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# TECHNOLOGIES FOR GLOBAL INFORMATION INFRASTRUCTURE

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The building of Information Infrastructure is almost changing the mission of communication engineering. The world needs better ways of finding and sharing information. The information that people want has not readily available online and low-cost multimedia communication has been available only in rudimentary forms. Differences between telecommunication networks and computer networks are being marginalised. Many activities have been directed towards achieving Global Information Infrastructure (GII) and National Information Infrastructure (NII) based on the consensus reached. As the demand for new applications, which require very high speed data transfer mechanism and large scale integrated networks, increases dramatically the performance of conventional equipment, network architecture and the telecommunication network management techniques need to be critically evaluated.

The objective of this article is to examine the wide range of networking technologies available and to compare their performances using different performance measures. The scope of technologies include Ethernet, Frame Relay, xDSL, Gigabit Ethernet, ATM Cell Relay / B-ISDN. Variety of networks using transmission media ranging from dial-up lines, leased lines, microwave links, optical fibre, and wireless mobile links are considered. The study highlights issues such as interoperability, quality of service (QoS), reliability, BER, guaranteed QoS of different technologies and their application support for real time and non-real time systems including standard datacom services, multimedia communication, MPEG2 live video, super high definition image systems and voice over IP.

Due to continuous advancement in technologies, fast growing demand for wide ranging new services, all confusing claims by competitive marketing personal for their products and changing attitudes of the telecommunity world over, it becomes difficult for the netmanagers to decide what to order and what to expect. They not only have to evaluate the performance and suitability of the various available technologies for their current needs but also have to forecast almost imaginatively the possible future trends in GII and NII for their strategic planning and deployment of information infrastructure.