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AppleTalk Phase 2: Obtaining Node Number on Startup

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TOPIC -----

Under the AppleTalk Phase 2 protocol specification, a node remembers the node number previously assigned to it and that it is stored in the Macintosh. Does the Macintosh also remember the last network number it was associated with, and where is that number stored? If the network number is not stored, does the resolution begin at the base of the network range?

DISCUSSION -----

This information is on page 8 of the "AppleTalk Phase 2 Protocol Specification":

Obtaining a provisional address

Obtaining a provisional address upon startup is accomplished in two different ways depending on whether the node has previously saved an address in parameter RAM. An address saved in PRAM consists of two parts: the 16-bit network number, denoted \$nnnn, and the 8-bit node ID, denote \$yy. The concatenated 24-bit address value of [network number, node ID] is denoted \$nnnnyy.

If no address was previously saved in PRAM:

Upon starting up when no information is saved in parameter RAM, a node will randomly select a provisional network number \$FFnn in the startup range. This range is specified to be \$FF00 to \$FFFE inclusive (most significant byte first). The node then also randomly selects a node ID \$yy (yy cannot be \$00, \$FE, \$FF). As in AppleTalk Phase 1, the node must first use AARP to ensure that \$FFnnyy is not in use by any other node on the network. If another node is already using this address, the node should try all other possibilities for \$FFnnyy until a valid provisional address is obtained.

If an address was saved in PRAM:

If there is a saved 24-bit address of the form \$nnnnyy in PRAM, the node can use it as the provisional address. The node must use AARP to ensure that this address is not in use by any other node. If another node is already using this address, the node should try all other possibilities for yy (yy cannot be \$00, \$FE, \$FF) keeping nnnn the same until all possibilities are exhausted (nnnn is probably a valid network number for this network unless the node has been moved from another network).

If all possibilities are exhausted, the node must select a new address as if none was previously saved in PRAM (as described in the previous section).

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