

## The Advantages And Disadvantages Of VoIP

VoIP is a protocol (Voice-over-Internet protocol) which is designed to optimize the transmission of audio through the Internet. Most people refer to VoIP as the act of sending audio through a network, rather than the protocol itself. The protocol evolved from a 1973 protocol known as the Network Voice Protocol, which was one of the first attempts at sending speech over the Internet. Despite the NVP's early origination date, it was not until 1996 that VoIP became widely available to consumers. Even then, the protocol and network structures had a long way to go, and the system was relatively inefficient. As technology has evolved and advanced, VoIP has become a realistic cost-effective solution to consider. Currently, the chief alternative to VoIP is the PSTN, or public switched telephone network, which utilizes the traditional structure of circuit switching. The PSTN is a world network, much like the Internet, and includes household and mobile phones. When VoIP first came out, it was incompatible with PSTN, meaning users could only connect to other people with VoIP. Many early complications such as this have since been overcome, making VoIP much more viable than it was a decade ago. What can VoIP do that the PSTN cannot? One feature is the ability to add multiple phone lines without incurring additional costs, as it is possible to transmit several phone calls over the same connection. Other features that normally cost extra for a PSTN phone are free on VoIP; this includes attributes such as call forwarding, call waiting, caller ID. When encryption is employed, the security of the network is strong and hard to break in to. The most popular security protocol used with VoIP is the Secure Real-Time Transport Protocol (SRTP). Many other services can be integrated with a system, including file exchanges, video conversation, and conference calls. Advanced services which would usually be difficult to implement are much easier to do in a VoIP system, and this ease also reduces the cost of installation as well. Despite the many breakthroughs that have been made through the years, VoIP still faces many challenges. Audio is essentially large streams of data, and whenever data of that size is transferred through a network, problems can occur. Receiving nodes must restructure every bit of information that comes in, so if the data is obtained too quickly, the decapsulation process can be negatively affected. Jitter, another data transfer conundrum, can also occur frequently if proper precautionary measures are not taken. All of the data transfer troubles, if not tended to, can result in a low quality of service. When packets are not received or they are scrambled, this translates into drop-outs of voice for the end users. Reliability is another important thing to consider, especially for home use of VoIP. With regular telephones, if the power goes out, you can still use your phone. However, because VoIP works directly through the Internet, and a modem that uses household electricity, if the power goes out, your phone goes out. Although VoIP can be made secure through encryptions, most of the software on the market today does not support that function. While SRTP is available for business applications, it rarely is accessible to the average consumer. For users who do not have any encryption mechanism, they can still rely on security by obscurity, which is usually fine enough for non-business uses.

## About the Author

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