



Tech Info Library

Ethernet (Built-In) 1.0.2 Information Read Me (12/95)

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TOPIC -----

This article is the Ethernet (Built-In) 1.0.2 Information ReadMe.

DISCUSSION -----

Issue:

We have received many reports from customers describing problems transferring large files from the PCI-based Power Macintosh systems to a variety of AFP-based servers. The problem reports state that file transfers will stop and a -1072 error (ASP session closed) is generated. The reports also state that after the problem occurs, both AppleTalk and TCP/IP services are lost and the systems must be restarted to restore them. If Ethernet traces are taken, they show that the PCI-based Power Macintosh system disappears from the network.

Technical Description:

The cause of this problem is with the way arbitration is handled on the PCI bus in an ASIC. If there is a lot of PCI bus activity, then it is possible that the Ethernet DMA will start to transmit a packet and an underrun will occur because the DMA cannot get enough bandwidth on the PCI bus to transfer the entire packet to the Ethernet controller. If this underrun condition occurs more than 10 times, a bug in the Ethernet driver causes it to not recover the DMA buffers associated with the underrun packet. The driver only allocates 10 of these buffers and when they are gone the transmitter will no longer be able to send packets. This problem could also occur in some normal situations with a lot of disk activity.

Extent:

This bug is present in the built-in Ethernet drivers that ship with the Power Macintosh 7200, 7500, 8500, and 9500 systems. This driver is located in the "Extensions" folder in a file called "Ethernet (Built-In)". The first Power Macintosh 9500 systems shipped with version 1.0 of this file. The Power Macintosh 7200, 7500, and 8500 systems shipped with version 1.0.1 of this file. This file is for PCI-based Power Macintosh systems only.

Solution:

We have a new built-in Ethernet driver available that fixes this bug. The driver is located in version 1.0.2 of the "Ethernet (Built-In)" file. This file is also installed during the "QuickDraw 3D Accelerator Card" software installation process.

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