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AppleTalk Phase 2: Using LocalTalk-Based Networks

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Article Change History

08/20/92 - REVIEWED

- For accuracy.

TOPIC

I am beginning to implement the DataKit technology from AT&T. The DataKit follows the AppleTalk Phase 2 router-to-router communications and is completely AppleTalk Phase 2-compatible. However, we have all PhoneNET networks running AppleTalk Phase 1 routers in the form of Hayes InterBridges.

These networks go through star controllers, and the DataKit will hang off one port of the controller. The DataKit is also an AppleTalk Phase 2 router, so it will be sending AppleTalk Phase 2 packets to the LocalTalk network.

Given this background, can you answer the following questions?

- 1) It was my understanding that LocalTalk-connected Macintosh systems could not take advantage of AppleTalk Phase 2 addressing. Why is this?
- 2) What about upgrading the Hayes InterBridges?
- 3) Does this mean that only the AppleTalk Phase 1 routers need to be upgraded to AppleTalk Phase 2 (like the Hayes InterBridge) and the rest of the nodes just become AppleTalk Phase 2 by installing AppleTalk version 53 in the System Folder?
- 4) Am I supposed to run the Internet Router in conjunction with the Upgrade Utility forever? (Do I have to use the Apple product? Does Kinetics or Hayes have an upgrade utility?) Can a LocalTalk network be AppleTalk Phase 2 by upgrading AppleTalk to override the ROMs, even though it cannot take advantage of AppleTalk Phase 2 addressing? Does the account have to upgrade all of their existing AppleTalk Phase 1 products to AppleTalk Phase 2, even though they are using only LocalTalk (inherently AppleTalk Phase 1)?

DISCUSSION

- 1) The AppleTalk Phase 2 extended-addressing and multiple-zones-per-physical-network features were not implemented on LocalTalk because of the limited number (32 maximum recommended) of nodes that can be attached to one physical network. This is far less than the 254 nodes that AppleTalk Phase 1 supports. EtherTalk and TokenTalk can support many more than 254 nodes per physical network and, therefore, need the extended addressing and multiple zones capabilities that AppleTalk Phase 2 provides.
 - 2) If the AT&T DataKit router is AppleTalk Phase 2 only and has nothing like our AppleTalk Phase 2 Upgrade Utility for dealing with AppleTalk Phase 1 routers, it will be necessary to upgrade the Hayes InterBridges to be AppleTalk Phase 2-compatible. Contact Hayes for information on this upgrade.
 - 3) LocalTalk-based networks can be attached to AppleTalk Phase 2-compatible routers with LocalTalk ports without the AppleTalk version 53 file in the System Folder. In fact, this is the most common setup. The only time you need the AppleTalk version 53 file in the System Folder is when you need to support some of the new high-level AppleTalk calls that do not in any way change the protocols used on the LocalTalk physical medium. These new high-level AppleTalk calls are documented in Macintosh Technical Note #250 (available on AppleLink under the Developer Services icon).
 - 4) The AppleTalk Internet Router does not need the AppleTalk Phase 2 Upgrade Utility when routing between two LocalTalk-based networks. The AppleTalk Phase 2 Upgrade Utility allows the AppleTalk Internet Router to broadcast and receive AppleTalk Phase 1-style RTMP packets. This is all the AppleTalk Phase 2 Upgrade Utility does. The only time the AppleTalk Internet Router needs the AppleTalk Phase 2 Upgrade Utility is when there is an AppleTalk Phase 1 router on the same physical cable as the AppleTalk Internet Router.
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