

Re: how to "join" LAN with plip link?

Source: <http://linux.derkeiler.com/Newsgroups/comp.os.linux.networking/2006-12/msg00455.html>

- *From:* Zhang Weiwu <zhangweiwu@xxxxxxxxxxx>
 - *Date:* Sun, 31 Dec 2006 10:23:00 +0800
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Hello. Thank you very much for giving me very detailed answer last time over the plip/proxy-arp topic. For the last several days I have been trying to dig through documents and figure out how to configure a proxy-ftp and would like to later write an article (or complement current PLIP howto) about a real case on how I have made a plip connected host looking like on the LAN.

However I still didn't successfully set it up. There are many steps so I worry maybe some steps I have made wrong, thus here is what I did:

I set up my network this way:

1) setup plip0

host joe.realss.com (SuSE 10.2) has NIC with address 218.193.55.195,
plip0 with address 218.193.55.195 pointopoint 218.193.55.210
host quasimodo.realss.com (FreeBSD 6) has only plip0 with address
218.193.55.210 pointopoint 218.193.55.195

Now ping from host joe to host quasimodo works, ping from host quasimodo to host joe works.

2) setup proxy-arp

on host joe.realss.com do:

```
# modprobe iptable_filter
# echo 1 > /proc/sys/net/ipv4/conf/eth0/proxy_arp
# echo 1 > /proc/sys/net/ipv4/conf/plip0/proxy_arp
# echo 1 > /proc/sys/net/ipv4/ip_forward
```

All commands run without error message. Then I test the proxy-arp by using a third host: exupery.realss.com which is 218.193.55.198. I ran a test on exupery.realss.com

```
[zhangweiwu@exupery ~]$ arp 218.193.55.210
? (218.193.55.210) at 00:0f:ea:4b:82:58 on fxp0 [ethernet]
[zhangweiwu@exupery ~]$ arp 218.193.55.195
? (218.193.55.195) at 00:0f:ea:4b:82:58 on fxp0 [ethernet]
```

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The result seems to suggest arp proxy is actually running (because the NIC of joe.realss.com reports it has two IP address)

3) set up route

I don't change the route on joe at all, because I think nothing needs to change.

```
zhangweiwu@joe:> netstat -r
Kernel IP routing table
Destination Gateway Genmask Flags MSS Window irtt Iface
218.193.55.210 * 255.255.255.255 UH 0 0 0 plip0
218.193.55.0 * 255.255.255.0 U 0 0 0 eth0
loopback * 255.0.0.0 U 0 0 0 lo
```

i changed route on quasimodo.realss.com to let it use plip0 to access other hosts on LAN

```
# route add 218.193.55.0 -netmask 255.255.255.0 -iface plip0
add net 218.193.55.0: gateway plip0
```

Test on quasimodo:

```
# ping 218.193.55.198
[time out]
```

Test on exupery:

```
# ping 218.193.55.210
[time out]
```

Looks like packets are not forwarded or /proc/sys/net/ipv4/ip_forward simply doesn't work.

so how should I go on from here?

Moe Trin (ibuprofin@xxxxxxxxxxxxxxxxxxxxxxxx) 2006/12/26 06:46
On 25 Dec 2006, in the Usenet newsgroup comp.os.linux.networking, in article <4v96b5F1ag7v8U1@xxxxxxxxxxxxxxxxxxxxxxxx>, Zhang Weiwu wrote:

Hello. I have successfully connected two computers through plip0 (don't know if current speed of 3kB/s is reasonable).

```
-rw-rw-r-- 1 gferg ldp 46049 Apr 26 2001 PLIP
```

That's a mini-howto, and section 1 states:

The speed achieved depends completely on your hardware (CPU and parallel port) and system load, in general it may be from 5 Kb/sec up to even 40 Kb/sec.

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but you may also want to have a look at the "Linux Network Administrator's Guide" (nag2 at any LDP mirror, or <http://tldp.org/guides.html>). It has a whole chapter on PLIP.

The 'server' has a parallel port and is connected to LAN, the 'client' have a parallel port and is not connected to LAN, I guess this is typical. Now how can I make this 'client' join the LAN?

The nag2 should help. Either you need to configure the "server" as a router, and have all systems know to send packets to the router as a gateway to the LAN (or client), or you need to configure the server to do 'proxy-ARP'. In the first method, the 'client' and LAN hosts would be on different networks (such as 192.168.1.0/24 for the LAN, and 192.168.2.0/24 for the client), while the proxy-ARP method would require client and LAN to be on the same network range. See also

-rw-rw-r-- 1 gferg ldp 19372 Aug 28 2000 Proxy-ARP-Subnet

another mini-howto.

For client to access LAN I need to set up nat on the 'server',

Not really – proxy-ARP is much simpler.