



# Tech Info Library

## Network Addressing Without Using A Router

This article last reviewed: 14 November 1989

TOPIC -----

Is it possible for EtherTalk 2.0 or TokenTalk 2.0 to address more than 253 nodes without the benefit of a router? I understand that network numbers 65,280 to 65,534 are used only when a router is not present. If it is possible, how is network addressing accomplished?

DISCUSSION -----

Operation Without a Router  
-----

If a node has a hint stored in parameter RAM, the node uses the AppleTalk Address Resolution Protocol (AARP) to determine if the address is still unique. If the address is unique, the node can begin communicating on the network. If the address is not unique, the node continues as if it had no hint.

When a node doesn't have a hint node address stored in parameter RAM, the node determines its address by first determining its network number, the first 16 bits of its node address. In the absence of a router, the node picks a network number from the startup range. This range is specified to be 65,280 to 65,534 (\$FF00 to \$FFFE).

A node then picks a node ID in the 0 to 253 (\$00 to \$FD) range. As in the past, a node ID of 0 is reserved to mean "send to myself", and 255 is reserved for broadcasts. With AppleTalk Phase 2, 254 is also reserved for internal use.

The node now has a node address in the form \$FFxxyy, where xx is the last part of the network number, and yy is the node ID. The node uses AARP to determine if any other nodes on the network are already using that node address. If no other nodes are using it, then the node adopts that as its node address. Otherwise, it tries a different node address.

For more information, look in the "LAN Minds, Volume 1" binder. (The above and related information can be found under tab 2 on page 14).

Copyright 1989 Apple Computer, Inc.

Keywords: <None>

=====

This information is from the Apple Technical Information Library.

19960215 11:05:19.00

Tech Info Library Article Number: 4705