Using NFS/Share for Macintosh with a NEXTSTEP computer as the server.

NFS/Share   is a software package from Intercon Systems that allows a Macintosh computer to seamlessly mount file systems from Unix-based computers on a TCP/IP network. The experience on the Mac side is the same as with using AppleShare. Volumes are mounted from the Chooser, and files appear with their icons (resource fork) intact, the same as if they were stored locally on a hard drive.

My experience has shown that NFS/Share is an excellant solution for Mac/NEXTSTEP connectivity where network speed is an issue. The reason for this has mostly to do with the inherently superior performance of TCP/IP and NFS versus AppleTalk/AppleShare. You can download a demo copy of NFS/Share directly from Intercon's FTP server, or from their web page.

http://www.intercon.com

Using NFS/Share with NEXTSTEP **requires** the use of a program called "bwnfsd" for authentication and file locking. While networks of purely NEXTSTEP computers can rely exclusively on NetInfo and its graphical tools for network services, this is unfortunately not the case with NFS/Share, since the

Mac knows nothing about Netinfo. As a result, you will have to manually edit some files on the NEXTSTEP side in order for the Mac to be able to login to the NEXTSTEP computer. The following instructions should help you with this configuration. You will need to be logged in as root.

NB The instructions below make the assumption that you will be exorting a folder called Export found at the root level of your file system. Make sure you create this folder before proceeding further.

I. The bwnfsd daemon.

Below, compiled "double fat" (for NeXT and Intel hardware) is the bwnfsd daemon:

bwnfsd ¬<-----bwnfsd

For convention's sake, place this program in the path /usr/local/bin, you may need to create the necessary folders first.

In order to start this program automatically at boot time, you will need to add an entry to a file called rc.local. This is just a text file, that lives in the /etc directory.

379377_paste.tiff ¬

You can just double click on the file and it will open in Edit. For safety's sake, you might want to make a backup copy of the rc.local file. Call it something like rc.local.safe.

Now, paste the following text in starting from the last line:

```
# The following starts up the bwnfsd daemon needed by
# NFS/Share on the Mac and exports, in this case, the /Export folder.
# You can export any folder you want, just change the path
# appropriately.
/usr/local/bin/bwnfsd -A /Export
echo -n "bwnfsd is running. Killer, dude!" >/dev/console
```

Now save the rc.local file. If you boot your computer in verbose mode, you'll definitely know if bwnfsd started! For more info on bwnfsd, see the documentation accompanying the source code found on the NFS/Share disks.

The above script will export a folder called Export (and everything in it), at the root level of the file system. Of course, you can export any folder you want, just change the path appropriately. Whatever

folder you export, you'll also have to use NFSManager.app (in the NextAdmin folder) to configure the NetInfo database. More on this later.

2) The "hosts" file.

NFS/Share requires that an entry be made in a file called "hosts." Again, this is just a text file, found in the /etc folder.

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Open the file in Edit by double clicking on it.   It looks something like this:

```
#
# NOTE: This file is never consulted if NetInfo or Yellow Pages is running.
#
#
# To do anything on the network, you need to assign an address to your
# machine.   This default host table will get you started.   "myhost"
# can be used for the first machine on the network, and client[1-8]
# can be used for subsequent machines.   You must make sure that no two
```

```
# machines have the same address.   If you need to add more machines
# just keep adding entries.   Each digit in the four digit number must
# be between 1 and 254 inclusive.
#
192.42.172.1       myhost
192.42.172.2       client1
192.42.172.3       client2
192.42.172.4       client3
192.42.172.5       client4
192.42.172.6       client5
192.42.172.7       client6
192.42.172.8       client7
192.42.172.9       client8
#
# This is the reserved address for the loopback interface.   Don't muck
# with it.
#
127.0.0.1    localhost
```

Add a new line that has the IP address for each Mac you want to be able to access the NEXTSTEP server. The purpose of this file for the NEXTSTEP machine is to let it know that a Macintosh at the specified IP address has the "right" to login and import a volume. An example entry might look like this:

3) Exporting a volume using NFSManager.

The last thing to do is use the NFSManager application. It's found in /NextAdmin.

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When you launch it you'll see this panel:

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Click on the "Add" button. A file selector appears.

79335_paste.tiff ¬

Choose the Export folder and click OK.

The Exported Directories panel should now look something like this:

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You can now quite NFSManger.

Reboot the NEXTSTEP computer. If you configured NFS/Share properly on the Mac (bug Intercon's tech support if you need help), you should now be able to see the NEXTSTEP machine in the choose list as an NFS server, and you should be able to login. The login name and password are the same as you would use under NEXTSTEP.

4) Disclaimers:

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