

Broadband networks

Computers connected to the Internet via a modem and telephone line are limited to a data rate of around 56Kbit/s. Broadband connections using ADSL (Asymmetric Digital Subscriber Line) technology achieve rates from 512Kbit/s up to around 16 Mbit/s. The speed of both these connections will however depend on the amount of data traffic currently on the network and as the name “Asymmetric” implies, the download and upload speeds differ. Generally data can be downloaded approximately twice as fast as it can be uploaded, which for domestic users is convenient. If a connection with guaranteed speed is required then the telephone provider may be able to install ISDN digital lines (see 9.2) with speeds from 64Kbit/s to 2Mbit/s. ISDN lines also have identical up and download speeds. When numerous data streams from subscribers converge to travel to other towns or countries, very high capacity networks are needed purely to cope with the density of traffic.

Other methods of transmission such as M-JPEG have been used, especially by the broadcasters who have access to higher bandwidths, but many of these have been replaced by IP as the technology and capacity of the transmission lines have improved.

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