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DOS Compatibility Card: TCP/IP in Both Environments (10/96)

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TOPIC ----------

Is there a way to have the TCP/IP protocol stack active in both the Macintosh and DOS environments on computers which are using a DOS Compatibility Card, but which do not have the Curio Prime controller?

DISCUSSION ----------

With the introduction of the Power Macintosh 7200/90 (in Europe ONLY), 7200/120, 7600/120, 8500/132, 8500/150, and 9500/150 a new Ethernet controller ASIC called Curio Prime (or Curio II) is used. This chip implements two hardware Ethernet addresses for the single built-in Ethernet interface. One address is used by the Mac OS and the other is used by only the DOS Compatible Card. Since these computers have two hardware addresses the DOS compatible architecture can now deliver a particular frame type to different addresses which removes the limitation of each frame type going to only one environment.

Prior to the implementation of the Curio Prime ASIC, the built-in Ethernet controller could have only one Ethernet hardware address. Because of this, only one incidence of a given protocol can be in use over the Ethernet interface. If TCP/IP is in use in the DOS environment, it's unique IP address is tied to the hardware address of the Ethernet controller. Another IP address cannot be linked to the same Ethernet hardware address, so TCP/IP could not be active in the Macintosh environment at the same time.

Workaround

Two possible workarounds exist for those who need to have TCP/IP in both the Macintosh and DOS environments on computers without the Curio Prime ASIC.

Workaround 1:
Add an additional Ethernet card to the computer. With this card present, the Macintosh environment could be configured to use TCP/IP on the added card while

the DOS environment could be configured to use the built-in Ethernet controller.

Workaround 2:
Configure the Macintosh environment to use MacIP. This requires the presence of a DDP/IP Gateway, like the Apple IP Gateway, Shiva FastPath, or Cayman GatorBox, on the network. With MacIP, TCP/IP packets from the Macintosh environment would be encapsulated in EtherTalk. The encapsulation process does reduce TCP/IP performance in the Macintosh environment, but provides full TCP/IP connectivity for both environments.

Article Change History:
01 Oct 1996 - Complete revision of article.
22 Feb 1995 - Added keyword; made several technical updates.
25 Jan 1995 - Added section on IP numbers and so on.

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