Linking BPQ Switches via Ethernet.

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Brief technical description: Two or more computers, running G8BPQ node software. There is a need to link all these switches together. There are two options: a 9600 baud RS-232 kiss port, or a Ethernet port. BPQ wrote a driver for ODT that will allow the switch to talk to Ethernet. This is a document on that process.

Key Words: G8BPQ, Ethernet, ODI.

What is ODI?

ODI is Novell's newest idea for Clients. Before, when you changed cards, you had to change IPX versions as well. Also, that old IPX wasn't as "flexible" on card settings either. So, Novell decide to make a flexible IPX, and well, it grew way over that, into ODI. What ODI allows is card manufactures to write a driver for their card, and use a generic IPX. So, the only thing that need to be changed is the card driver and edit the section in the NET.CFG file.

ODI depends on a Link Support Layer or LSL. This file always needs to be loaded first, LSL.COM.

Here is a diagram of how ODI works. and how G8BPQ's driver fits in there.
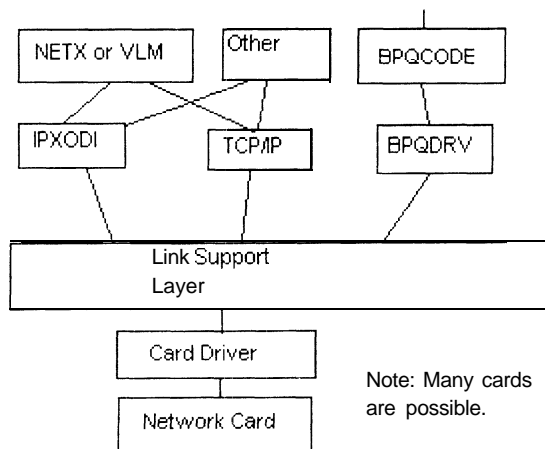
Does that make any sense? No? Well, the idea is that many network cards can talk to **LSL,** and many protocols can talk to LSL. So LSL is kinda like a traffic cop.

Ok, Here's how to make it work.

My AUTOEXEC.BAT:

```
@echo off
prompt $p$q$g
cd\network
lsl                          ; LSL is always needed first.
ne2000                       ; This is your card driver.
cd\bpq
odidrv 125                   ; This is your External ODI drv for BPQ.
                             ; 125 is the Intlevel from your Ports section.
bpqcode                      ; Of course, BPQCODE and anything else
                             ; you may need to load.
cdl
ipxodi                       ; IPX is only needed for Novell. Optional
                             ; IPXODI needs to be loaded after ODIDRV
                             ; To Avoid Lock up problems later.. .
```

My NET.CFG:

```
Link Driver NE2000                         Your driver section.
     PORT 280                              Your I/O address for card.
     INT 12                                Your IRQ address for card.
     FRAME Ethernet_802.2                  ;Frame for Novell. Optional
     FRAME ETHERNET II                     Frame for BPQ.
     PROTOCOL IPX 0 ETHERNET 802.2         Needed for Novell Optional
     PROTOCOL BPQ 8FF ETHERNET_II          Needed for BPQ
BPQPARAMS                                  ; BPQ Driver info
     ETH_ADDR FF:FF:FF:FF:FF:FF            ; Set to broadcast to sense all
; nodes.  If you change that to the other card's Ethernet address, it should be faster, and
; generate less traffic on a LAN.  I use the broadcast because the LAN is just for BPQ.
```

My PORT section of BPQCFG.TXT:

```
PORT
     ID=Ethernet Port
     TYPE=EXTERNAL              This is an external driver
     PROTOCOL=KISS             KISS or Netrom, both should work. I tried
     INTLEVEL=125              KISS only. (Note: 0x96=1 25)
;    SPEED=9600                Should Not be needed.
;    CHANNEL=A             Should Not be Needed.
     QUALITY=203              ;Netrom quality for this port.
     MAXFRAME=7               ;Send as many frames as possible because
     TXDELAY=0                ;of a dedicated high speed link.
     SLOTTIME=100
     PERSIST=255          No need to wait for other stations, wire link.
     FULLDUP=1
     FRACK=7000
     RESPTIME=100
```

```
        RETRIES=10
        PACLEN=234
        USERS=8
    ENDPORT
```

Run BPQCFG, try the drivers by hand, and make sure they work before rebooting. Most common problems are wrong setting for the network card in the NET.CFG or something spelled wrong in NET.CFG.

Where to Get it:

G8BPQ 4.08a:
Internet URL: ftp://ftp.tapr.org/tapr/software_lib/switch/bpq408a.zip
Other Sources: Unknown.

ODI Drivers for Use in this project:
Internet URL: ftp://ftp.novell.com/pub/updates/nwos/dsclnt 12/vlmkt* .exe
        ** Where vlmkt* exe = vlmkt1 .exe through vlmkt6.exe
        ** These are the install disks for Novell DOS Client.

Resources Used: (Reference List...)
G8BPQ, "G8BPQ's DRIVERS.DOC" from Version 4.08A of the software.
J. Chellis, R. Easlick, M. Moncur, A. Olsen, J. Tanner,"The CNE-4 Study Guide,"
SYBEX Books, 1996.