

## VoIP Telephone Service Using LAN Systems

That little icon on your computer called "telephony" is not a typo. LAN telephony, sometimes called TeLANophy, is a communications service that uses LAN systems to transport voice communications.

LAN telephone technology is a merging of voice packets with the high-speed data transmission abilities of LAN systems. This ability to share data networks with voice systems offers a significant cost reduction as compared to traditional telephone services.

A LAN telephone system consists of LAN telephones, a LAN call processing system, data network and a voice gateway to the PSTN. LAN telephones convert audio into digitized packets, which are then transferred on the LAN to the call processing computer (CTI system). Every LAN telephone has its own network data address, related to its individual telephone number or extension number.

LAN telephones can either be integrated into computers, or be used as standard telephones that use LAN protocols to communicate within the system. The technology has been in use for some time, and as of 2001, there were several manufacturers producing IP telephones.

### Introduction to the Basics of IP Telephony

IP telephony is a collection of products and solutions that transport conversations over IP. It's possible to use your existing IP to create a convenient all-in-one network to transport data, video and voice. This infrastructure has many benefits, including reduced administration, savings on telecom expenses and holistic messaging services.

There are two completely different solutions required for transmitting voice and data. Data traffic can withstand and tolerate Wide Area Network (WAN) links, lost packets and intermittent packets. Voice traffic, on the other hand, cannot. Voice traffic demands the ability to receive packets in the same order as sent. If a packet is lost along the way, it will remain lost and can create confusion at the receiving end.

Creating a successful IP Telephony setup requires several components including LAN switch equipment, specialized routers, IP telephones and others.

### Calling Features

Like traditional landline telephone services and cell phone providers, LAN users are able to enjoy the most common calling features:

#### Conferencing:

This feature allows multiple participants to communicate in a single call, usually referred to as a "conference call". There are two types of conferencing features available: ad-hoc and meet-me. With "ad-hoc" conferencing, the originating caller controls the conference and determines who will be included on the call. After the original caller hangs up, the remaining participants may continue their conversation. A "meet-me" conference allows callers to participate in a conference by calling an assigned number chosen from a pool of numbers. It is possible for more participants to continue joining the conference call, until the maximum allowable number of callers is reached.

#### Additional Services:

IP phones offer and support additional calling features, just as traditional landlines services do.

\* Call Transfer: A call can be transferred to a final destination by signaling back to the Call Manager (CM).

\* Call Forward: In the same manner as Call Transfer, calls can also be forwarded to a destination either automatically (when you expect to be in another location) or by default (when you're already on the line or not able to answer the call).

\* Call Parking: The call parking is a privacy feature that allows a person to receive a call at another telephone. A Park soft key allows the receiver to place the caller on hold, and then dial a designated extension number. The other extension number can then be dialed on another phone to receive the call.

\* Call Pickup: This is simply a feature that allows the receiver to answer an incoming call at an unattended telephone. You must configure buttons or soft keys to activate this function.

### Transcoding

The process of transcoding converts IP packets of voice streams from a low bit-rate (LBR) CODEC to a G.711 CODEC. A low bit rate, for example, is a CODEC of G.729a or G.723. A call would require transcoding when a user across the IP WAN wants to access a voice mail system that differs from the one that he or she is communicating with. In this case, transcoding must be performed to convert the one service to the other, allowing the communication to take place within the voice mail system.

Those are the basics of VoIP telephony service. In many ways, the services are the same as your traditional landline

telephone service. The biggest difference will be the significant effect on your monthly budget.