

- a. The contrast in the expected availability of the local subnetwork vs the availability of the wide area subnetwork indicates that the probability of success of SIGNET, as perceived by the end user, is enhanced by the degree of localization of the data and applications which the user will require "real time" access to.
- b. A quasi-worst case scenario whereby all user internetwork access requires traversal of the wide area subnetwork would result in the users not having access on the order of 25 hours per month (300 hrs/yr / 12 mths/yr). Furthermore, the model does not account for a signal degradation case whereby the network is actually up but the signal bit error rate causes frequent retransmissions. Telecommunications companies' signal quality objectives in North America and are such that no significant problem exists; the same can not be said in general for other regions in the world. Hence, dependency upon real time access across the wide area subnetwork may lessen the success of the network from the users perspective.

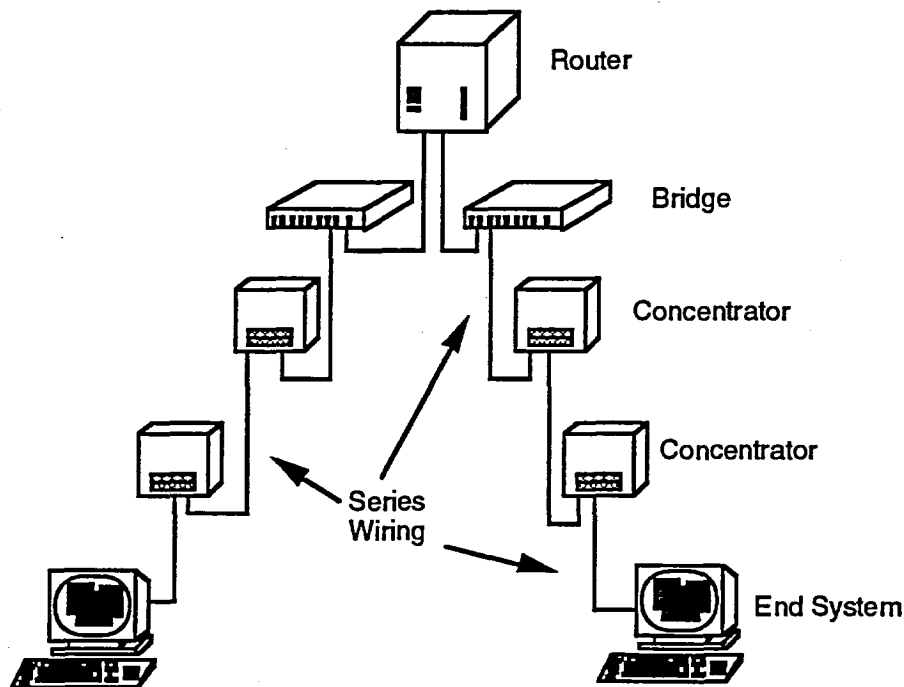


Figure 4.3: Local Subnetwork Model

- c. A best case scenario whereby all user internetwork access requires traversal of the local area subnetwork only would result in the users not having access on the order of 16 hours per month (190 hrs/yr / 12 mths/yr). Note that in this scenario, information transfers across the wide area subnetwork would be performed on a non-real time basis using appropriate store and forward mechanisms.
- d. The implications of implementing application/data architectures which require wide area subnetwork access vs those which do not require wide area subnetwork access are significant when consideration is given to the requirement for hardware and data replication and maintenance of same. Hence, although the expected poor availability performance of the mission access links weight the data architecture in