NeXT System Administration Release Notes: Installing OPENSTEP across a Network

You can use the NetInstallHelper application to set up your network so you can install OPENSTEP Release 4.0 onto Intel-based, NeXT, or SPARC computers from a server, rather than from the *OPENSTEP* CD-ROM. You also use the NetInstallHelper application to create the floppy disks you need to start the network installation process on Intel-based and NeXT computers.

This document describes how to use NetInstallHelper to prepare your network for network installation as well as how to create network installation floppy disks. It also describes a set of shell scripts you can use as a starting point for supporting network installation on networks where NetInstallHelper isn't sufficient. Once you've set up your network as described in this document, see *Installing and Configuring OPENSTEP Release 4.0* for instructions on installing OPENSTEP across the network.

Preparing up your network for network installation

Setting up a network installation server

1. Select each computer you want to set up as a network installation server.

You need at least one installation server on each subnet. In addition, you can only use a SPARC workstation as an installation server for other SPARC workstations. However, you can use either an Intel-based or NeXT computer as an installation server for Intel-based or NeXT computers.

Because you will copy the contents of the *OPENSTEP* CD-ROM onto it, a network installation server needs about 300 megabytes of free disk space. You also need to connect a CD-ROM drive to the server to complete these instructions.

2. Upgrade the software on the network installation server to OPENSTEP Release 4.0, using the *OPENSTEP* CD-ROM.

   You can follow the instructions in *Upgrading to OPENSTEP Release 4.0* to upgrade from any earlier version of OPENSTEP Release 3. Or you can install OPENSTEP Release 4.0 from scratch, as described in *Installing and Configuring OPENSTEP Release 4.0*.

3. Log into the network installation server as **root**, insert the *OPENSTEP* CD-ROM in the CD-ROM drive, start up NetInstallHelper (in /**NextAdmin**), and choose Server Configuration from the pop-up list at the top of the window (if it's not already chosen).

   The directory in the ªNetInstall Directoryº field must be nonexistent or empty, and it must be on a disk that has about 300 megabytes of free disk space. The lower text field contains the name of the *OPENSTEP* CD-ROM.

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4. Click Configure.

NetInstallHelper copies the contents of the *OPENSTEP* CD-ROM into the NetInstall directory. This takes slightly over an hour on most computers. In the NetInfo root domain, NetInstallHelper creates a **/locations/install_servers** subdirectory that has a subdirectory named for the computer running the network installation server (for example, **/locations/install_servers/sirius**). It also creates the **clients** and **client_domains** properties.

Setting up network installation clients

After you've set up a network installation server, you can configure ªclientº computers for that server (clients are the computers that will use the server to install OPENSTEP). Remember that clients must be on the same subnet as the server.

Note: Before you can add a client to a network installation server, you must use HostManager to add it to the network. In particular, each client must have host entry in its parent domain's **/machines** directory. If you're adding a SPARC workstation, you also need to choose Sun SPARC from the System Type pop-up list in HostManager's New Host panel. For more information, see the section ªManually Adding a New Host" in Chapter 3 of the *Network and System Administration Manual.*

1. Make sure you're logged in as **root** and then start up NetInstallHelper.

2. Choose Client Configuration from the pop-up list at the top of the NetInstallHelper window.

   NetInstallHelper displays a list of computers that are network installation servers.

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3. Select the name of the server you want to add clients to and click Add Client.

The Select Client panel opens.

4. In the upper part of the panel, select the parent domain of the computer you want to add as a client. In the lower part of the panel, select the host name of the computer you want to add as a client. Then click OK.

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   The computer you selected is added as a client of the server in the NetInstallHelper window. You can repeat this step for each client you want to add.

   The first time you add a client, you're prompted to type the **root** password for its parent domain.

To delete a client, select its name in the NetInstallHelper window and click Delete Client (the NetInfo host entry for the client isn't deletedÐonly the network installation configuration information associated with that client is removed).

Building network installation floppy disks

To install OPENSTEP on an Intel-based or NeXT computer from the network, you need a floppy disk called an *installation disk.* To install OPENSTEP on an Intel-based computer, you also need a second floppy disk, called a *device drivers disk*. You don't need any floppy disks to install OPENSTEP on a SPARC workstation.

Once you've set up a network installation server, you can run NetInstallHelper to create the network installation disks you need. You can only create network installation disks for the kind of computer (Intel-based or NeXT) you're running NetInstallHelper on.

1. Make sure you're logged in as **root** and there isn't a disk in the floppy disk drive.

2. If the Intel-based computers you want to install OPENSTEP on require network adapter, SCSI adapter, or hard disk controller device drivers that aren't included on the *OPENSTEP* CD-ROM, place a copy of each such driver in **private/Drivers/i386** in the ªNetInstall directoryº you created on the network installation server in the first section of this document.

3. Start up NetInstallHelper and choose NetInstall Disks from the pop-up list at the top of the NetInstallHelper window.

   Don't insert a floppy disk until NetInstallHelper prompts you for it.

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4. Click the "Installation disk" option and then click Build.

   NetInstallHelper prompts you to insert a floppy disk. It takes a few minutes to build an installation disk. When you're prompted, remove the disk from the floppy disk drive.

5. If you're creating installation disks for Intel-based computers, click the ªDevice drivers diskº option and then click Build.

   NetInstallHelper prompts you to insert a floppy disk. If a second floppy disk is required to hold the necessary drivers, you're prompted to remove the first floppy disk and to insert a second

one.

Building custom network installation floppy disks

If your network has many Intel-based computers that have the same hardware configuration (at least the same network adapters, hard-disk controllers, and SCSI adapters), then you can simplify network installation on those computers by creating a set of custom installation floppy disks for that hardware configuration.

The floppy disks you create are different from the default disksÐin particular, the installation disk skips the warning that the install process will destroy the contents of your hard disk (though you can still halt the installation process before erasing the disk). The custom device drivers disk contains only the specific network adapter, hard disk controller, and SCSI adapters device drivers required to install OPENSTEP on a particular configuration of computer, rather that all such device drivers from the *OPENSTEP* CD-ROM.

1. Make sure you're logged in as **root** and there isn't a disk in the floppy disk drive.

2. If the Intel-based computers you want to install OPENSTEP on require network adapter, SCSI adapter, or hard disk controller device drivers that aren't included on the *OPENSTEP* CD-ROM, place a copy of each such driver in **private/Drivers/i386** in the ªNetInstall directoryº you created on the network installation server in the first section of this document.

3. Start up NetInstallHelper, choose NetInstall Disks from the pop-up list at the top of the NetInstallHelper window, and then check ªCustom disk for selected drivers.º

   Don't insert a floppy disk until NetInstallHelper prompts you for it.

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4. Click the upper Select button and in the Select Device Driver panel that opens, select the network adapter used by the identically configured computers. Then click Select.

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5. Click the lower Select button and in the Select Device Driver panel that opens, select the SCSI adapter or hard disk controller used by the identically configured computers. Then click Select.

6. Click ªInstallation diskº and then click Build.

   NetInstallHelper prompts you to insert a floppy disk. It takes a few minutes to build an installation disk. When you're prompted, remove the disk from the floppy disk drive.

7. Click ªDevice drivers diskº and then click Build.

   NetInstallHelper prompts you to insert a floppy disk. It takes a few minutes to build a custom device drivers disk. When you're prompted, remove the disk from the floppy disk drive.

Using the shell scripts in /NextAdmin/NetInstallHelper.app

If your site requires that you set up a large number of NetInstall clients, or if you need to customize NetInstall configuration at your site, you can take advantage of the shell scripts included in the **/NextAdmin/NetInstallHelper.app** directory.

There are four scripts: **setup_netinstall_server**, **setup_netinstall_client**, **make_netinstall_floppy**, and **delete_netinstall_server**. These scripts are not used by NetInstallHelper, though you can use them in the Terminal application to perform the same tasks in roughly the same way.

Use these scripts as starting points to write your own shell scripts to set up customized network installation procedures at your site. There is some documentation included in the scripts themselves (you can open them in Edit to read them). In addition, you can run any of these scripts with the **-help** argument to view a short explanation of its syntax.