Linux ARCNET Driver Information

Using Contemporary Controls ARCNET Cards Under Linux

This document briefly describes how to use Contemporary Controls ARCNET cards with Linux. The information in this document has been verified with the PCX, PCA66, PCX20, PCI20, and PCM20 cards.

Before following these instructions, you should read the technical notes TN-5 (ARCNET Card and Encapsulation Support Under Linux) and TN-6 (Installing Updated 3.9x ARCNET Drivers on Red Hat 6.1).

Operationally, an ARCNET card under Linux is used in almost exactly the same way as any other network device. Once the driver modules are loaded (as described in technical note TN-6), a network interface "arc0," as well as arc1..arcN for additional ARCNET cards will be created and can be used to configure the kernel.

First, verify that the interface exists. If you type "ifconfig arc0" you should see a message like this:

```
arc0       Link encap:ARCnet  HWaddr 04
           BROADCAST  MTU:1500  Metric:1
           RX packets:0 errors:0 dropped:0 overruns:0 frame:0
           TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
           collisions:0 txqueuelen:30
           Interrupt:5 Base address:0xd000
```

This is with only the RFC1201 encapsulation driver loaded; since some encapsulation types limit the number of bytes per packet, the MTU size may be lower on your system.

To enable TCP/IP on the interface, and use a local address of 1.2.3.4, type the following:

```
ifconfig arc0 1.2.3.4
```

"ifconfig arc0" will now show the following:

```
arc0       Link encap:ARCnet  HWaddr 04
           inet addr:1.2.3.4  Bcast:1.255.255.255  Mask:255.0.0.0
           UP BROADCAST RUNNING  MTU:1500  Metric:1
           RX packets:0 errors:0 dropped:0 overruns:0 frame:0
           TX packets:0 errors:0 dropped:0 overruns:0 carrier:1
           collisions:0 txqueuelen:30
           Interrupt:5 Base address:0xd000
```

The ifconfig command also creates a set of routes to the local network. In this case, other computers on the "1.x.x.x" network are assumed to be local. If an Internet gateway is at 1.2.3.1, you can add a default route to the Internet as follows:

```
route add default gw 1.2.3.1
```

Using "Raw Mode" Encapsulation

To use the Linux ARCNET driver to connect with non-TCP/IP hosts, it is possible to write user-level ARCNET control programs in C. To do this, the arc-rawmode module should be loaded:

```
insmod arc-rawmode
```

Although TCP/IP and raw mode can be used on the same ARCNET interface, it may sometimes be desirable to disable TCP/IP to avoid confusion:

```
ifconfig arc0 0.0.0.0 down up
```

Sample programs for raw mode can be found in /usr/src/arcnet/examples (assuming you followed the instructions in TN-6, and unpacked the ARCNET driver update in that location).