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Network Addressing Without Using A Router

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Security:       Everyone
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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).

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