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Ethernet and Routers versus LocalTalk Bridges

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TOPIC -----

I am looking for some network performance information. Specifically, I need to know what the performance advantages are for putting in Ethernet and routers versus LocalTalk bridges to extend a network beyond the standard LocalTalk limitations. My network is in a publishing environment that deals with many large color graphics and images.

The nodes are all Macintosh II series, mostly high-end systems. They are scattered over a number of different floors in a building. I have 48 nodes now, and expect that number to grow significantly.

DISCUSSION -----

It's difficult to make specific statements about the viability of LocalTalk over Ethernet or Ethernet over LocalTalk without knowing more about the customer's environment. Two important factors to consider are the number of potential users on the network, and the actual type of work they do over the network (that is, file sharing, mail, database, and so on). It's not too difficult to come up with a few graphs to show the difference between LocalTalk and Ethernet transfer rates, but it really doesn't tell the whole story or justify the expense of moving to Ethernet.

LocalTalk uses CSMA/CA and Ethernet uses CSMA/CD. A certain amount of overhead is associated with CSMA/CA which is not needed in a CSMA/CD (Ethernet) environment. The bandwidth of a LocalTalk network can be dominated by a single node doing a single file transfer. Ethernet has plenty of bandwidth available, which makes domination by a single node almost impossible. On the other hand, LocalTalk is basically free and Ethernet requires a significant investment in hardware.

Ethernet is definitely the best choice for anyone contemplating large numbers of users accessing a shared resource and/or anyone who may have significant data transfer requirements. It sounds like you fit this description. Remember that networks usually grow larger and more complex. With more demanding network-based applications predicted for the future, LocalTalk may be a viable topology only for small workgroups that only

transfer an occasional file and/or read mail.
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