NEXTSTEP for Intel Processors

Title: Booting from CD-ROM
Entry Number: 1381
Last Updated: <<Date June 13 1995>>

Overview

It is possible to boot from a release CD-ROM disc and *not* be required to initialize or upgrade the hard disk drive.   You will have the ability to view, copy, move, etc. files, run programs, and perform other similar operations.

Solution

While you can't boot a full NEXTSTEP environment (Workspace Manager, et al.), you can boot single-user from the CD-ROM installation disc.

Intel (i386) architecture

Insert the CD-ROM disc and the boot floppy and boot the system.   On the i386 architecture, booting starts from the floppy drive and continues   to the CD-ROM.

At the boot: prompt type:

```
boot: mach_kernel -s
```

Follow any instructions (it may appear as though an install or upgrade is being performed; be patient) until the UNIX command line prompt is displayed.   If you are asked which disk to install NEXTSTEP to, then you must have made a mistake at the boot prompt.

NeXT (m68k) architecture

Use <Command><Command><~> after power-on to get to the ROM monitor and type the following:

For Non-Turbo systems with internal floppy

Insert the boot floppy and type:

```
NeXT> bfd -s
```


For Non-Turbo systems with SCSI floppy

Insert the boot floppy and type:

```
NeXT> bsd(n,0,0) sdmach -s rootdev=sdn
```

Where n is the unit number of the floppy drive.   In this scenario, it may be helpful to have the CD-ROM drive set to a higher SCSI address than the SCSI floppy.

For Turbo systems

Turbo systems have the ability to boot directly off the CD-ROM drive without assistance from the floppy drive.

```
NeXT> bsd(n,0,0) sdmach -s rootdev=sdn
```
Where n is the unit number of the CD-ROM drive.

All architectures
Mounting a hard disk
Note that when booted single user from a CD-ROM, the file system is mounted read-only.
Certain functions may not be available.   This state can be somewhat alleviated by mounting
/tmp on another available disk.   Use the -n option with the mount command to prevent writing
to /etc/mtab (which fails, obviously).   As an example:
```
# mount -n /dev/<device> /tmp
```
where <device> is the disk you wish to mount (eg. sd0a, hd0a).

Once in single-user mode, you can still run the CD-ROM build disk scripts by running the rc
scripts:
```
# sh /etc/rc
```

Copying & Editing.
Under Release 3.3, you can use ditto(8) to perform a copy of an entire directory, preserving
links and setuid and setgid modes.   pico(1) is a simple text editor that ships with 3.3 for those
that find vi(1) confusing.   See the man pages for information on these commands.

See Also

1469_Recovering_Data_Files_from_a_Hard_Drive