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A/UX: Ethernet NIC Overflow Problems (8/94)

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TOPIC -----

This article describes a known A/UX 1.0 networking problem that was reported to A/UX engineering. The problem is resolved in A/UX 3.0. This article is still useful in that it provides a good troubleshooting tip in the Analysis and Solution section.

DISCUSSION -----

Typical Network Configuration

The network that experienced this problem is configured as follows:
Ethernet network with A/UX systems, AT&T PCs, VAXs, and DEC terminals.

All Apple systems have Apple Ethernet cards with the new ROMs. The cable is a mixture of thick and thin. The network has connections to the outside world through gateways. Most of the time, the network is fine.

The Problem

On occasion, the user receives these error messages in the following order:

```
Transmitter frozen and resetting
ae_0 overflow
NIC reset failed
ae6_intr:receive overflow warning
```

After the error happens, the network has problems with RPC and NFS. "Show mount" says that the RPC Program did not register. If the user kills "initd" and restarts, everything works until the next time the error occurs.

On occasion, the user receives screens full of "mexpand returning 0" error

messages. Then, the transmitter resets, and the user discovers that "initd" isn't running anymore.

As a test, you can output from "netstat 1", "netstat -s", "netstat -m", and a login on an A/UX system on the network. Although the network doesn't appear to be too busy, there is a very high error rate.

There is also an IBM PC on another part of the network has been sending out broadcast storms (broadcasting all zeros) that cripple her network (A/UX systems and DEC terminals included). This is a recently detected problem that may have been going on earlier and may be contributing to the ae_0 overflow errors.

Analysis and Solution

The problem seems to involve the broadcast traffic that A/UX made and that was responded to by other machines.

At this point, the best thing to do is eliminate the broadcast traffic from and/or to the Macintosh A/UX machines by shutting down some of broadcasting daemons (like "rwhod") and/or to isolate the A/UX machines by subnetting them in a separate subnetwork.

For a temporary recovery from the situation, type the following commands to bring the network up again:

```
ifconfig ae0 down  
ifconfig ae0 up
```

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Support Information Services

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