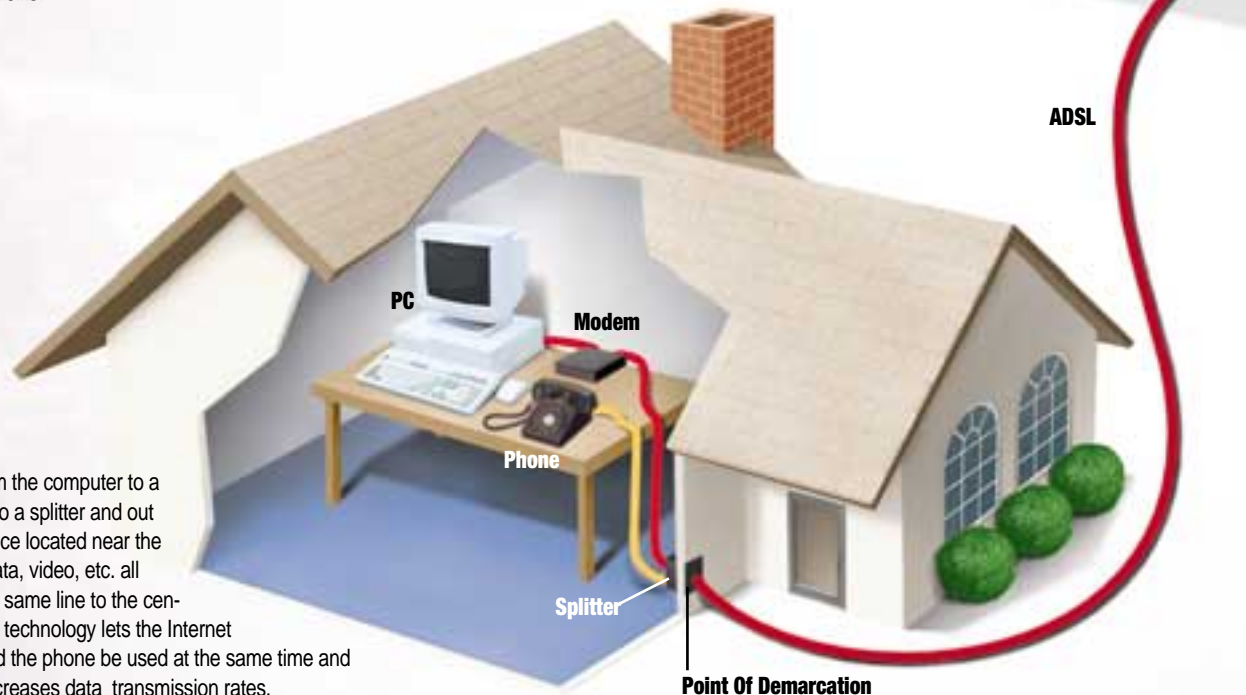


How Digital Subscriber Lines Work

DSL (Digital Subscriber Line) has many flavors, and within each type of digital subscriber line there are a variety of setups. Here's a typical setup of ADSL (Asymmetric Digital Subscriber Line), which is one of the most common types of home DSL connections.

Data goes from the computer to a modem, then to a splitter and out to a central office located near the user. Voice, data, video, etc. all go through the same line to the central office. This technology lets the Internet connection and the phone be used at the same time and also greatly increases data transmission rates.



Types Of DSL

ADSL



Typical home setup, like the top graphic, with one computer and one home connected. Used for Web browsing.

ADSL Lite



There is no splitter at the customer's home, and it can be used farther from the central office than ADSL.

Information initially goes to a central office near the user's location where it goes into a multiplexer. Multiplexing equipment contains a high concentration of splitters, xDSL modems, and other electronics to connect traffic to the WAN (wide-area network).



The central office sends data signals via the ATM network protocol. ATM (Asynchronous Transfer Mode) is a switching technology that lets voice, data, image, and video traffic be combined into evenly sized cells for high-speed transmission over one access circuit.

The information is passed via the ATM protocol from the central office to the ISP.



Central Office



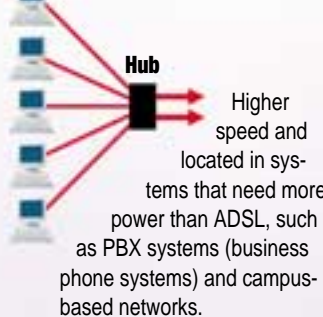
Voice data is transferred to POTS (plain old telephone service).
Public Switched Telephone Network

VDSL



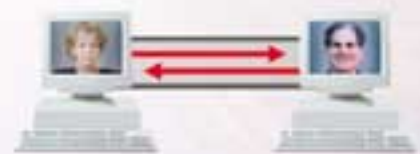
Can be used for home setup but is generally used as a business application. It can easily deliver things like video-on-demand and HDTV. The customer must generally be closer to the central office than with ADSL. VDSL (Very High Bit-Rate DSL) is not as common as ADSL.

HDSL



Higher speed and located in systems that need more power than ADSL, such as PBX systems (business phone systems) and campus-based networks.

SDSL



Used in an environment that needs symmetric data transmission, such as video conferencing. SDSL is geared toward businesses.