

Networking Apple II Systems

Apple IIGS systems came equipped with a Localtalk port which allowed them to be connected to other Apple systems and printers, including Macintoshes running AppleShare Server version 2.0 or 3.0. Apple IIe systems could also be networked, but required a Workstation Card and at least a IIe Enhanced mainboard (65C02). If the optional Apple II Boot software was installed on the AppleShare server, the Apple II systems could be configured to boot from the server, with no floppy drives required.

With the help of the open source software package *Netatalk*, it is now possible for Apple II systems to not only access shared files from a Unix server, but to boot from it. A Macintosh is not required for this configuration, and the software is all freely available from various download sites. My network setup is:

- . Fedora Linux FC4 system and Netatalk 2.03
- . Apple IIGS (ROM1) system with 1.25MB RAM
- . Apple IIe Platinum system with 128KB and a Workstation Card
- . AsanteTalk Ethernet to Localtalk adapter
- . 3 PhoneNet adapters

A PhoneNet adapter is plugged in to the printer port on the IIGS, the Workstation Card on the Iie, and the AsanteTalk. The ethernet side of the AsanteTalk is connected to an ethernet switch with the Linux system.

In order to boot from the server, a setup file named ATINIT must be present on the Netatalk server and properly configured. Normally this is done on the AppleShare server by the system administrator. If you know the format, you can use a binary file editor to configure the ATINIT file by hand on the Netatalk server. To make this process easier, I wrote a configuration utility which runs on the Netatalk server and allows you configure the ATINIT file for the start application and default path. It looks up the DID (Directory ID) numbers in the shared file system database and inserts them into the ATINIT file with the path names.

To set up your Netatalk server for booting a IIGS, you first use the System 6.01 Install disk to create a Network: AppleShare disk. After booting from the Network Disk, you run the installation again, this time using Network: Server Startup to install the System software on the Netatalk server. You should then be able to change the boot slot on the IIGS to slot 7

(Localtalk), and boot from the Netatalk server.

For the IIe, all you need to do is install the Workstation Card in slot 5 (one before the disk controller) and turn it on. The Workstation Card contains the necessary software in firmware which allows you to select a server and boot from it, and a rudimentary application launcher.

Booting an Apple II from a Localtalk connected server won't set any speed records, but you won't wear out your floppy drives, either. It also makes it easier to transfer files from the Netatalk server to the Apple systems to write to disk, if desired. A lot of Apple II software is available for download, mostly in a format used on emulators, but you can use freely available tools to copy this software to your Netatalk server and run it on a real Apple.