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Parallel AppleTalk Internet Routers

Revised: 9/30/90
Security: Everyone

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This article last reviewed: 10 September 1990

TOPIC -----

What route does an AppleTalk message take if you have two AppleTalk Internet Routers connected in parallel? For example, if you have an EtherTalk backbone with two AppleTalk Internet Routers to a LocalTalk-based network, how and what decides which route the message takes?

DISCUSSION -----

LocalTalk nodes use the router contained in the A-ROUTER variable. This variable is updated every time the node sees an RTMP packet. The source network number and node number of the RTMP packet are copied into the A-ROUTER variable. Sometimes, the packet travels to the EtherTalk backbone via the first router, and sometimes it travels to the EtherTalk backbone by the second router.

The best routing algorithm is implemented in EtherTalk 2.0, TokenTalk 2.0, and AppleTalk Phase 2 for A/UX and MS-DOS. It can, theoretically, be added to LocalTalk nodes at a later date.

In the past, a non-router node has not kept much information on how to get to other networks. A node kept track only of the address of one router on its local network, assuming that the router would know how to reach the rest of the Internet. Whenever the node had a packet to send to a different network, the node sent the packet to the one router it knew about.

Generally, this algorithm didn't cause any problems. However, in very large, bridged Ethernets or Token Rings, it can be inefficient, because the one router that a node knows about can be quite far away and not the best router to use.

With AppleTalk Phase 2, nodes can optionally keep information on how best to get to other networks. When a node that uses the best-routing algorithm gets a packet from another network, it looks at the address of the last router that

forwarded the packet. This is the router it uses to get to that distant network in the future.

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Tech Info Library Article Number:6116