

C13 HIGH SPEED DATA COMMUNICATION AND CHANNEL  
ALLOCATION FOR LOCAL AREA NETWORKS.

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Digital data communication between computers or between computers and devices within the same geographical area is termed a Local Area Network. The physical interconnection between the devices in the network may be done either using a coaxial cable or using an optical fiber.

The presently available network sharing techniques are based on the broadcast bus sharing techniques or Token passing techniques. CSMA/CD technique which is a broadcast bus sharing method is very common. However, the major drawback of these networks is the unavailability of a method of establishing simultaneous communications using the same bus.

There are two types of multiplexing techniques, viz: TDM and FDM. Any TDM process slows down the speed of individual communication. Therefore, the most appropriate system may be something different to TDM.

Hence an FDM technique is proposed. This will solve the problem of establishing more than one communication path simultaneously. However the higher bandwidth needed by this method cannot be fulfilled easily, by coaxial cables. This difficulty may be overcome by using an optical fiber cable.

These led us to use an optical fiber cable as the physical medium on which digital data are transmitted using an FDM technique.

#### References

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2. Stallings, W. (1982) Local area networks. National Computing Centre.