Text file for ipddp.c:
AppleTalk-IP Decapsulation and AppleTalk-IP Encapsulation

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Introduction

AppleTalk-IP (IPDDP) is the method computers connected to AppleTalk networks can use to communicate via IP. AppleTalk-IP is simply IP datagrams inside AppleTalk packets.

Through this driver you can either allow your Linux box to communicate IP over an AppleTalk network or you can provide IP gatewaying functions for your AppleTalk users.

You can currently encapsulate or decapsulate AppleTalk-IP on LocalTalk, EtherTalk and PPPTalk. The only limit on the protocol is that of what kernel AppleTalk layer and drivers are available.

Each mode requires its own user space software.

Compiling AppleTalk-IP Decapsulation/Encapsulation

AppleTalk-IP decapsulation needs to be compiled into your kernel. You will need to turn on AppleTalk-IP driver support. Then you will need to select ONE of the two options; IP to AppleTalk-IP encapsulation support or AppleTalk-IP to IP decapsulation support. If you compile the driver statically you will only be able to use the driver for the function you have enabled in the kernel. If you compile the driver as a module you can select what mode you want it to run in via a module loading param. ipddp_mode=1 for AppleTalk-IP encapsulation and ipddp_mode=2 for AppleTalk-IP to IP decapsulation.

Basic instructions for user space tools

To enable AppleTalk-IP decapsulation/encapsulation you will need the proper tools. You can get the tools for decapsulation from http://spacs1.spacs.k12.wi.us/~jschlst/index.html and for encapsulation from http://www.maths.unm.edu/~bradford/ltpc.html

I will briefly describe the operation of the tools, but you will need to consult the supporting documentation for each set of tools.

Decapsulation - You will need to download a software package called MacGate. In this distribution there will be a tool called MacRoute which enables you to add routes to the kernel for your Macs by hand. Also the tool MacRegGateWay is included to register the proper IP Gateway and IP addresses for your machine. Included in this distribution is a patch to netatalk-1.4b2+asun2.0a17.2 (available from ftp.u.washington.edu/pub/user-supported/asun/) this patch is optional but it allows automatic adding and deleting of routes for Macs. (Handy for locations with large Mac installations)

Encapsulation - You will need to download a software daemon called ipddpd. This software expects there to be an AppleTalk-IP gateway on the network. You will also need to add the proper routes to route your Linux box's IP traffic out the ipddp interface.

Common Uses of ipddp.c

Of course AppleTalk-IP decapsulation and encapsulation, but specifically decapsulation is being used most for connecting LocalTalk networks to IP networks. Although it has been used on EtherTalk networks to allow Macs that are only able to tunnel IP over EtherTalk.

Encapsulation has been used to allow a Linux box stuck on a LocalTalk network to use IP. It should work equally well if you are stuck on an EtherTalk only network.

Further Assistance

You can contact me (Jay Schulist <jschlst@samba.org>) with any questions regarding decapsulation or encapsulation. Bradford W. Johnson <johns393@maroon.tc.umn.edu> originally wrote the ipddp.c driver for IP encapsulation in AppleTalk.