` are set to 1.

**Step 2** Save the changes to the edited file and exit your text editor.

**Step 3** Restart the `nfs` server and client processes by entering:

```
# /sbin/init.d/nfs.server start
# /sbin/init.d/nfs.client start
```

**Step 4** Verify that `nfs` and `mountd` processes are present by entering:

```
# rpcinfo -p
```

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## Verify the System Hostname and IP Address Resolves

Verify that the system name is resolved by entering:

```
# nslookup hostname
```

The correct hostname must be displayed.

Verify the IP address is resolved by entering:

```
# nslookup IP address
```

The correct IP address must be displayed.

To resolve NIS issues, ensure the system uses the local `/etc/hosts` file. To do this, move the `/etc/resolv.conf` and `/etc/nsswitch.conf` files, if they exist, to `their_name.old`.

If the `hosts` file is large, you can shorten it to just the `localhost` and `hostname` and IP addresses as in the following example.

```
# more /etc/hosts
# @(#)hosts $Revision: 1.9.212.1 $ $Date: 95/10/12 19:28:22 $
#
# The form for each entry is:
#
#
```

```
# For example:
# 192.1.2.34 hpfcrm loghost
#
# See the hosts(4) manual page for more information.
XXX.XXX.XXX.XXX Your_host_name
127.0.0.1 localhost loopback
```

## Verify the Network Loopback Is Enabled

For HP-UX 11.0 systems, enable network loopback (if it is not already enabled) by adding `LOOPBACK_ADDRESS=127.0.0.1` to the `/etc/rc.config.d/netconf` file.

Verify that network loopback is enabled by entering the following:

```
# netstat -rn.
```

Output similar to the following is displayed:

```
Routing tables
Destination      Gateway          Flags   Refs      Use  Interface  Pmtu
PmtuTime
127.0.0.1        127.0.0.1       UH      0         2897  lo0        4608
171.69.217.60   127.0.0.1       UH      1         2299  lo0        4608
default         171.69.217.254 UG      5         86356 lan0       1500
171.69.217.0    171.69.217.60  U       0         7702  lan0       1500
```

The entry `lo0` is for the loopback interface.

## Undo Mistakes

To undo any mistakes, stop any PFS daemons that are running and restart them. If you had difficulty getting PFS to run or if you used the `umount` command instead of the `pfs_umount` command, then you must reboot the system to clean it up.



### Note

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A reboot is required whenever the `umount` command is used on the PFS-mounted CD-ROM instead of the `pfs_umount` command.

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# Mounting a Local CD-ROM Drive



## Note

You *must* use this CD-ROM mounting procedure to successfully install the product.

Insert the CD One CD-ROM into the CD-ROM drive and do the following:

- Step 1** Edit the `/etc/fstab` file to disable the mounting of CD-ROM drive as a CDFS filesystem.

For example, if the `/etc/fstab` file looked as follows, then copy the `/etc/fstab` to `/etc/fstab.old`. Then edit the `/etc/fstab` to remove the last line.

```
/dev/vg00/lvol3 / hfs rw,noquota 0 1
/dev/vg00/lvol1 /stand hfs rw,noquota 0 1
/dev/vg00/lvol6 /opt hfs rw,noquota 0 2
/dev/vg00/lvol7 /tmp hfs rw,noquota 0 3
/dev/vg00/lvol8 /usr hfs rw,noquota 0 2
/dev/dsk/clt2d0 /cdrom cdfs ro,suid 0 0
```

- Step 2** Create the PFS mount point by entering:

```
# mkdir /cdrom
```

- Step 3** Make sure that the path `/usr/sbin` is in the path environment variable.

- Step 4** Start the PFS daemons to allow network access on server and client by entering:

```
# nohup /usr/sbin/pfs_mountd &
# nohup /usr/sbin/pfsd 4 &
```



## Note

The order is very important. `pfs_mountd` *must* be started first.

- Step 5** Verify the processes that are running on the system by entering:

```
# ps -ef | grep pfs
```

Output similar to the following is displayed:

```
root 1196 1195 0 14:07:28 tty1      0:00 pfs_mountd.rpc
root 1224 1208 0 14:07:47 tty1      0:00 pfsd.rpc
root 1210 1208 0 14:07:41 tty1      0:00 pfsd.rpc
root 1217 1208 0 14:07:44 tty1      0:00 pfsd.rpc
root 8669 7686 0 15:49:25 tty3      0:00 /usr/sbin/pfsd 4
root 8670 8669 0 15:49:25 tty3      0:00 pfsd.rpc
root 8617 7686 0 15:48:33 tty3      0:00 /usr/sbin/pfs_mountd
root 8739 7686 1 15:50:49 tty3      0:00 grep pfs
```

**Step 6** Mount the CD-ROM by entering:

```
# pfs_mount -o xlat=unix /dev/rdisk/cXtXd0 /pfs_cdrom
```

where *cXtXd0* is the CD-ROM device file on your machine. Replace the *X* with the correct numerical information for your machine. You can identify the device file by entering:

```
# ioscan -funC disk
```

For example, the following command mounts the device */dev/rdisk/c1t2d0* to the */cdrom* directory:

```
# pfs_mount -o xlat=unix /dev/rdisk/c1t2d0 /cdrom
```



**Note**

PFS must use the raw or rdsk device file.

## Unmounting the CD-ROM Drive

To unmount the CD-ROM, log in as superuser:

**Step 1** Enter:

```
# cd /
# pfs_umount /cdrom
```

**Step 2** Press the eject button to eject the CD-ROM from the workstation.

**Step 3** Remove the CD-ROM and store it in a safe place.

# Accessing the CD-ROM from a Remote Machine



## Note

You *must* use this CD-ROM mounting procedure to install the product successfully.

To access the CiscoWorks2000 CD-ROM from a remote machine, you must be logged in as superuser:

**Step 1** On the remote machine:

- a. Mount the CD-ROM as described in the section “Mounting a Local CD-ROM Drive.”
- b. Add the following entry to file `/etc/pfs_exports` (create the file if it does not already exist):

```
/cdrom -access=client_hostname
```

where *client\_hostname* is the name of the host on which you want to install the software and `cdrom` is the directory where you mounted the CD-ROM.

- c. Enter the following command to export the directory that you just mounted:

```
# pfs_exportfs -a -v
```

**Step 2** On the local machine (the machine on which you want to install the software):

- a. Start the pfs daemons as described in the section “Mounting a Local CD-ROM Drive.”
- b. Mount the CD-ROM by entering:

```
# pfs_mount serverhost:server_mount_point local_mount_point
```

where *serverhost* is the name of the remote machine, *server\_mount\_point* is the name of the CD-ROM mount point on the server, and *local\_mount\_point* is the name of the CD-ROM mount point on the local machine.



For example, the command

```
# pfs_mount hello:/cdrom /cdrom
```

mounts the /cdrom directory of the remote machine named hello to the /cdrom directory of the local machine.

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## Unexporting the CD-ROM Filesystem

After you have finished installing CD One and the necessary device packages, you might want to unexport the exported CD-ROM filesystem.

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**Step 1** Log in to the local HP-UX workstation as root.

**Step 2** Unmount the directory for the local workstation by entering:

```
# pfs_umount local_mount_point
```

For example, the command

```
# pfs_umount /cdrom
```

unmounts the /cdrom directory in the local machine.

**Step 3** Log in to the remote HP-UX workstation as root.

**Step 4** Remove the following line from the /etc/pfs\_exports file:

```
/cdrom -access=client_hostname
```

where *client\_hostname* is the name of the host on which you installed the software and *cdrom* is the directory where you mounted the CD-ROM.

**Step 5** Enter the following command to unexport the filesystem:

```
# pfsexportfs -u /server_mount-point
```

For example, the command

```
# pfs_exportfs -u /cdrom
```

unexports the /cdrom directory on the remote server.

**Step 6** Unmount the CD-ROM as described in the section “Unmounting the CD-ROM Drive.”

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