New Technical Notes
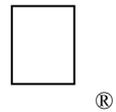## Macintosh

Developer Support

Will Your AppleTalk Application Support Internets?
Networking   **M.NW.Internets**

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This Technical Note discusses how AppleTalk applications should work across internets, groups of interconnected AppleTalk networks. It explains the differences between life on a single AppleTalk network and life on an internet.
Changes since March 1988: Removed the section on AppleTalk retry timers, as it is no longer accurate; see M.NW.AppleTalkTimers, for more information on retry timers.

You can read about internets (AppleTalk networks connect by one or more bridges) in *Inside AppleTalk*. What do you need to do about them?

Use a High-Level Network Protocol

Make sure you use the Datagram Delivery Protocol (DDP), or a higher AppleTalk protocol based on DDP, like the AppleTalk Transaction Protocol (ATP). Be warned that Link Access Protocol (LAP) packets do not make it across bridges to other AppleTalk networks. Also, don't broadcast; broadcast packets are not forwarded by bridges (broadcasting using protocols above LAP is discouraged, anyway).

Use Name Binding

As usual, use the Name Binding Protocol (NBP) to announce your presence on the network, as well as to find other entities on the network. Pay special attention to zone name fields; the asterisk (as in "MyLaser:LaserWriter:*") in a name you look up is now important; it means "my zone only" (see the Zone Information Protocol (ZIP) chapter of *Inside AppleTalk* for information on finding out what other zones exist). The zone field should always be an asterisk when registering a name.

Pay Attention to Network Number Fields

When handling the network addresses returned by `NBPLookUp` (or anyone else), don't be surprised if the network number field is non-zero.

Am I Running on an Internet?

The low-memory global `ABridge` is used to keep track of a bridge on the local AppleTalk network (NBP and DDP use this value). If `ABridge` is non-zero, then you're running on an internet; if it's zero, chances are, you're not (this is not guaranteed, however, due to the fact that the `ABridge` value is "aged", and if NBP hasn't heard from the bridge in a long time, the value is cleared).

Watch for Out-Of-Sequence and Non-Exactly-Once Requests

Due to a "race" condition on an internet, it's possible for an exactly-once ATP packet to slip through twice; to keep this from happening, send a sequence number as part of the data with each ATP packet; whenever you make a request, bump the sequence number, and never honor an old sequence number.

Further Reference:

- *Inside AppleTalk*
- *Inside Macintosh*, Volumes II & V, The AppleTalk Manager
- M.NW.AppleTalk2Mac
- M.NW.AppleTalkTimers,