

INTEGRATED SERVICES DIGITAL NETWORK
(ISDN)

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INTRODUCTION

As early as the 1970's the wide recognition of a need for a transmission medium that could carry voice, video, and data over digital lines became apparent. An international communication standard was developed by the United Nations in the late 1970's called Integrated Services Digital Network (ISDN) that was intended to meet that need. The goal of this standard was to allow any communications equipment to plug into any telephone jack anywhere in the world, and expect communications could occur. This multipoint communication network service offers greater transmission speeds and flexibility than traditional analog lines enabling the integration of previously distinct networks into a single comprehensive networking infrastructure. However, due to the development of analog modem technology with transmission speeds to 56Kbps, ISDN has not experienced the growth that was envisioned. With an ISDN transmission speed of 128Kbps, many local users are willing to accept the slower 56Kbps transmission speed in lieu of the cost of the necessary hardware and connection charges for ISDN service. ISDN remains however, a widely used service for international communications where higher speed digital or cable service lines are not readily available.

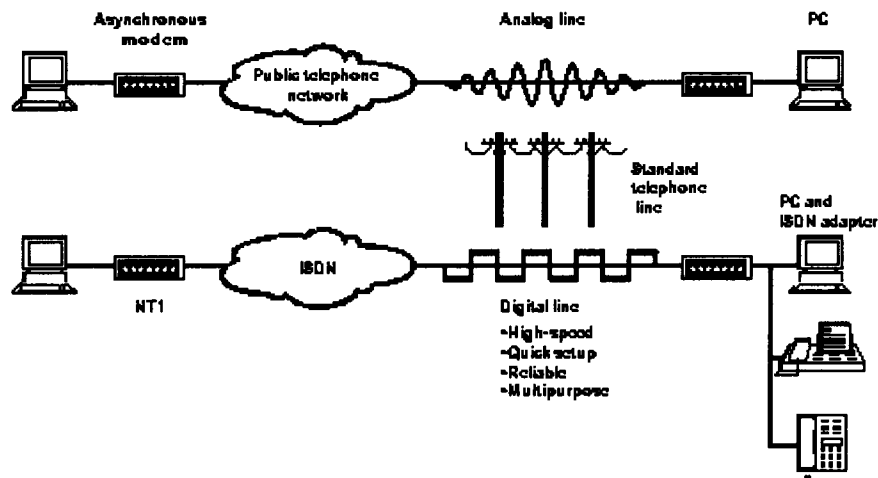
ISDN DEFINITION

INTEGRATED SERVICES DIGITAL NETWORK (ISDN) – An international communications standard for sending voice, video, and data over digital telephone lines.

“Integrated Services” refers to its ability to sustain numerous applications and “Digital Network” refers to its end-to-end digital connections.

HISTORY

When the telephone system was first developed, it was an analog network. As technology evolves, this proved unsatisfactory because as signals traveled further and as those signals became switched through various networks, quality degraded due to noise in the lines. There were limited ways to correct or eliminate that noise because there was no way to know what the original signal was supposed to be. With digital encoding of the analog audio signal, the ability to verify the signal at the receiving end (through parity checking), as well as greater abilities to filter noise became possible.



Telephone companies (exchange carriers) began installing the necessary hardware and software to transmit and receive digital signals from one central office to another. The